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Taxonomic Revision of the Spider Genus *Actinopus* Perty, 1833 (Araneae, Mygalomorphae, Actinopodidae)

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Abstract

Actinopus Perty, 1833 is characterized and redescribed, including 80 species occurring from Panama to Argentina. Eighteen previously known species are redescribed: *A. rufipes* (Lucas, 1834); *A. longipalpis* C. L. Koch, 1842; *A. nattereri* (Doleschall, 1871); *A. crassipes* (Keyserling, 1891); *A. robustus* (O. Pickard-Cambridge, 1892); *A. wallacei* F. O. P.-Cambridge, 1896; *A. princeps* Chamberlin, 1917; *A. xenus* Chamberlin, 1917; *A. fractus* Mello-Leitão, 1920; *A. paranensis* Mello-Leitão, 1920; *A. pusillus* Mello-Leitão, 1920; *A. dubiomaculatus* Mello-Leitão, 1923; *A. trinotatus* Mello-Leitão, 1938; *A. cucutaensis* Mello-Leitão, 1941; *A. echinus* Mello-Leitão, 1949; *A. clavero* Ríos-Tamayo & Goloboff, 2018; *A. gerschiapelliarum* Ríos-Tamayo & Goloboff, 2018; and *A. palmar* Ríos-Tamayo & Goloboff, 2018. Additionally, *A. tarsalis* Perty, 1833, the type species, *A. insignis* (Holmberg, 1881) and other 18 species recently described species

from Argentina and Bolivia, are re-evaluated. Forty-two new species are described: *Actinopus castelo* sp. nov., *A. apalai* sp. nov., *A. mairinquensis* sp. nov., *A. obidos* sp. nov., *A. buritiensis* sp. nov., *A. pinhao* sp. nov., *A. ducke* sp. nov., *A. hirsutus* sp. nov., *A. jaboticatubas* sp. nov., *A. confusus* sp. nov., *A. pampulha* sp. nov., *A. candango* sp. nov., *A. paraitinga* sp. nov., *A. cornelli* sp. nov., *A. vilhena* sp. nov., *A. harveyi* sp. nov., *A. itapitocai* sp. nov., *A. ipioca* sp. nov., *A. itaqui* sp. nov., *A. xingu* sp. nov., *A. mesa* sp. nov., *A. caxiuana* sp. nov., *A. utinga* sp. nov., *A. emas* sp. nov., *A. bocaina* sp. nov., *A. osbournei* sp. nov., *A. dioi* sp. nov., *A. tutu* sp. nov., *A. azaghal* sp. nov., *A. itacolomi* sp. nov., *A. parafundulus* sp. nov., *A. urucui* sp. nov., *A. reznori* sp. nov., *A. anselmoi* sp. nov., *A. guajara* sp. nov., *A. apiacas* sp. nov., *A. jamari* sp. nov. from Brazil; *A. laventana* sp. nov. from Argentina and Uruguay; *A. lomalinda* sp. nov. from British Guiana and Colombia; *A. concinnus* sp. nov. from Venezuela and Brazil; *A. pindapoy* sp. nov. from Argentina; *A. panguana* sp. nov. from Peru. The females of *A. dubiomaculatus* and *A. cucutaensis* and the males of *A. nattereri* are described for the first time. New records are presented for *A. clavero; A.crassipes*; *A. dubiomaculatus*; *A. fractus*; *A. gerschiapelliarum; A. nattereri*; *A. palmar; A. paranensis*; *A. princeps*, *A. pusillus*, *A. robustus* and *A. wallacei*. Ten old species names are herein considered *species inquirendae*: *A. caraiba* (Simon, 1889); *A. harti* Pocock, 1895; *A. liodon* (Ausserer, 1875); *A. nigripes* (Lucas, 1834); *A. pertyi* Lucas, 1843; *A. piceus* (Ausserer, 1871); *A. rojasi* (Simon, 1889); *A. rufibarbis* Mello-Leitão, 1930; *A. scalops* (Simon, 1889) and *A. valencianus* (Simon, 1889). Most species presently recognized were included in 11 informal groups based mainly on male palpal characters. A key for these groups plus three species, not included in any group, but known from males, is presented.

Key words: Neotropical, geographic distribution, taxonomy, new species, morphology

Introduction

The Family Actinopodidae consists of three genera: *Actinopus* Perty, 1833, *Missulena* Walckenaer, 1805 and *Plesiolena* Goloboff & Platnick, 1987. Currently, the family includes 69 species distributed in Australia and across South America, from Panama to Argentina and Chile. *Missulena* has a mainly Australian distribution, with a single species known from Chile, and the genus *Plesiolena* is known exclusively from Chile (World Spider Catalog, 2020). The Neotropical Region, where 49 nominal species of the type genus *Actinopus* occur, harbors the greatest diversity of species of the family.

The subfamily Actinopodinae was proposed by Simon (1892) in Avicularиidae, concomitantly with Paratropidinae and Miginae. That subfamily was created to allocate the genera *Actinopus*, *Eriodon* Lucas, 1865 and *Stasimopus* Simon, 1892. Simon (1892) included four species in *Actinopus*: the type species *A. tarsalis* Perty, 1833 from Piauí, Brazil; *A. rufipes* (Lucas, 1834), from Minas Gerais, Brazil; *A. longipalpis* C. L. Koch, 1842 from Montevideo, Uruguay; and *A. insignis* (Holmberg, 1881), from Buenos Aires, Argentina. Until then, the genus distribution was known from Central and South America. Subsequently, F. O. Pickard-Cambridge (1896) raised all three subfamilies to family status.

Actinopus comprises about 71% of the current diversity of species of Actinopodidae. The genus was proposed by Perty (1833) to accommodate the type species *A. tarsalis* Perty, 1833 from the southern of Piaui state, Brazil. Lucas (1837) transferred the species to *Pachyloscelis* and Walckenaer (1842) transferred the species to *Sphodros*. C. L. Koch (1842) revalidated *Actinopus*, which had been placed in synonymy of *Pachyloscelis* by Lucas (1837), redescribing the type species and extending its distribution to Uruguay. Simon (1892) was the first to provide a dichotomous key to the genera included in Actinopodidae at that time.

Currently (World Spider Catalog, 2020), the genus includes 49 species, all with Neotropical distributions: *A. argenteus* Ríos-Tamayo & Goloboff, 2018; *A. ariasi* Ríos-Tamayo & Goloboff, 2018; *A. balcarce* Ríos-Tamayo & Goloboff, 2018; *A. caraíba* (Simon, 1889); *A. casuhati* Ríos-Tamayo & Goloboff, 2018; *A. clavero* Ríos-Tamayo & Goloboff, 2018; *A. cochabamba* Ríos-Tamayo, 2016; *A. cordobensis* Ríos-Tamayo & Goloboff, 2018; *A. coylei* Ríos-Tamayo & Goloboff, 2018; *A. crassipes* (Keyserling, 1891); *A. cucutaensis* Mello-Leitão, 1941; *A. dubiomaculatus* Mello-Leitão, 1923; *A. echinus* Mello-Leitão, 1949; *A. excavatus* Ríos-Tamayo & Goloboff, 2018; *A. fractus* Mello-Leitão, 1920; *A. gerschiapelliarum* Ríos-Tamayo & Goloboff, 2018; *A. goloboffi* Ríos-Tamayo, 2014; *A. harti* Pocock, 1895; *A. indiamuerta* Ríos-Tamayo & Goloboff, 2018; *A. insignis* (Holmberg, 1881); *A. liodon* (Ausserer, 1875); *A. longipalpis* C. L. Koch, 1842; *A. magnus* Ríos-Tamayo & Goloboff, 2018; *A. nattereri* (Doleschall, 1871); *A. nigripes* (Lucas, 1834); *A. palmar* Ríos-Tamayo & Goloboff, 2018; *A. pampa* Ríos-Tamayo & Goloboff, 2018; *A. paranensis* Mello-Leitão, 1920; *A. patagonia* Ríos-Tamayo & Goloboff, 2018; *A. pertyi* Lucas, 1843; *A. piceus* (Ausserer, 1871); *A. princeps* Chamberlin, 1917; *A. puelche* Ríos-Tamayo & Goloboff, 2018; *A. pusillus* Mello-Leitão, 1920; *A. ramirezi* Ríos-Tamayo & Goloboff, 2018; *A. reycali* Ríos-Tamayo & Goloboff, 2018; *A. robustus* (O. Pickard-Cambridge, 1892); *A. rojasi* (Simon, 1889); *A. rufibarbis* Mello-Leitão, 1930; *A. rufipes* (Lucas, 1834); *A. scalops* (Simon, 1889); *A. septemtrionalis* Ríos-Tamayo & Goloboff, 2018; *A. szumikae* Ríos-Tamayo & Goloboff, 2018; *A. taragui* Ríos-Tamayo & Goloboff, 2018; *A. tarsalis* Perty, 1833; *A. trinotatus* Mello-Leitão, 1938; *A. valencianus* (Simon, 1889); *A. wallacei* F. O. Pickard-Cambridge, 1896; and *A. xenus* Chamberlin, 1917.

In the present paper, 38 of the 49 species currently

accepted in *Actinopus* are recognized as valid. Of these, 18 are species redescribed and *A. tarsalis* Perty, 1833 (the type species), *A. insignis* (Holmberg, 1881) and other 18 species recently described species from Argentina and Bolivia, are re-evaluated. The other previously described species, are considered *species inquirendae* for different reasons (see the paragraph "composition", under the description of the genus). In addition, 42 **new species** *Actinopus*, all from Neotropical Region, are proposed.

Material and Methods

The examined material is deposited in the following institutions (abbreviations and curators in parentheses): American Museum of Natural History, New York (AMNH, L. N. Sorkin); British Museum of Natural History, London (NHM, J. Beccaloni); Coleção Aracnológica de Diamantina, Diamantina (CAD, J. P. L. Guadanucci); California Academy of Sciences, San Francisco (CAS, C. Griswold); Coleção de História Natural da UFPI,



FIGURE 1. *Actinopus rufipes* (Lucas, 1834), female: A–C CAD 77: A. Dorsal habitus; B. Burrows, with doors closed. Red arrows: Doors; C. Burrow with a specimen. Images: J. P. L. Guadanucci

Teresina (CHNUFPI, L. S. Carvalho); Coleção Zoológica da Universidade Federal de Mato Grosso (CZUFMT, A. Chagas-Junior); Facultad de Ciencias, Montevideo (FCE, M. Simó); Instituto Butantan, São Paulo (IBSP, A. D. Brescovit); Instituto Nacional de Pesquisas da Amazônia, Manaus (INPA, A. Henriques); lab. de Zoología de Invertebrados II, Buenos Aires (LZI, N. Ferreti); Museo Argentino de Ciencias Naturales, Buenos Aires (MACN, M. J. Ramirez); Museu de Ciências Naturais, Fundação Zoobotânica do Rio Grande do Sul, Porto Alegre (MCN, R. Ott); Museu de Ciências e Tecnologia, Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre (MCTP, A. Lise); Museo del Instituto de Zoología Agrícola, Maracay (MIZA, Q. Arias); Museu Nacional, Universidade Federal do Rio de Janeiro, Rio de Janeiro (MNRJ, A.B. Kury); Museu Paraense Emílio Goeldi, Belém (MPEG, A.B. Bonaldo); Museu de Zoologia da Universidade de São Paulo, São Paulo (MZSP, R. Pinto da Rocha); Museum of Comparative Zoology, Cambridge (MCZ, G. Giribet); Oxford University Museum of Natural History, Oxford (OUMNH, A. Spooner); Staatliches Museum für Naturkunde Karlsruhe, Karlsruhe (SMNK, H. Höfer); Universidad Mayor de San Marcos (UNMSM, D. Silva); Universidade de Minas Gerais, Minas Gerais (UFMG, A. Santos); Zoologisches Museum, Berlin (ZMB, J.A. Dunlop). All material cited as deposited in IBSP were not lost in the 2009 fire (for details see Warrell *et al.* 2010). Approximated latitude and longitude data for those records that were not georeferenced were obtained in online gazetteers (Fallingrain Genomics, 2006; Miranda & Coutinho, 2004). All geographic information not extracted from vial labels was listed in brackets.

Female spermathecae were dissected, cleaned with a pin and, if necessary, immersed in clove oil for better visualization of internal structures (Levi, 1965). Male copulatory bulb were detached from the cymbium and visualized with the aid of gel alcohol for mounting in suitable positions.

The illustrations were made with a stereomicroscope Zeiss SV8, using a camera lucida. Dorsal drawings of female spermathecae and prolateral, dorsal and retrolateral drawings of male copulatory bulb were made preferentially upon the left palp; when only the right palp was available, the images were mirrored for consistency. Scanning electronic micrographs (SEM) were taken with Zeiss Leo 1450 VP, of MPEG. SEM samples were critical point dried and sputter-coated with AuPd.

All measurements are in millimeters. Measurements



FIGURE 2. *Actinopus tutu* sp. nov., male: UFMG 13835: A. Burrow with a specimen; female: UFMG 15902: B. Dorsal habitus; male: UFMG 18862: C. Dorsal habitus; D. Defense position. Images: P. H. Martins.

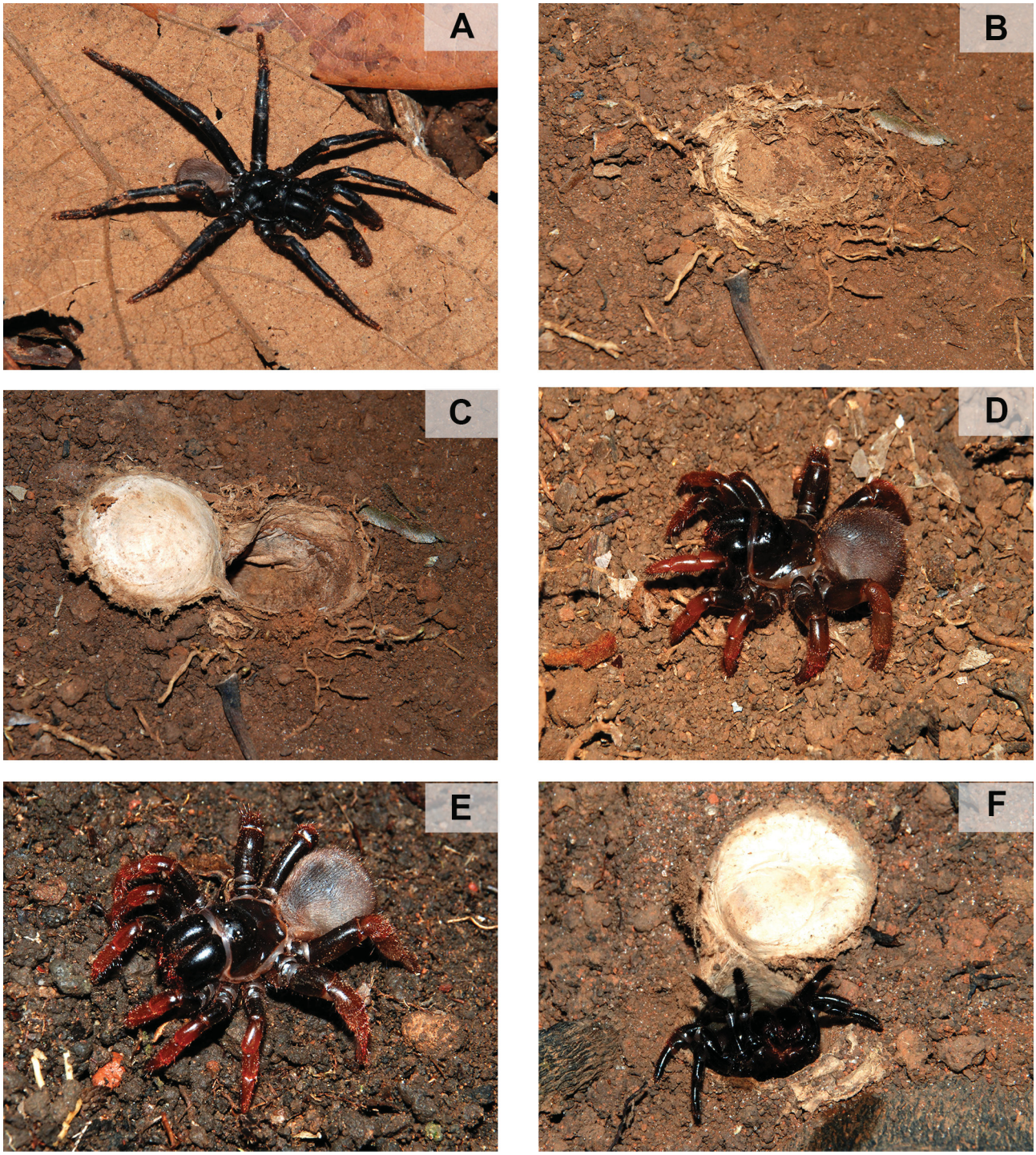


FIGURE 3. *Actinopus itacolomi* sp. nov., male: UFMG 18784: A. Dorsal habitus; female: B–D UFMG 18773: B. Burrow; C. Opened burrow; D. Dorsal habitus; female: UFMG 18786: E. Dorsal habitus; female: UFMG 18807 F. Spider at door of burrow. Images: P. H. Martins.

of length and width of the eye area and height from the fovea were taken according to Griswold & Ledford (2001). The format of the description follows Griswold & Ledford (2001), except for the spine pattern, which follows Petrunkevitch (1925). The terminology for the structures of the copulatory bulb follows Bertani (2000), with some additions and acronyms for the height of carapace follows Griswold & Ledford (2001). Terminology for ventral setae of tarsi and metatarsi follows Pérez-Miles *et al.* (2017). All scales on automontage photos, without measures, are equivalent to 1 mm. The following abbreviations were used throughout the text: (BTA) basal tegular apophysis; (PA) paraembolic apophysis, (ATP) apical tegular process; (DTP) dorsal tegular process; (PAc) prolateral accessory

keel, (PI) prolateral inferior keel, (PS) prolateral superior keel, (Fe) femur, (Pa) patella, (Ti) tibia, (Me) metatarsi, (Ta) tarsi, (d) dorsal, (v) ventral, (p) prolateral, (r) retrolateral, (PME) posterior median eyes, (PLE) posterior lateral eyes, (ALE) anterior lateral eyes, (AME) anterior median eyes, (MOQ) median ocular quadrangle, (MOQA) median ocular quadrangle anterior length; (MOQP) median ocular quadrangle posterior length; (OAL) ocular area length, (OAW) ocular area width, (HF) height from the fovea; (SPMS) small posterior median spinnerets; (PLS) posterior laterals spinnerets.

The specimens described are preserved in alcohol, which can affect the colour compared to a fresh specimen. The cheliceral teeth are counted from outer to inner margin; discrepancies between number of teeth among left and right chelicerae were noted.

Taxonomy

Actinopus Perty, 1833

Figs 1–225, Maps 1–19

Actinopus Perty, 1833: 198 (type species by monotypy, *Actinopus tarsalis* Perty, 1833); C. L. Koch, 1842: 98 [revalidation]; Ausserer, 1871: 138; Simon, 1892: 80; Mello-Leitão, 1923: 17; Raven, 1985: 145, 147; World Spider Catalog, 2020.

Closterochilus Ausserer, 1871: 141 (type species: *Pachyloscelis nigripes* Lucas, 1834, by original designation).

Theragretes Ausserer, 1871: 142 (type species: *Actinopus walckenaerii* Lucas, 1837, by original designation).

Diagnosis. Within Actinopodidae, species of *Actinopus* are recognized by the procurved anterior row of eyes, with the lateral eyes aligned antero-posteriorly (Fig. 4 A, F); labium elongated antero-posteriorly, without cuspules on males and with an average of 15–30 cuspules on females (Fig. 4 B–C); sternal sigilla close together, positioned in a deep median common depression (Fig. 4 D). Additionally, males and females of *Actinopus* differ from those of *Missulena* by the pronounced rastellum (Fig. 4 E), sternum not rebordered (Fig. 10 C) and superior tarsal claws with a tooth and one or two denticles (Fig. 4 G–H). They differ from those of *Plesiolena* by the flattened cheliceral apex (Fig. 10 E–F) and by the crown of robust spines on the dorsal, apical surface of the patella and tibia III (Fig. 11 A, C). Males of *Actinopus* differ from those of *Plesiolena* by the ventral pseudoscopula in metatarsi and tarsi (Fig. 5 A) and from those of *Missulena* by the cymbium without ventral incision. They differ from males of both genera by the copulatory bulb with paraembolic apophysis (Fig. 5 B) and with twisted keels in prolateral view of embolus (Fig. 5 C). Females of *Actinopus* differ from those of *Missulena* by tarsi I and II with strong and sharp spines and spermathecae with robust receptacles; differ from those of both genera by the short spermathecal receptacles (Fig. 5 D).

Description. Total length (males and females) from 7.0 to 35.9 mm.

Carapace. Anterior prolateral angle of carapace tapered (Fig. 172 B) or subquadrate (Fig. 5 F). Carapace subquadrate in dorsal view, smooth with strongly demarcated radial grooves and wider at coxae III, anterior median ocular tubercle absent, with delimited cephalic area and strong inclination at fovea level, anterior margin rounded; fovea U-shaped, strongly procurved, deep, sharply demarcated (Figs 5 E); in lateral view, thoracic area with abrupt anterior slope and gradual posterior slope. Clypeus, anteriorly less sclerotized than posteriorly, height from 1.0–1.5 times diameter of ALE. Anterior eyes row slightly procurved; posterior eyes row recurved d in dorsal view (Fig. 5 F). No or few bristles between AME-clypeus; no or few bristles between PME–PME and PLE–PLE. Ocular quadrangle wider than long; ALE diameter bigger than that of other eyes. **Interdistances:** *Males:* PME–PME separated by more than four diameters of PME, ALE–AME separated by *ca.* twice diameter of AME, ALE–PLE separated by less than twice diameter of ALE, AME–PME separated by *ca*. twice diameter of AME (Fig. 4 A). *Females:* PME–PME separated by *ca.* three times interdistance of PME–PLE, PLE–PME separated by half diameter of PME, AME–AME separated by half the diameter of ALE, ALE–AME separated by four times diameter of AME, ALE–PLE separated by twice diameter of PLE, AME–PME separated by four times diameter of AME (Fig. 5 F). Chelicerae not geniculate, longer than half carapace length, with apical rastellum. Rastellum smooth, with bristles (Fig. 13 C) or spines (Fig. 108 F). Females with very conspicuous crown of thorns bordering rastellum (Fig. 210 F). Cheliceral teeth, in ventral view, arranged in two rows, prolateral and retrolateral. Prolateral teeth row bordered by denticles (Fig. 5 G). Labium fused to sternum. Labium and maxillae longer than wide. Males without labial and maxillary cuspules (Figs 4 B, 6 A); females with numerous cuspules and bristles (Fig. 5 H). Sternum longer than wide. Sternum with 6–10 hardly distinguishable sigilla, strongly fused at center of sternum. Pre-coxal triangles absent (Fig. 24 C).

Legs. *Males:* Long, smooth (Fig. 6 B) or covered with few simple and sparse hairs (Figs 14 D, 31 A–D); Many prolateral spines on the sides of the patellae III and IV, forming crown spines on dorsal surface of Patella and tibia III (Fig. 14 A, C); tibiae, metatarsi and tarsi with filiform dorsal trichobothria, with high bases (Fig. 6 C, D); clavate tarsal trichobothria absent. Tarsi and metatarsi III and IV with compact pseudoscopula (Fig. 6 E–F), subapical chemosensitive fissures present (Fig. 6 E–H) or absent. Inferior tarsal claws without teeth; superior tarsal claws with one tooth, one tooth and one denticle or one

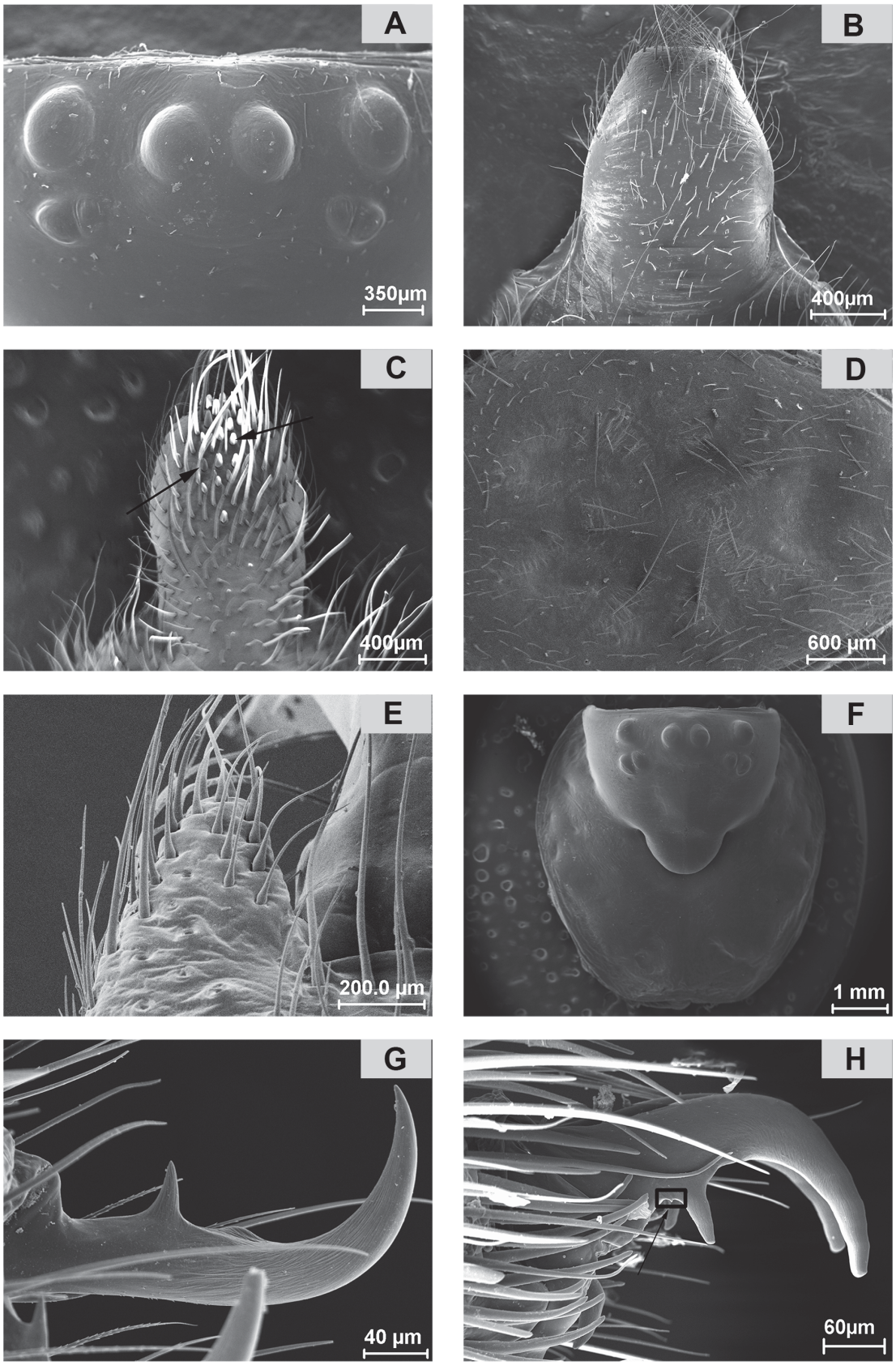


FIGURE 4. *Actinopus tutu* sp. nov., male: A, H IBSP 110494; *Actinopus caxiuana* sp. nov., male: B MPEG 2537; *Actinopus itapitocai* sp. nov., female: C MZSP 22113; *Actinopus dioi* sp. nov., male: D, E MPEG; *Actinopus bocaina* sp. nov., male: F UFMG 1606; *Actinopus obidos* sp. nov., male: G MPEG: A. Eyes, dorsal; B. Labium, ventral; C. Labium with cuspules, ventral; D. Sternum, ventral; E. Rastellum, dorsal; F. Carapace, dorsal; G. Superior tarsal claw III, lateral; H. Superior tarsal claw III, lateral; Arrow and quadrangle: Denticle.

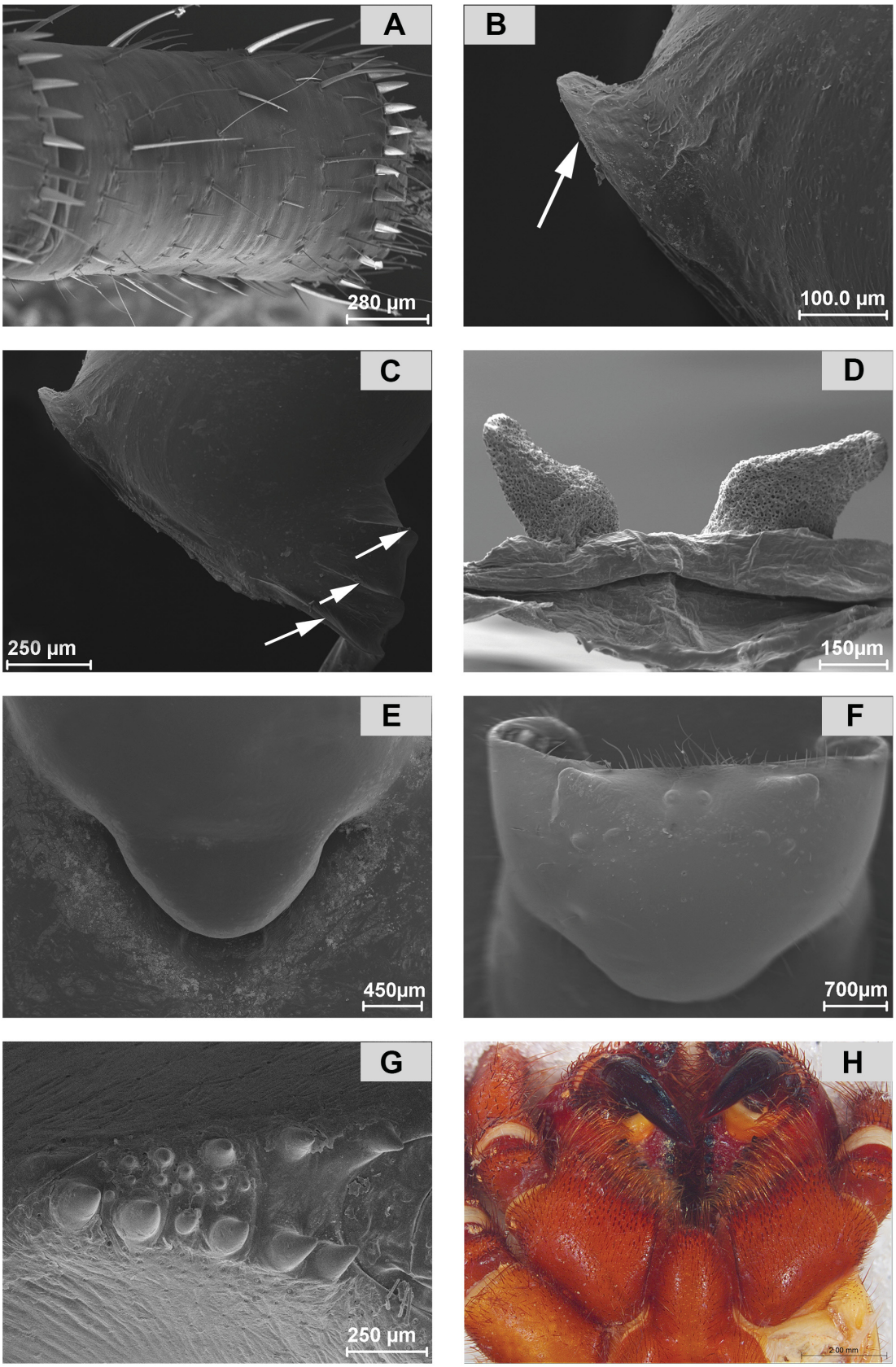


FIGURE 5. *Actinopus obidos* sp. nov., male: A MPEG; *Actinopus pampulha* sp. nov., male: B, C IBSP 114454; *Actinopus itapitocai* sp. nov., female: D, F MZSP 22113; *Actinopus caxiuana* sp. nov., male: E MPEG 2537; *Actinopus urucui* sp. nov., male: G CHNUFPI 183; *Actinopus xenus* Chamberlin, 1917, holotype, female: H MCZ 3: A. Tibia III, dorsal; B. Paraembolic apophysis, prolateral; C. Prolateral keels (arrow), prolateral; D. Spermathecae, dorsal; E. Fovea, dorsal; F. Eyes, dorsal; G. Cheliceral teeth, ventral; H. Labium and maxillae, ventral.

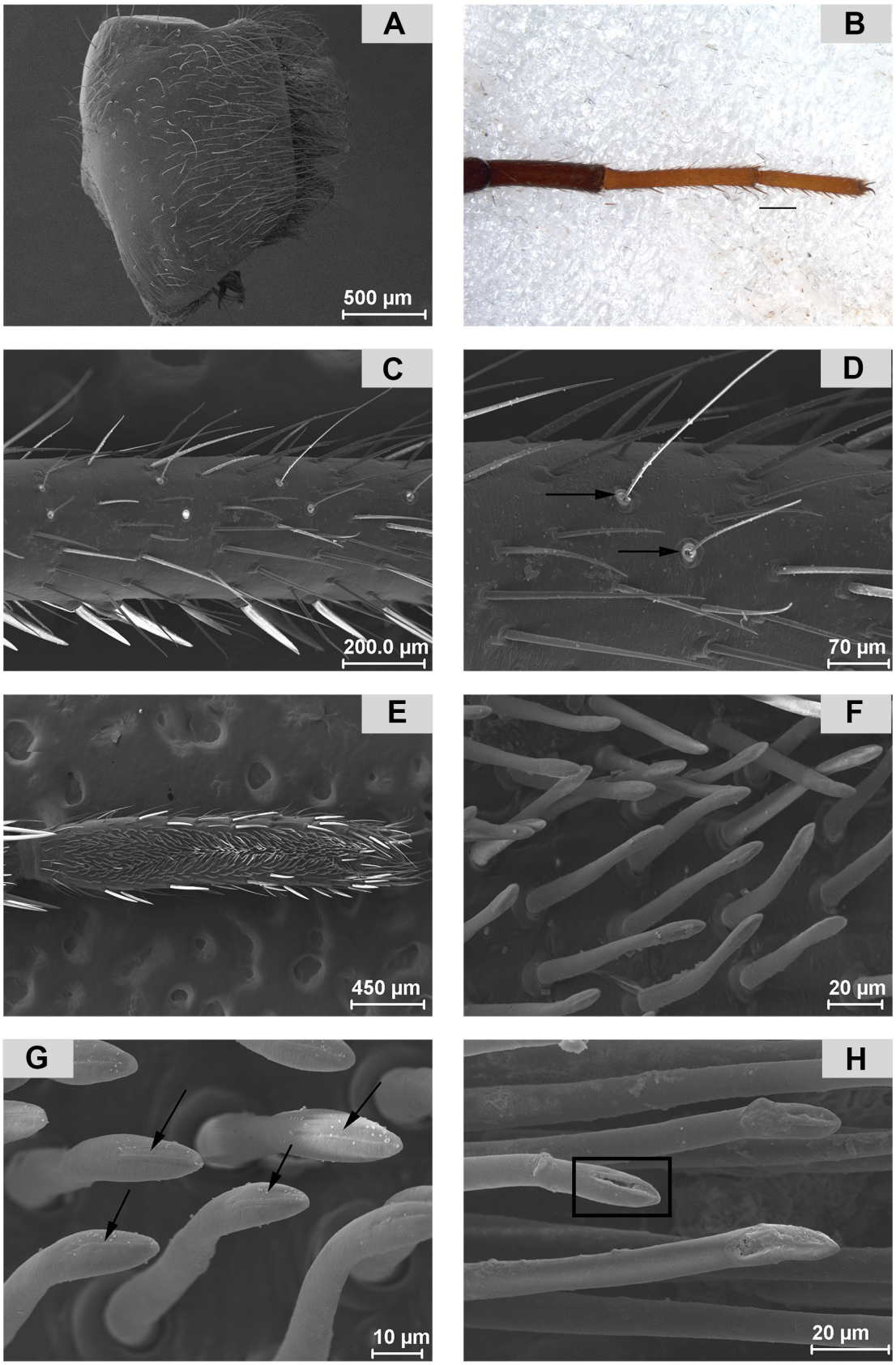


FIGURE 6. *Actinopus urucui* sp. nov., male: A CHNUFPI 183; *Actinopus dubiomaculatus* sp. nov., male: B MCN 13243; *Actinopus obidos* sp. nov., male: C, D MPEG; *Actinopus anselmoi* sp. nov., male: E, F IBSP 107985; *Actinopus rufipes* (Lucas, 1834), male: G IBSP 161467; *Actinopus ducke sp. nov.*, male: H INPA 6124: A. Maxillae, ventral; B. Tibia, metatarsus and tarsos II, dorsal; C. Tarsus I, dorsal; D. Tarsus I, dorsal, arrow: Trichobothria base; E–F. Tarsus IV, ventral; G. Tarsus III, ventral, Arrow: Chemosensitive fissures, closed; H. Tarsus II, ventral, Quandrangle: Chemosensitive fissure, opened.

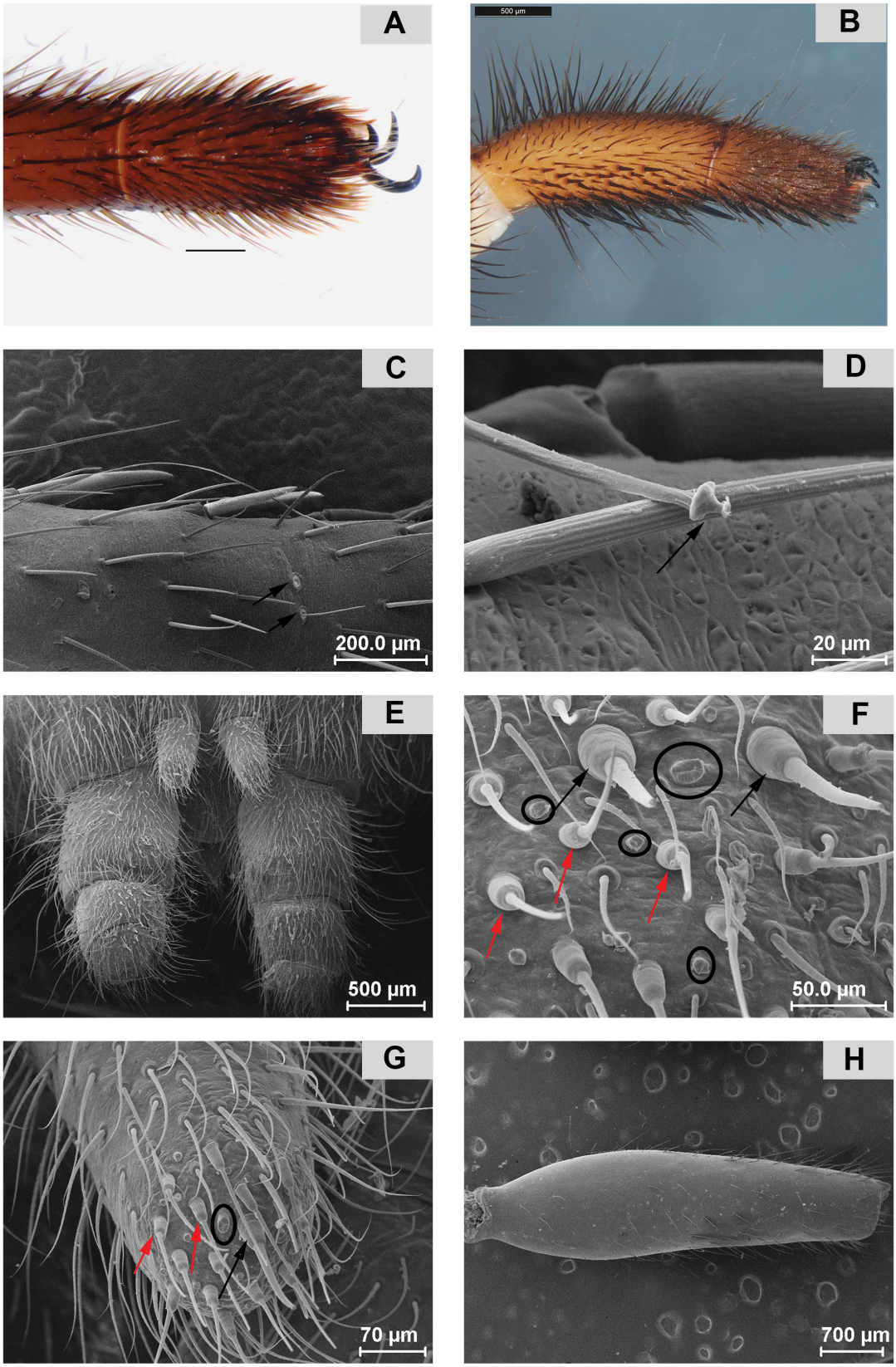


FIGURE 7. *Actinopus nattereri* (Doleschall, 1871), female: A IBSP 113544; *Actinopus rufipes* (Lucas, 1834), female: B IBSP 161467; *Actinopus urucui* sp. nov., male: C, D, H CHNUFPI 183; *Actinopus dioi* sp. nov., male: E–G MPEG: A. Tarsus, ventral; B. Tibia, metatarsus and tarsus, lateral; C. Metatarsus II, dorsal; D. Metatarsus II, dorsal; E. Spinnerets, ventral; F. Spigots on PLS, ventral, Red arrow: Secondary ampullar, Black arrow: Principal ampullar, and circumferences: Tartipores; G. Spigots on PMS, ventral, red arrow: Secondary ampullar, black arrow: Principal ampullar, and circumferences: Tartipores; H. Tibia of palp, Lateral.

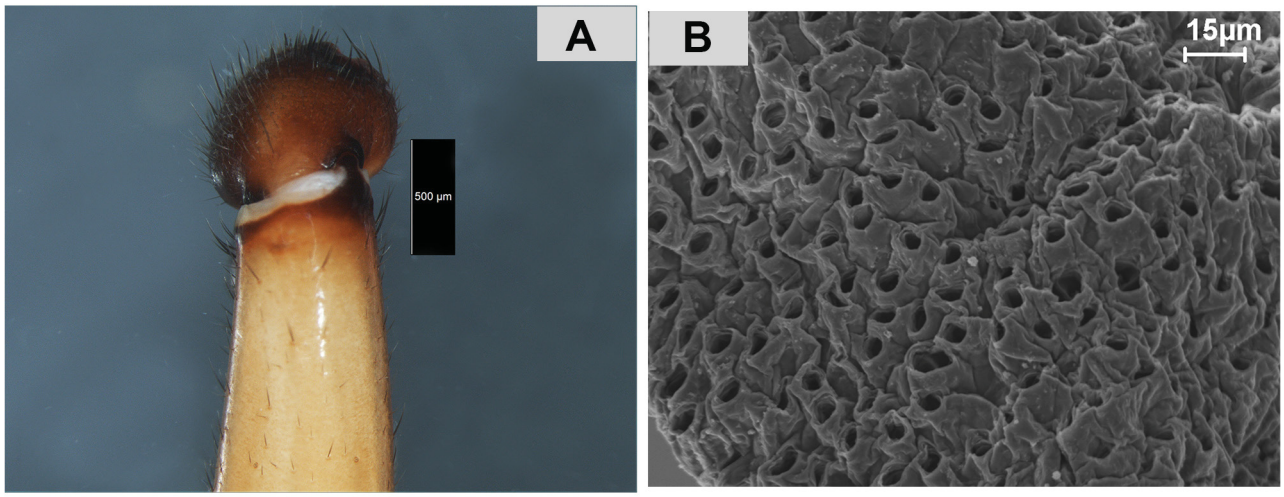


FIGURE 8. *Actinopus rufipes* (Lucas, 1834), male: A IBSP 161468; *Actinopus itapitocai* sp. nov., female: B MZSP 22113: A. Tibia of palp and cymbium, dorsal; B. Spermathecae receptacle, dorsal.

tooth and two denticles (Fig. 4 G–H). Subinguinal tufts absent; all trochanters with a fissure. *Females:* Legs short, robust and covered by several short and strong spines, with many long bristles (Fig. 7 A), rows of strong spines on prolateral and retrolateral surfaces of distal articles (tibiae, metatarsi and tarsi) in all legs (Fig. 7 B), except leg IV, with rows only on prolateral surface; many spines on prolateral patellae III and IV, forming a crown of spines on dorsal surface of patella and tibia III; ventrally, spines replacing pseudoscopula on tarsi III and IV; tibiae, metatarsi and tarsi with filiform dorsal trichobothria with a high bases (Fig. 7 C), tricoma with large fixation base (Fig. 7 D); Clavate tarsal trichobothria absent. Inferior and superior tarsal claws without teeth. Subinguinal tufs absent. All trochanters with fissure.

Abdomen. Long, oval, homogeneously covered with simple setae and dorsally with long simple setae (Fig. 10 A); male and female dorsal scutum, when present, restricted to anterior half of abdomen, whole or divided; scutal bristles with more sclerotized bases that those of ordinary tegument bristles (Fig. 13 A). Four spinnerets (Fig. 7 E). Posterior median spinnerets (PMS) small or medium-sized, with one segment; posterior lateral spinnerets (PLE) with three bigger segments; spigot types: principal ampullary fusule and secondary ampullary fusule (Fig. 7 D–E), tartipores (Fig. 7 D) as remnants of small ampular in some segments; apical digitiform article of PLS.

Male Palp. Femur, patella and tibia without or with few spines. Tibia without retrolateral tibial apophysis, more thickened at base than apically (Fig. 7 H); cymbium rounded, without spines and scopula; subtegulum subrectangular, sclerotized, turned laterally (Fig. 8 A); tegulum large, sclerotized, reservoir with two or three loops in prolateral view; distal region of tegulum with prolateral paraembolic apophysis; apical tegulum with prolateral keels; embolus inserted in angle relative to tegulum, sclerotized, with visible duct (Figs 9 A–C and 12 A–C). Generally, keels represented by three paraembolic apophyses in prolateral view of embolus (*Actinopus paranensis*, *A. pinhao*, *A. ducke*, *A. hirsutus*, *A. jaboticatubas*, *A. confusus*, *A. pampulha*, *A. candango*, *A. paraitinga*, *A. cornelli*, *A. nattereri*, *A. rufipes*, *A. vilhena*, *A. harveyi*, *A. itapitocai*, *A. ipioca*, *A. itaqui*, *A. xingu*, *A. mesa*, *A. caxiuana*, *A. utinga*, *A. crassipes*, *A. dubiomaculatus*, *A. pusillus*, *A. emas*, *A. bocaina*, *A. laventana*, *A. osbournei*, *A. dioi*, *A. longipalpis*, *A. tutu*, *A. azaghal*, *A. itacolomi*, *A. tarsalis*, *A. castelo*, *A. parafundulus*, *A. urucui* and *A. panguana*). In *A. panguana* (Fig. 206 A–C), a dorsal tegular process (DTP); in *A. cucutaensis* (Fig. 176 A–C), *A. robustus*, *A. lomalinda*, *A. palmar* and *A. guajara*, an apical tegular process (ATP); basal tegular apophysis (BTA) absent in *A. tarsalis* and *A. castelo* (Fig. 12 A–C).

Spermathecae. Spermatic ducts robust, short (Fig. 217 B–D), well separated from base by a membranous region or strongly fused to it (Figs 26 D, 181 D); each receptacle without or with one or three lobes (Fig. 220 A), lobes quite sclerotized, apically covered by pores (Fig. 8 B).

Composition. Eighty species, 42 of which are newly described. Ten old species names are herein considered *species inquirendae*: *A. rojasi* (Simon, 1889) and *A. valencianus* (Simon, 1889) were described from juveniles. The type of *A. pertyi* Lucas, 1843, originally deposited at Muséum National d´Histoire Naturelle (MNHN), Paris,

France, is lost. The holotype female of *A. rufibarbis* Mello-Leitão, 1930, deposited at Museu Nacional do Rio de Janeiro, Rio de Janeiro, Brazil, is without spermathecae and in poor condition. The types of *A. nigripes* (Lucas, 1834), *A. piceus* (Ausserer, 1871) and *A. liodon* (Ausserer, 1875), all originally deposited at Naturhistorisches Museum, Wien, Austria, and *A. harti* Pocock, 1895 originally deposited at The Natural History Museum, London, England, were not found and are considered lost. Specimens identified as *A. caraiba* (Simon, 1889) and *A. scalops* (Simon, 1889) were examined and photographed by J. P. Guadanucci at Muséum National d´Histoire Naturelle (MNHN), Paris, France, but the localities on the labels are slightly different from the respective published type localities reported in the original descriptions and the specimens were not labelled as types. These specimens were not considered as types in the present paper by all prior knowledge about Simon's specimens deposited at MNHN and the totally absence of any other type evidence on labels of other specimens deposited in the Paris Museum.

Key to species groups

The following key is based on males only and, besides the 12 groups here defined, includes also the three species (known from males) which were not included in any group.

1. Discontinuous thoracic fovea that is interrupted in middle (Ríos-Tamayo & Goloboff, 2018, fig. 42 A) and sternum with a deep central depression (Ríos-Tamayo & Goloboff, 2018, fig. 42 B)..... gr. *goloboffi*
   Continuous thoracic fovea (Figs 5 A, H) and sternum without a deep central depression (Fig. 4 D)..... 2
2(1). Tibia III with three basal, dorsal spines (Fig. 208 B)..... *A. clavero*
   Tibia III with a single basal, dorsal spine (Fig. 158 B).... 3
3(2). ATP present (Fig. 176 A)..... 4
   ATP absent (Fig. 18 A)..... 5
4(3). ATP oblique in relation to embolus (Fig. 195 A–B)..... *A. concinnus*
   ATP parallel in relation to embolus (Fig. 176 A–B)..... gr. *cucutaensis*
5(3). Embolus strongly curved prolaterally (distal third not visible in dorsal view); DTP present (Fig. 206 A–C)..... *A. panguana*
   Embolus, at most, gently curved prolaterally, DTP absent (Fig. 18 A–C)..... 6
6(5). Base of embolus with extremely developed serrated area, composed of three rows of large cusps (Figs 198 A–C)..... *A. apiacas*
   Serrated area not so developed, or absent (Figs 18 A–C, 67 A–C)..... 7
7(6). PA inserted apically on bulb, flattened and apically folded, oblique in relation to embolus (Fig. 201 A–C).... *A. jamari*
   PA inserted on the prolateral bulb, or absent (Fig. 75 A–C)..... 8
8(7). Keels short, restricted to median sector of embolus, represented by short prominent lamellae in prolateral view (Figs 162 A, 165 A)..... gr. *parafundulus*
   Keels otherwise (Fig. 62 A)..... 9
9(8). Two embolar keels, PAc absent (Fig. 168 A–C)..... 10
   Three embolar keels, PAc present (Fig. 35 A–C)..... 12
10(9). Tegulum and embolus thin and elongated along longitudinal line; embolar insertion ample (Fig. 168 A–C).... gr. *reznori*
   Tegulum notably wider than embolar insertion (Fig. 75 A–C)..... 11
11(10). Serrated area on embolar prolateral surface absent or represented by at most two small cusps (Fig. 15 A–C)..... gr. *apalai*
   Serrated area represented by three or more cusps (Fig. 32 A–C)..... gr. *pinhao*
12(9). Embolus, as seen from dorsal view, inserted on tegulum at a 90º angle (Fig. 9 B)..... gr. *tarsalis*
   Embolar insertion, as seen from dorsal view, otherwise (Fig. 153 A–C)..... 13
13(12). Sternal sigilla fused medially of sternum (Fig. 133 C)..... gr. *osbournei*
   Sternal sigilla converging to the middle but separated (Fig. 196 C)..... 15
14(13). Small spiders, total length less than 13 mm..... 15
   Large spiders, total length more than 17 mm and less than 36 mm..... 16
15(14). Serrated area on prolateral embolus small (Fig. 143 A–C) or, when large, represented by sparse small denticles (Fig. 153 A–D)..... gr. *tutu*
   Serrated area on prolateral embolus large, densely covered by relatively large denticles (Fig. 124 A–C)... gr. *crassipes*
16(14). Serrated area on prolateral embolus reduced or absent (Fig. 67 A)..... gr. *nattereri*
   Serrated area on prolateral embolus well developed (Fig. 32 A)..... gr. *pinhao*

Group *tarsalis*

Diagnosis. The group *tarsalis* is recognized by the following combination of characters: medium total length; legs and palps without coloration patterns; bulb with three keels; serrated area distal to PAc in prolateral view of copulatory bulb absent or small; BTA absent; embolus inserted in a right angle; embolar apex flattened and expanded, arrow-shaped in dorsal view.

Species included. *Actinopus tarsalis* Perty, 1833; *Actinopus castelo* sp. nov.

Actinopus tarsalis Perty, 1833

Fig. 9 A–C, Map 1

Actinopus tarsalis Perty, 1833: 198, pl. 39, fig. 6 (holotype ♂, Piauí, Brasil, MNHN, not located); C.L. Koch, 1842: 101, fig. 753; Simon, 1892: 80, figs 80, 82; Lucas *et al.*, 1978/1979: 133, figs 3–6; Miglio *et al.*, 2012: 376, figs 112; World Spider Catalog, 2020.

Pachyloscelis tarsalis: Lucas, 1837: 377.

Sphodros tarsalis: Walckenaer, 1842: 437.

Pachyloscelis crassipes: Mello-Leitão, 1943: 149.

Pachyloscelis luteipes: Mello-Leitão, 1943: 149.

Actinopus crassipes: Mello-Leitão, 1943: 149.

Actinopus luteipes: Mello-Leitão, 1943: 149.

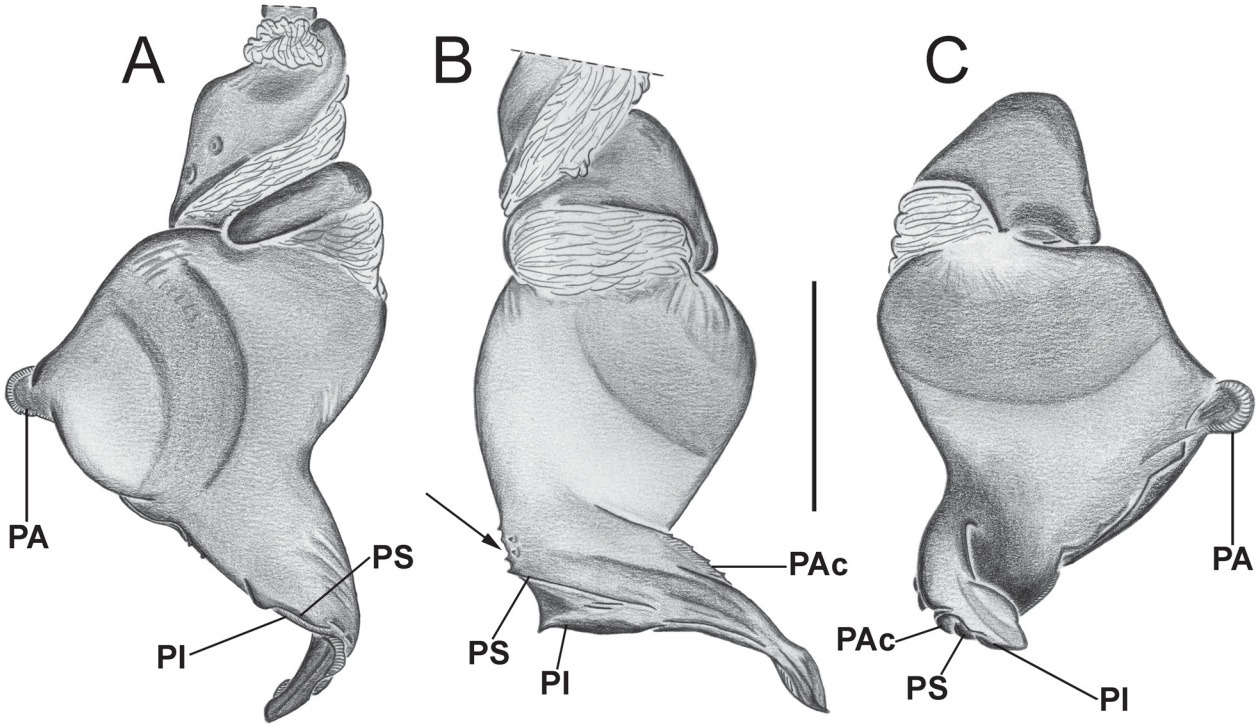
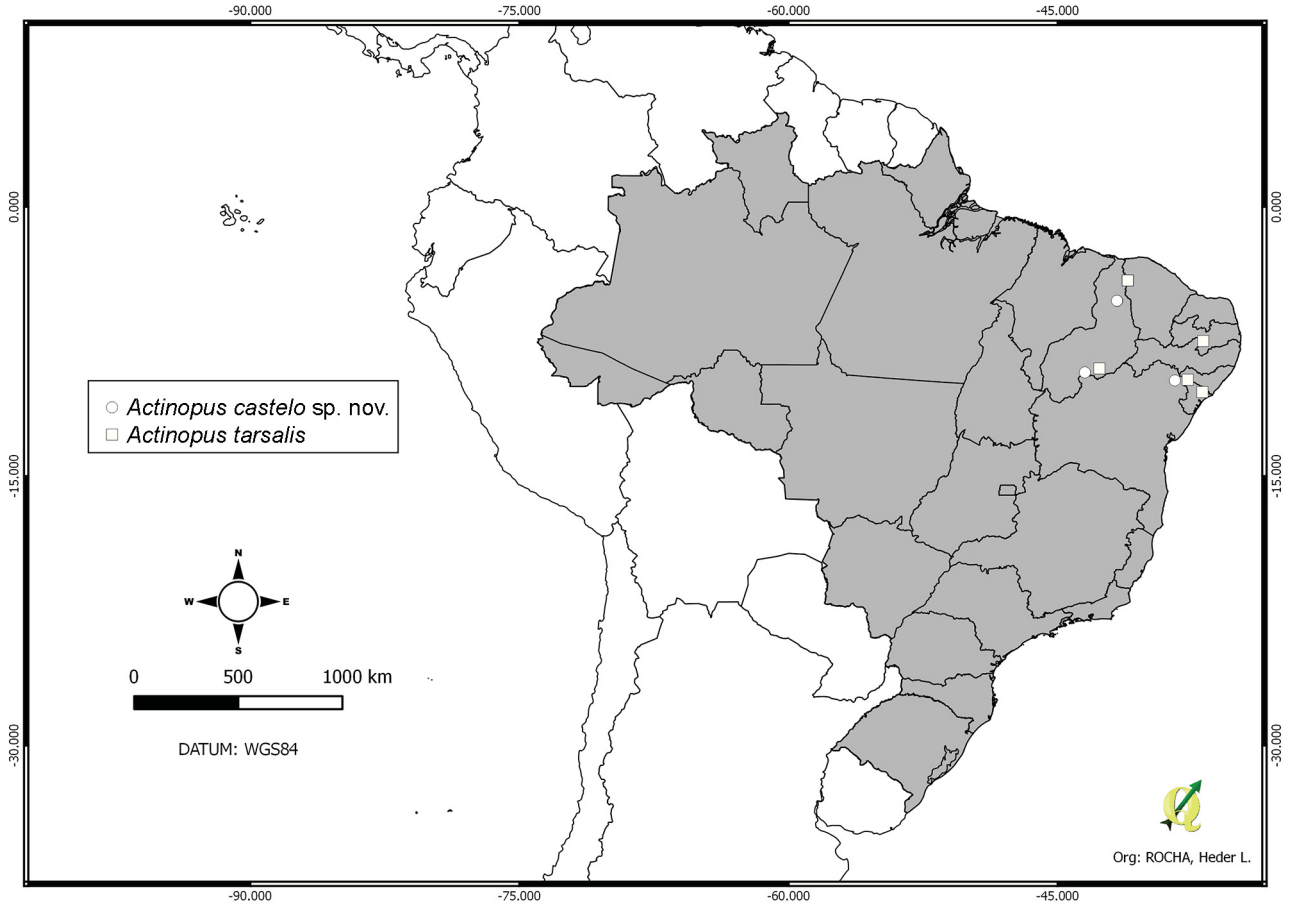


FIGURE 9. *Actinopus tarsalis* Perty, 1833 (drawings from Miglio *et al.*, 2012), male: A–C MPEG 11717: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrow: Serrated Area. Scale line: 1 mm.



MAP 1. Distribution map of *Actinopus tarsalis* Perty, 1833, and *Actinopus castelo* sp. nov.

Diagnosis. Males of *A. tarsalis* differ from those of all species, except *A. castelo* (Fig. 12 A–C), by the copulatory bulb without BTA and by the robust embolar base, inserted basally at a right angle (90°); the embolar apex is flattened and expanded, arrow-shaped in dorsal view. They differ from those of *A. castelo* by PAc inconspicuous at prolateral surface, embolus shorter, tegulum wider than in *A. castelo* and PA more conspicuous (Fig. 9 A–C, see Miglio *et al.*, 2012, figs 1–12).

Description. See Miglio *et al.* (2012: 376).

***Actinopus castelo* sp. nov.**

Figs 10–12, Map 1

Type material. BRAZIL. Holotype male from 05º 13' 48.8" S 41º 41' 59.0" W, Fazenda Bonito, ECB Rochas Ornamentais, Castelo do Piauí, Piauí, Brazil, 12.ii.2006, F. S. Rodrigues leg. (MPEG 22277). **Paratypes:** BRAZIL. Piauí: Castelo do Piauí, ECB Rochas Ornamentais, Fazenda Bonito, Plot Cerrado Rupestre, 05º 13' 48.8" S 41º 41' 59.0" W, 10♂, 12.ii.2006, F. S. Rodrigues leg.

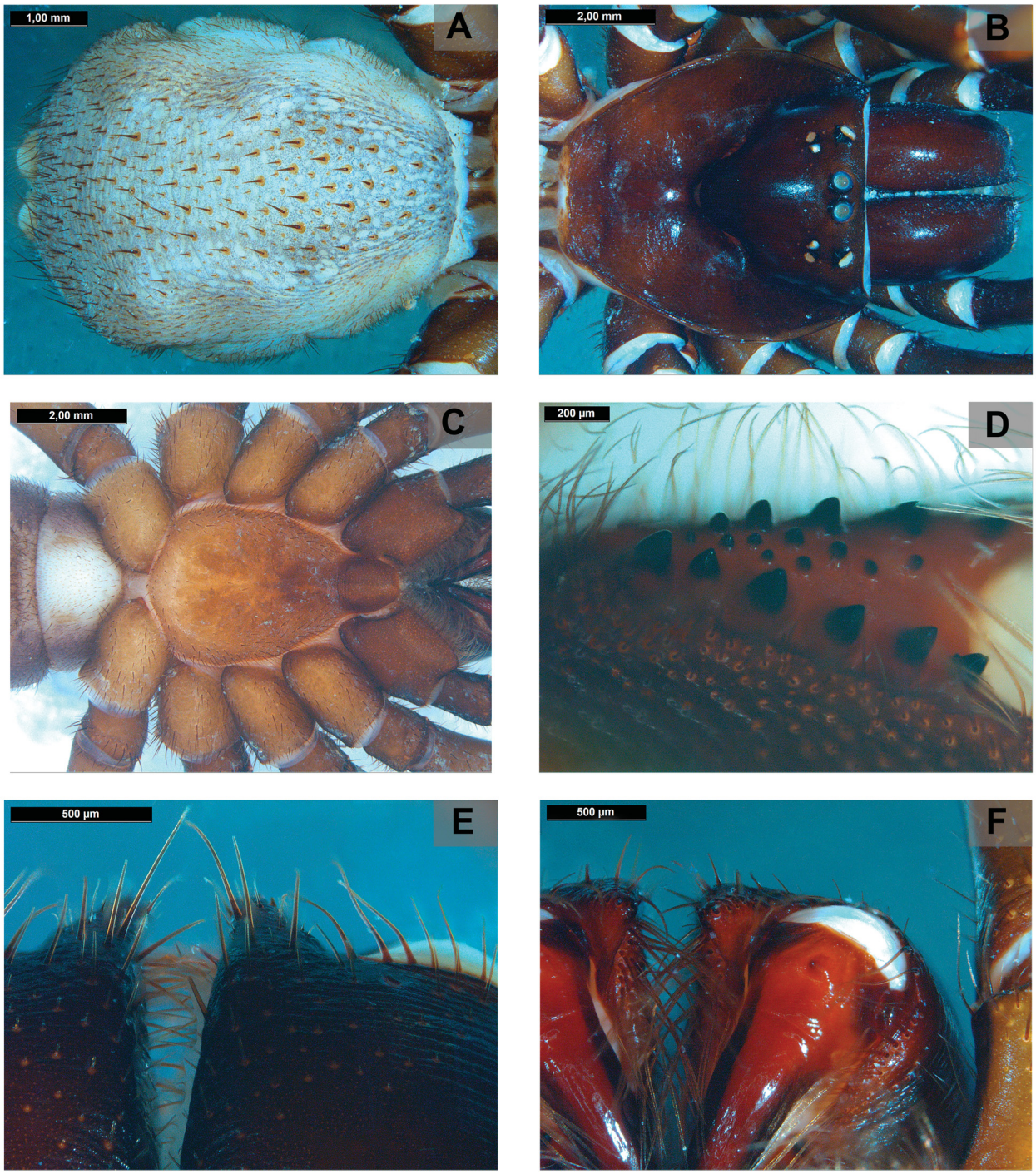


FIGURE 10. *Actinopus castelo* sp. nov., paratype, male: A–F MPEG 2399: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

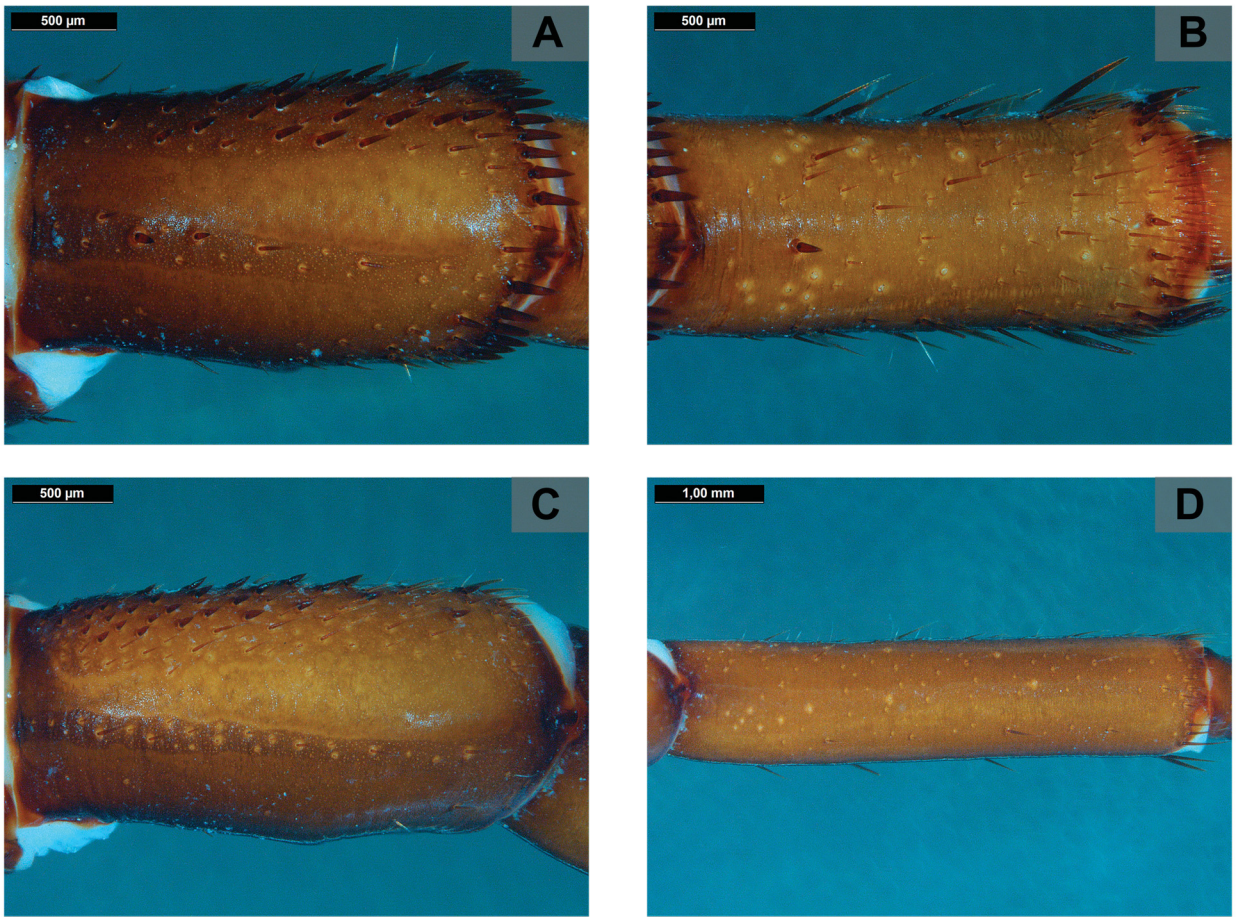


FIGURE 11. *Actinopus castelo* sp. nov., paratype, male: A–D MPEG 2399: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

(MPEG 2400, 1♂ removed for SEM); Plot Campo Sujo, 05º 14' 07.1" S 41º 41' 16.3" W, 9♂, 10.ii.2006, F. S. Rodrigues leg. (MPEG 2399); Caracol, Parque Nacional da Serra das Confusões, Plote PPBio Semiárido, 09° 13' 16" S 43° 29' 21" W, 1♂, x.2006, P. R. R. Silva *et al.* leg. (CHNUFPI 202). Bahia: Paulo Afonso, Estação Ecológica Raso da Catarina, 09° 39' 58.1" S 38° 28' 15.1" W, 4♂, 22–23.v.2012, I. L. F. Magalhães & J. L. Chavari leg. (UFMG 11681); 5♂, 22–23.V.2012, I. L. F. Magalhães & J. L. Chavari leg. (IBSP 162680).

Etymology. The specific name is an noun in apposition derived from the type locality name.

Diagnosis. Males of *A. castelo* differ from those of all other species of the genus, except *A. tarsalis* (Fig. 9 A–C, see Miglio *et al.*, 2012, figs 1–12), by the copulatory bulb without BTA and by the robust embolar base, inserted basally at a right angle (90°); embolar apex flattened and expanded, arrow-shaped in dorsal view (Fig. 12 A–C). They differ from those of *A. tarsalis* by the PAc developed in prolateral view of embolus, tegulum thinner, PA less conspicuous and by the presence of a large scutum covering almost all the dorsal surface of abdomen (Fig. 10 A).

MALE (MPEG 22277): Total length 9.75; Carapace, long 5.25; wide 5.12. Carapace anterior part tapering. Anterior eye row slightly procurved, posterior row recurved (Fig. 10 B). With five short bristles between AME and clypeus; two bristles between ALEALP and many short and weak bristles between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 10 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines in apex (Fig. 10 E, F). Chelicerae with nine denticles along prolateral row of teeth. Prolateral row with five megateeth. Retrolateral row with six megateeth (Fig. 10 D). Patella and tibia III with distal crown of well-developed thorns, on two articles, interrupted in middle (Fig. 11 A, B). Patellae III and IV with spines on prolaterodorsal face (Fig. 11 A, C). Tibia IV without spines on dorsal surface and with two visible rows of trichobothria (Fig. 11 D). Ventral pseudoscopulae occupies 50% of tarsus I, 40% of II and 100% of III and IV. Pseudoscopula on tarsi I and II with setae spaced, forming diffuse group of bristles; on tarsi III and IV, compact. Carapace, chelicerae, sternum,

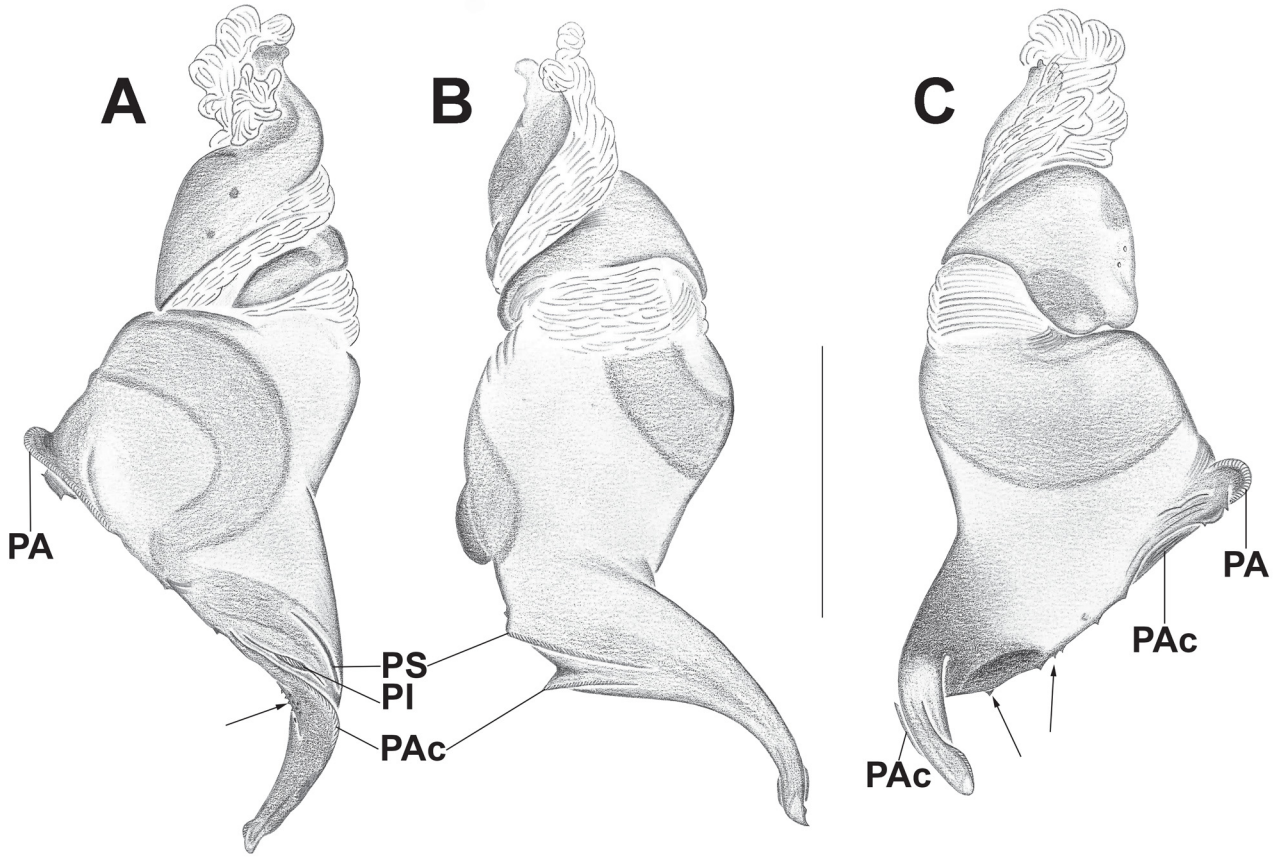


FIGURE 12. *Actinopus castelo* sp. nov., male: A–C MPEG 22277: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated Area. Scale line: 1 mm.

coxae, trochanters, femora, patellae, tibiae, metatarsi and tarsi yellowish-brown; Abdomen pale brown (Fig. 9 A). **Eyes: Diameters:** PME 0.12, PLE 0.20, ALE 0.24, AME 0.28; MOQ: Length 0.72, front width 2.36, back width 2,00; **Interdistances:** PME–PME 1.28, PLE–PME 0.16, AME–AME 0.16, ALE–AME 0.44, ALE–PLE 0.36, AME–PME 0.44. **Ocular area:** OAL 11.63, OAW 8.13, and IF 1.75. **Body:** Clypeus: 0.25; Fovea: 2.13; labium: long 1.13; wide 1.00; Chelicerae: long 2.375; wide 1.625; sternum: long 3.5; wide 2.875. Abdomen: long 4.75; wide 3.75. **Leg measurements:** I: Fe 5.625/ Pa 1.625/ Ti 3.625/ Me 4.625/ Ta 2.75/ total 18.25. II: 5.25/ 2.25/ 3.25/ 4.75/ 2.75/ 18.25. III: 4.125/ 2.375/ 2.5/ 4.625/ 2.875/ 16.5. IV: 5.625/ 2.625/ 4.875/ 5.375/ 2.625/ 21.125. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0-0-1, d0, p0, r0; ti v2-4-6, d0, p0, r0-4-6; Me v9-14-12, d0, p2-2-2, r1-4-3; ta v6-10-15, d0, p1-1-2, r3-5-7. II—Fe v0, d0, p0, r0; Pa v0-0-1, d0, p0, r0; ti v1-4-5, d0, p0, r0-4-6; Me v4-12-11, d0, p0-0-4, r4-2-3; ta v7-8-9, d0, p0-3-3, r2-4-7. III—Fe v0, d0, p0, r0; Pa v0, d11-14-25, p0, r0-0-3; ti v0-0-4, d1-0-14, p0-0-2, r0-0-3; Me v0-4-6, d2-2-1, p3-2-4, r4-5-7; ta v0, d0, p2-3-5, r2-4-5; IV—Fe v0, d0, p0, r0; Pa v0, d21-14-6, p0, r0; ti v0-0-4, d0, p0, r0; Me v7-8-11, d0, p1-1-2, r0-0-1; ta v0, d0, p0-2-5, r0-1-1. **Palp:** PA well developed, embolus with three small keels (PAc, PI and PS); keels evident in dorsal and prolateral views, barely visible retrolaterally. BTA absent; prolateral tegulum serrated next to base of embolus and big swelling on tegulum surface, in same direction of PA, but more dorsally (Fig. 12 A–C).

Distribution. BRAZIL. Piauí: Castelo do Piauí and Caracol. Bahia: Paulo Afonso (Map 1).

Group *apalai*

Diagnosis. The group *apalai* is recognized by the following combination of characters: Medium total length; PA pronounced, continuous to PI; two embolar keels, PAc absent; prolateral embolus without serrated area, represented by few (two–four) cusps distal to PAc.

Species included. *Actinopus apalai* sp. nov.; *Actinopus mairinquensis* sp. nov.; and *Actinopus szumikae* Ríos-Tamayo & Goloboff, 2018

***Actinopus apalai* sp. nov.**
Figs 13–15, Map 2

Type material. Holotype male from 00° 49’ 58.65601” S 52° 39’ 29.69148” W, Jari, Almeirim, Pará, Brazil, 28.ii.2005, T. Gardner & M. A. Ribeiro Junior leg. (MPEG 2276). **Paratypes:** BRAZIL. *Pará:* Almeirim, Jari, 0° 42’ 42,64747” S 52° 40’ 0,86094” W, Área 56, 1♂, 01.ii.2005 (MPEG 2249); 11.ii.2005 (MPEG 2250); 11.ii.2005 (MPEG 13820, 13821); 1° 11’ 28,30705” S 52° 38’ 51,85530” W, Bituba, 1♂, 07.iii.2005 (MPEG 2247, 2248); 4° 49’ 58,65601” S 52° 39’ 29,69148” W, Área 14, 1♂, 07.iii.2005 (MPEG 2262, 2263, 13816, 13818, 13819); 28.ii.2005 (MPEG 13814), all collected by T. Gardner.

Etymology. The specific name is a noun in apposition in honor of the indigenous ethnic group, Apalai, who have remnants on the eastern side of Tumucumaque Mountains National Park, Almeirim, Pará, Brazil.

Diagnosis. Males of *A. apalai* are characterized by

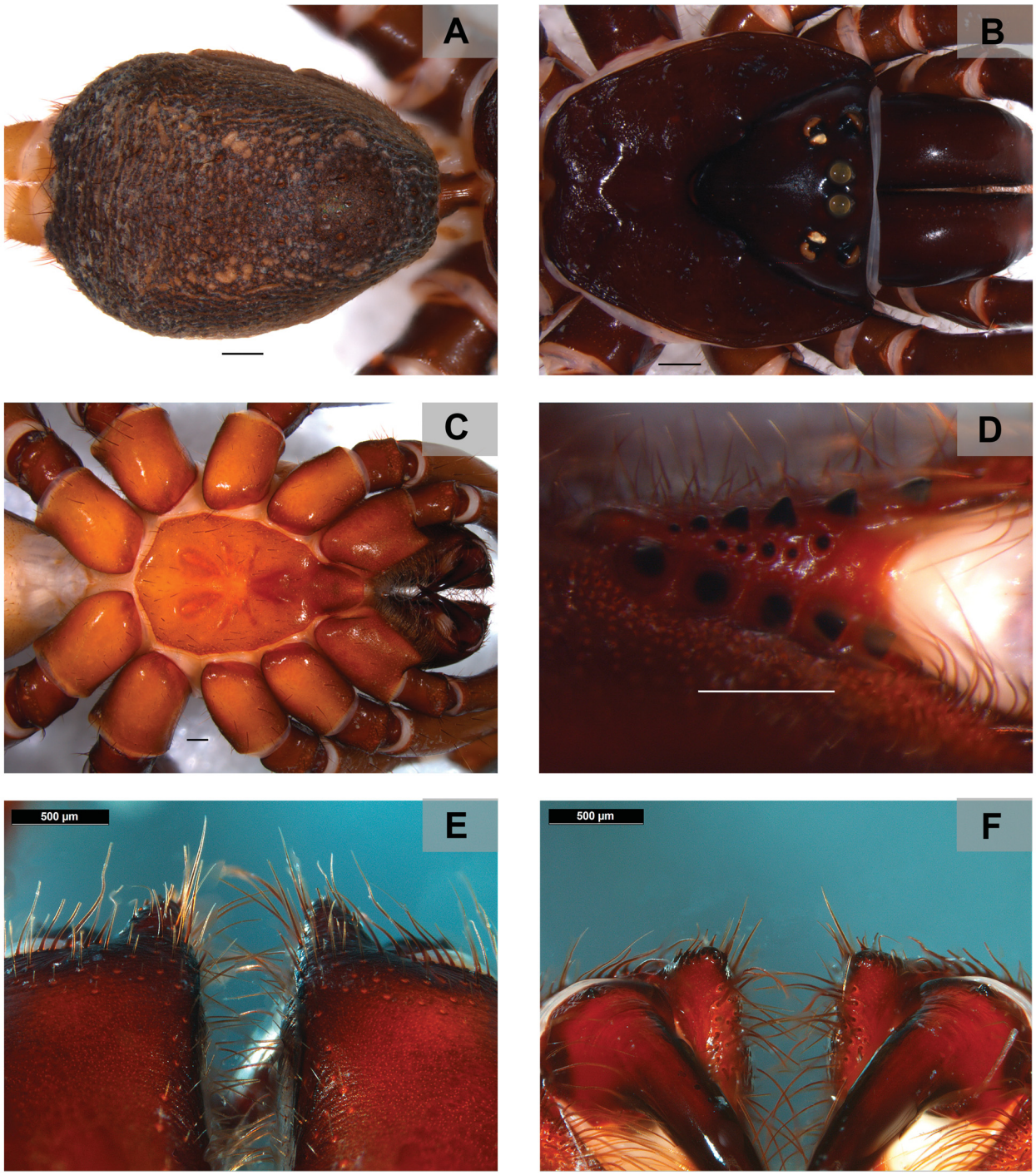


FIGURE 13. *Actinopus apalai* sp. nov., holotype, male: A–F MPEG 2276: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral. Scales lines A–D: 0.5 mm.

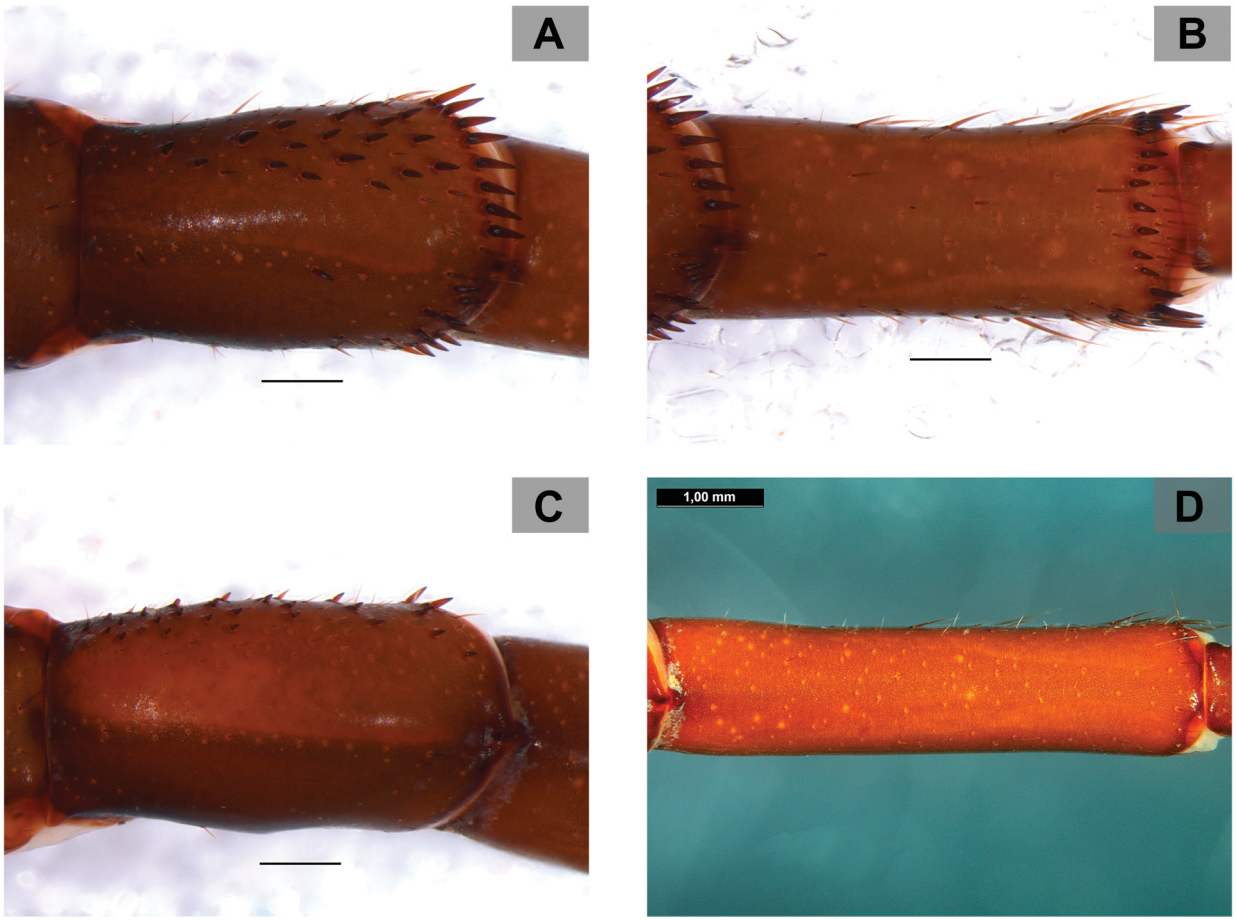


FIGURE 14. *Actinopus apalai* sp. nov., holotype, male: A–D MPEG 2276: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal. Scale lines A–C: 0.5 mm.

PA continuous to PI (Fig. 15 A–B); pronounced PA and BTA inconspicuous (Fig. 15 A–C); without serrated area, represented by the two cusps distal to PI (Fig. 15 A, C). They differ from those of A. *mairinquensis* (Fig. 18 A–C) by BTA in the middle of the width of tegulum; PA more developed; serrated area reduced (Fig. 15 A, C) and dorsal abdominal scutum divided in two parts, the basal larger and more rebordered than distal scutum (Fig. 13 A). They differ from those of *A. smuzikae* by PA more pronounced and PS shorter (Ríos-Tamayo & Goloboff, 2018, fig. 34 D–F).

MALE (holotype): Total length 14.55; Carapace, long 7.22; wide 6.66. Carapace anterior part slightly tapered. Anterior eye row slightly procurved, posterior row recurved (Fig. 13 B). Few short bristles between posterior eyes, and between lateral eyes-edge of carapace; short bristles forming a row on edge of chilum. Sternum with eight sigilla fused medially, two distal sigilla more fused to each other than others (Fig. 13 C). Rastellum protuberant, inverted V-shaped, hirsute, with 1–3 spines in prolateral part (Fig. 13 E–F). Chelicerae with denticles along prolateral row of teeth. Prolateral row decreasing in distal-proximal way. Teeth in retrolateral row subequal (Fig. 13 D). Patella and tibia III with distal crown of well-developed thorns, not interrupted in middle (Fig. 14 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 14 A, C). Patella IV with prolaterodorsal short spines along extension of article (Fig. 14 D). Ventral pseudoscopulae occupying 75% of tarsi I and 100% of II, III and IV. Pseudoscopula compact only in 10% of distal part of tarsi I, 25% of II, and 100% of tarsi III and IV. Carapace and chelicerae reddish brown; sternum yellowish-brown; legs reddish-brown; tibia of palp and cymbium yellowish-brown; abdomen pale gray, with two dorsal scuta with points of insections of bristles more sclerotized than in rest of abdomen (Fig. 13 A). Anterior scutum bigger and more rebordered than posterior. **Eyes: Diameters:** PME 0.27, PLE 0.38, ALE 0.4, AME 0.5; MOQ: Length 1.2, front width 1.38, back width 2.2; **Interdistances:** PME–PME 1.7, PLE–PME 0.11, AME–AME 0.16, ALE–AME 0.66, ALE–PLE 0.5, AME–PME 1.2. **Ocular area:** OAL 4.5, OAW 3.7, and IF 2.2. **Body:** Clypeus: 0.14; Fovea:

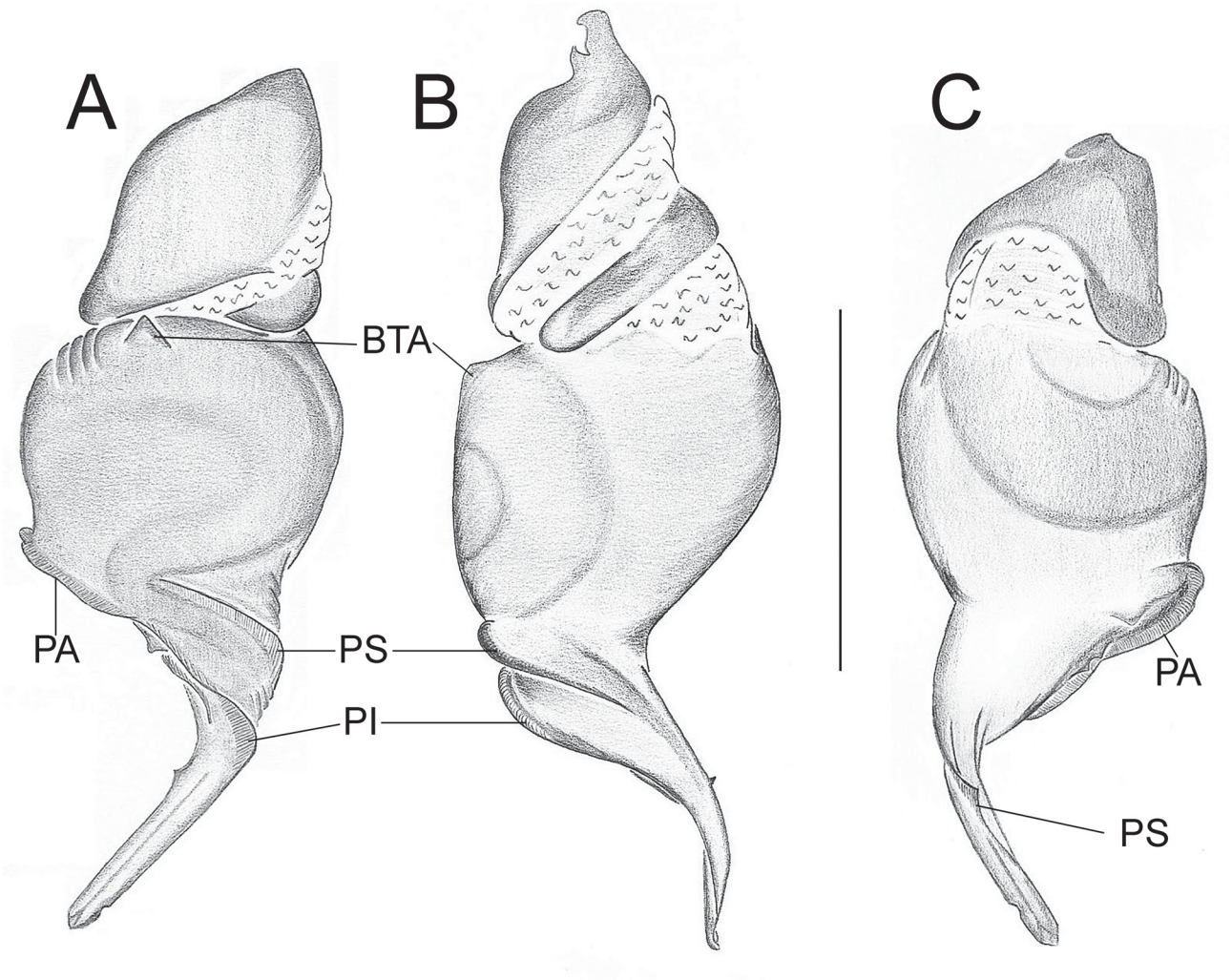
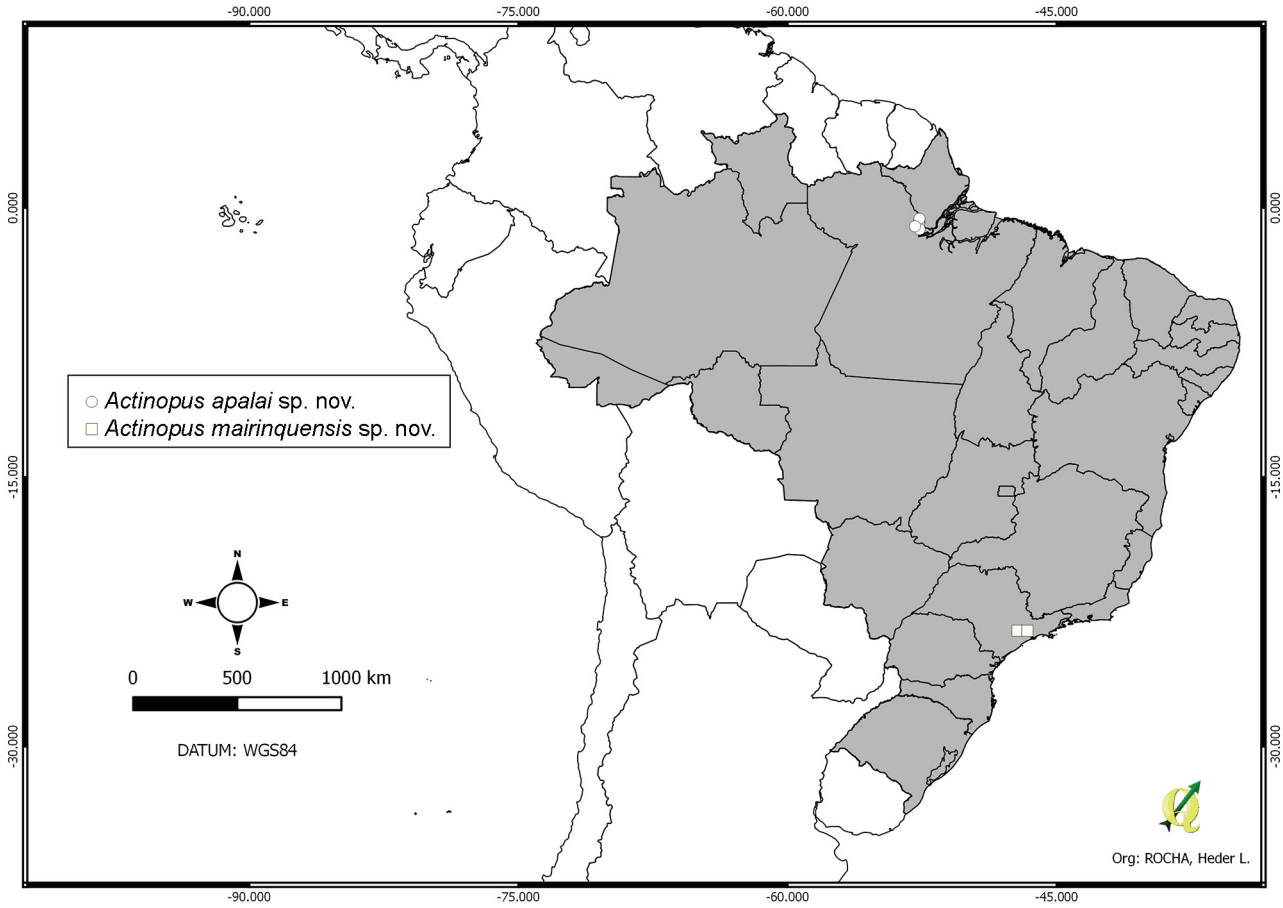


FIGURE 15. *Actinopus apalai* sp. nov., male: A–C MPEG 13184: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA-**Basal tegular apophysis; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel. Scale line: 1 mm.

2.4; Labium: long 1.55; wide 1.22; Chelicerae: long 3.55; wide 2; Sternum: long 4.7; wide 3.44. Abdomen: long 7.77; wide 4.88. **Leg measurements:** I: Fe 6/ Pa 3/ Ti 4.8/ Me 5.7/ Ta 3.3/ total 23. II: 5.6/ 2.1/ 3.5/ 4.3/ 2.5/ 18.2. III: 4.4/ 2.3/ 2.6/ 4.6/ 2.6/ 16.7. IV: 6.4/ 2.6/ 4.8/ 5.7/ 3.8/ 23.6. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-0-4, d0, p0, r0-0-1; Me v4-9-4, d0, p1-3-2, r2-4-3; ta v0-3-4, d0, p1-4-4, r1-5-7. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-0-5, d0, p0, r0-3-2; Me v4-7-6, d0, p1-2-3, r2-3-4; ta v4-7-5, d0, p2-4-5, r2-4-4. III—Fe v0, d0, p0, r0; Pa v0, d2-4-16, p2-4-7, r0-0-3; ti v0-1-2, d1-1-14, p0-2-2, r0-1-4; Me v3-3-6, d0, p2-2-4, r2-4-5; ta v0, d0, p3-8-6, r2-8-4; IV—Fe v0, d0, p0, r0; Pa v0, d0-0-1, p12-13-5, r0; ti v1-2-5, d0, p2-1-2, r0; Me v2-6-6, d0-0-1, p0-0-1, r0-1-2; ta v0, d0, p2-9-8, r2-5-7. **Palp:** BTA developed, prolateral, with two keels (PS and PI) demarcated in prolateral and dorsal faces. PS demarcated on retrolateral face. PS and PI evident. Robust tegulum, long PA, continuous to PI (Fig. 15 A–C).

VARIATION

MALES (n=10): **Eyes: Diameters:** PME 0.22–0.44, PLE 0.22–0.5, ALE 0.44–0.55, AME 0.44–0.55; MOQ: Length 1.2–1.5, front width 1.2–1.4, front width 1.2–2.5; **Interdistances:** PME–PME 1.7–2, PLE–PME 0.11, AME–AME 0.16–0.27, ALE–AME 0.44–0.77, ALE–PLE 0.44–0.77, AME–PME 1.1–1.56. Ocular area: OAL 1.2–1.4, OAW 1.2–2.5, and IF 1.2–1.5. **Body:** Total length: 10.9–18.5; Carapace: Length 5.5–10.4; wide 5–7.2; Clypeus: 0–0.1; Fovea: 1.6–3.1; Labium: Length 1.3–1.7; wide 1.2–2.3; Chelicerae: Length 3–5.2; wide 1.7–3.2; Sternum: Length 4.4–5.3; wide 2.5–4.2. Abdomen:



MAP 2. Distribution map of *Actinopus mairinquensis* sp. nov., and *Actinopus apalai* sp. nov.

Length 5.1–7.1; wide 3.6–5.1. **Legs:** I: Fe 5.3–6.8/ Pa 2–3.1/ Ti 3.6–5.4/ Me 3.8–6.4/ Ta 2.1–3.4/ total 16.8–25.1. II: 5–6.8/ 2–3/ 3.7–5.3/ 4–6/ 2.3–3.4/ 13–24.5. III: 3.9–5.8/ 2.2–3/ 2.5–3.8/ 4–5.7/ 2.4–3.4/ 15–21.7. IV: 5.7–8.2/ 2.2–3.2/ 4.2–6.6/ 4.1–6.4/ 2.6–3.8/ 18.8–28.2.

Distribution. BRAZIL. Pará: Almeirim (Map 2).

Material examined: BRAZIL. Pará: Almeirim, Jari, 0° 36’ 14,72106” S 52° 39’ 9,44026” W, Área 86, 1♂, 03.iv.2005 (MPEG 2256, 2257); 0° 42’ 42,64747” S 52° 40’ 0,86094” W, Área 56, 1♂, 01.ii.2005 (MPEG 2249); 11.ii.2005 (MPEG 2252, 2254); 2♂, 11.ii.2005 (MPEG 2255); 3♂, 11.ii.2005 (MPEG 2251); 5♂, 11.ii.2005 (MPEG 2253); 1° 1’ 32,45885” S 52° 54’ 17,27678” W, Quaruba, 1♂, 03.iv.2005 (MPEG 2246); 4° 49’ 58,65601” S 52° 39’ 29,69148” W, Área 14, 1♂, 07.iii.2005 (MPEG 13816, 13817); 4♂, 28.ii.2005 (MPEG 2275); 5♂, 07.iii.2005 (MPEG 2260, 2265); 6♂, 28.ii.2005 (MPEG 2268); 7♂, 07.iii.2005 (MPEG 2259, 2264); 8♂, 28.ii.2005 (MPEG 2270); 8♂ e 1j, 28.ii.2005 (MPEG 2274); 10♂, 07.iii.2005 (MPEG 2258); 12♂, 28.ii.2005 (MPEG 2273); 12♂ e 1j, 28.ii.2005 (MPEG 2272); 14♂, 28.ii.2005 (MPEG 2269); 07.iii.2005 (MPEG 2261, 2267); 15♂, 28.ii.2005 (MPEG 2271); 17♂, 07.iii.2005 (MPEG 2266); 21♂, 28.ii.2005 (MPEG 13815); 22♂, 28.ii.2005 (MPEG 2277), all collected by T. Gardner.

Actinopus mairinquensis sp. nov.

Figs 16–18, Map 2

Type material. Holotype male from [23º 32’ 48.91” S 47º 11’ 02.79” W], Mairinque, São Paulo, Brazil, 22.iv.1992, C. S. de Oliveira leg. (IBSP 110484). **Paratype:** BRAZIL. São Paulo: São Paulo, [23° 32’ 56” S 46° 38’ 20” W], 1♂, iii.1977, C. Aporeian leg. (IBSP 104126).

Etymology. The specific name is an adjective derived from the type locality name.

Diagnosis. Males of *A. mairinquensis*, as *A. apalai* (Fig. 15 A–C), are characterized by the PA continuous to PI (Fig. 18 A); pronounced PA and BTA inconspicuous (Fig. 18 A–C); serrated area, represented by few cusps distal to PI (Fig. 18 A–B). They differ from those of those of *A. apalai* and *A. smuzikae* (Ríos-Tamayo & Goloboff, 2018, fig. 34 D–F) by BTA displaced dorsally in relation to a middle longitudinal line along prolateral tegular surface; PA reduced than on *A. apalai*; serrated area also

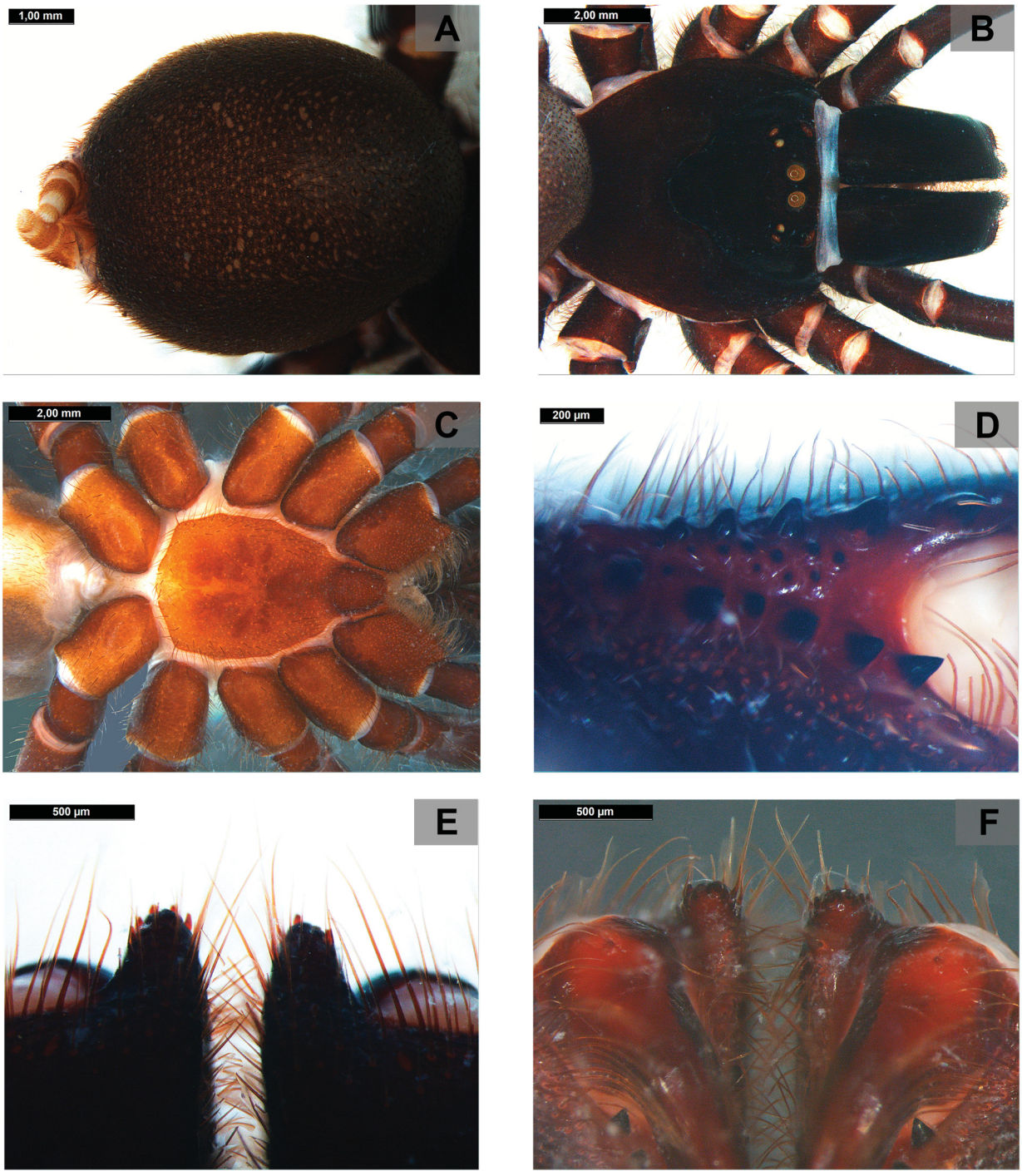


FIGURE 16. *Actinopus mairinquensis* sp. nov., holotype, male: A–F IBSP 110484: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

reduced, but more developed than *A. apalai* (Fig. 18 A, C) and less developed than *A. smuzikae* (with four cusps); dorsal abdominal scutum absent (Fig. 16 A) as on *A. smuzikae*.

MALE (IBSP 110484): Total length 11.87; Carapace, long 5.12; wide 5. Carapace anterior part tapering. Eyes. Anterior row slightly procurved, posterior row recurved (Fig. 16 B). With many short bristles in row on border between AME-clypeus. Without bristles between ALE–ALP and many short and weak bristles between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 16 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines

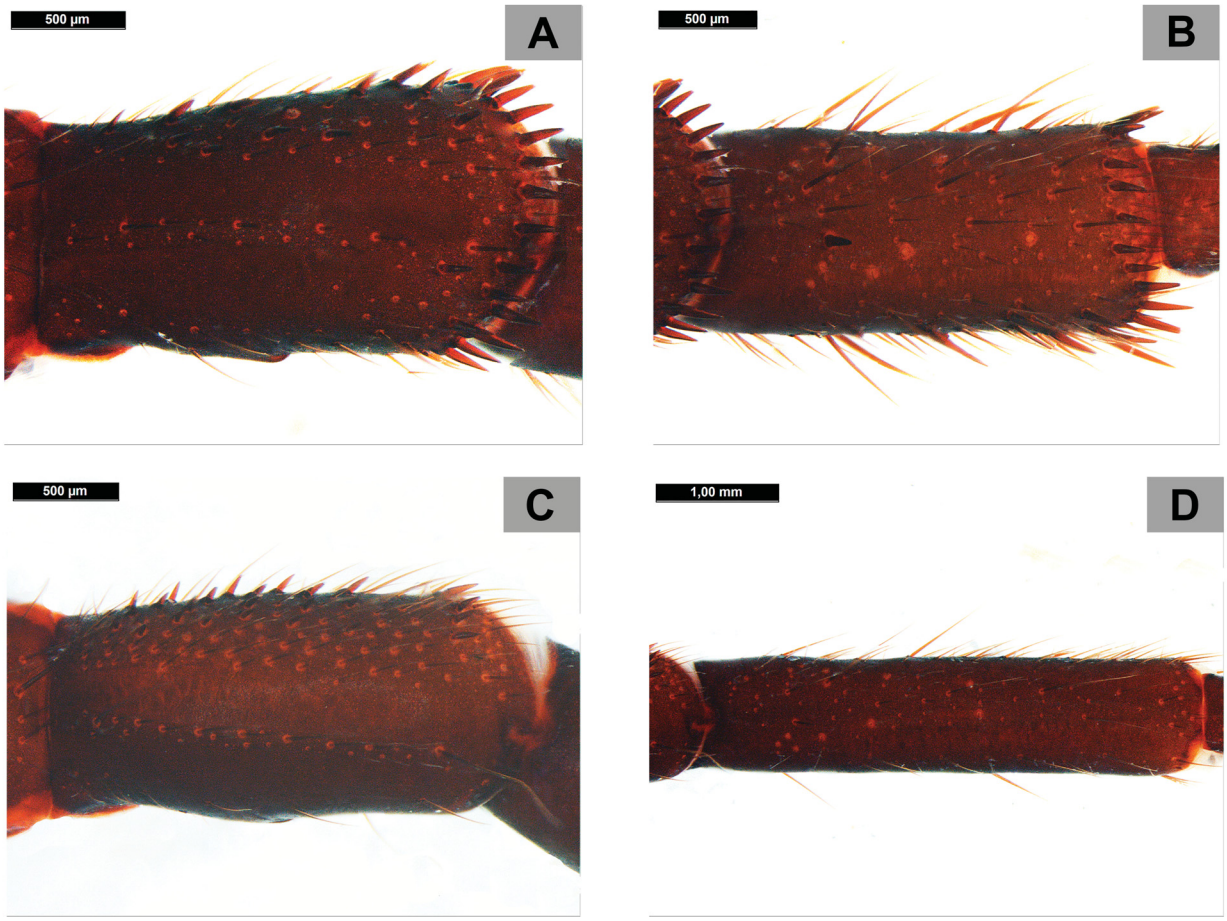


FIGURE 17. *Actinopus mairinquensis* sp. nov., holotype, male: A–D IBSP 110484: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

apically (Fig. 16 E–F). Chelicerae with eleven denticles along prolateral row of teeth. Prolateral row with five megateeth. Retrolateral row with six megateeth (Fig. 16 D). Patella and tibia III with distal crown of well-developed thorns, not interrupted in middle (Fig. 17 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 17 A, C). Tibia IV without spines on dorsal surface and with two visible rows of trichobothria (Fig. 17 D). Ventral pseudoscopulae occupying 25% of tarsus I, 50% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish-dark-brown; Abdomen gray (Fig. 16 A). **Eyes: Diameters:** PME 0.2, PLE 0.28, ALE 0.44, AME 0.32; MOQ: Length 0.92, front width 2.4, back width 2.28; **Interdistances:** PME–PME 1.44, PLE–PME 0.08, AME–AME 0.2, ALE–AME 0.56, ALE–PLE 0.4, AME–PME 0.32. **Ocular area:** OAL 3.75, OAW 3, and IF 1.75. **Body:** Clypeus: 0.25; Fovea: 2; Labium: long 1.25; wide 1; Chelicerae: long 3; wide 1.5; Sternum: long 3.62; wide 3. Abdomen: long 6.5; wide 5. **Leg measurements:** I: Fe 4.75/ Pa 2.25/ Ti 2.75/ Me 2.75/ Ta 2/ total 14.5. II: 4.75/ 2.25/ 2.75/ 3.37/ 1.75/ 14.87. III: 3.75/ 2.25/ 2.12/ 3.5/ 1.87/ 13.5. IV: 5.25/ 2.12/ 4/ 4/ 2.37/ 17.75. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v1-4-5, d0, p0, r0; Me v1-3-2, d0, p1-3-2, r1-3-3; ta v1-3-0, d0, p1-3-2, r3-3-3. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v1-4-4, d0, p0, r1-7-6; Me v1-3-2, d0, p0-1-1, r0-7-4; ta v0-3-3, d0, p1-1-2, r0-3-3. III—Fe v0, d0, p0, r0; Pa v0, d3-5-19, p0-0-3, r0-0-3; ti v0-0-3, d0, p0-0-1, r0-1-4; Me v0-1-5, d0, p1-1-1, r0-0-2; ta v0, d0, p0-0-3, r0; IV—Fe v0, d0, p0, r0; Pa v0, d8-10-7, p0, r0; ti v2-3-3, d0, p0-0-1, r0; Me v2-1-2, d0, p1-3-2, r0-0-1; ta v0, d0, p0-3-2, r0. **Palp:** BTA developed, dorsal; with two keels (PS and PI) demarcated in prolateral and dorsal faces. Only PS demarcated on retrolateral face. PS and PI developed and PA continuous to PI. Robust tegulum and thin embolus (Fig. 18 A–C).

Distribution. BRAZIL. São Paulo: São Paulo and Mairinque (Map 2).

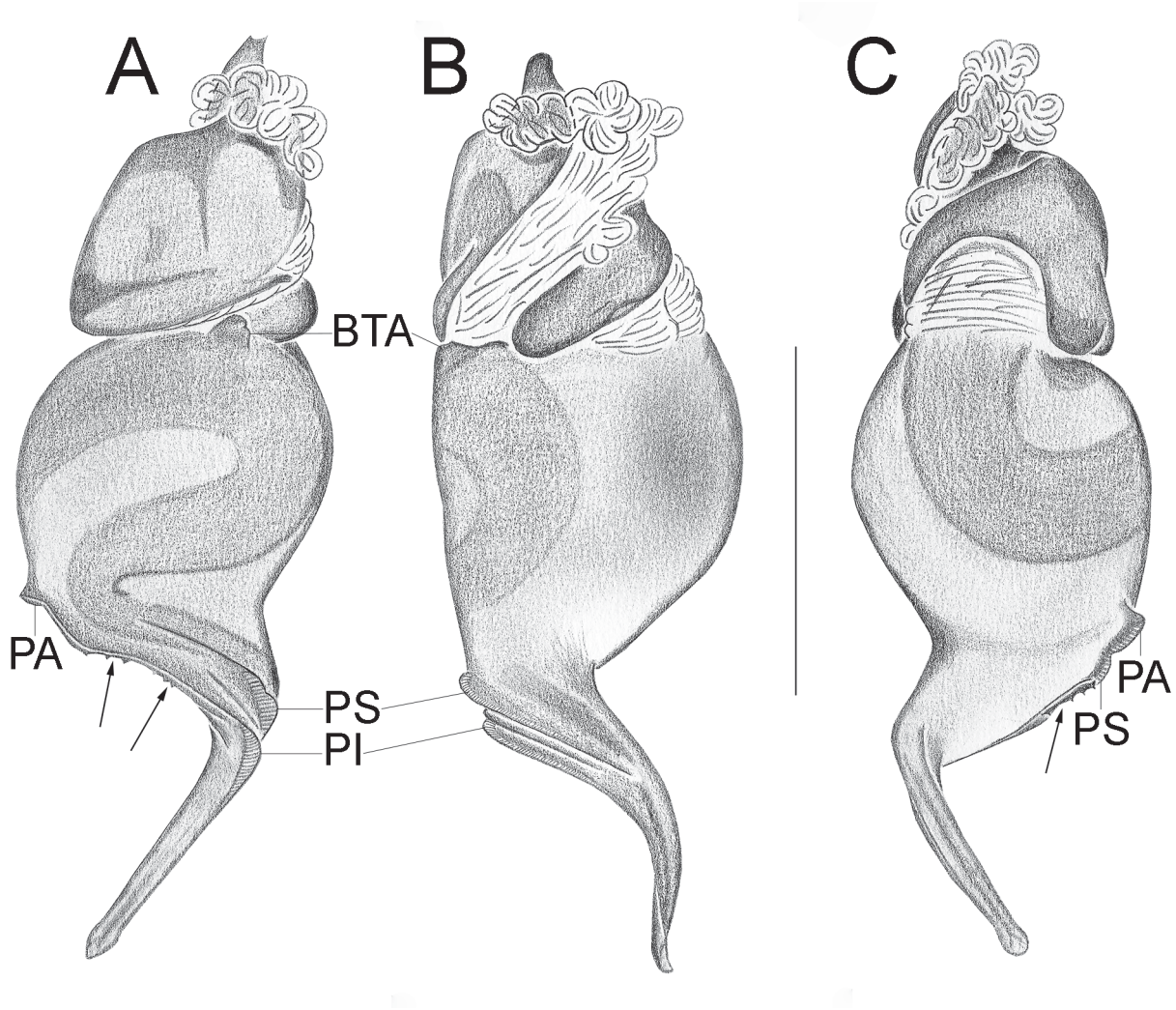


FIGURE 18. *Actinopus mairinquensis* sp. nov., male: A–C IBSP 110484: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA-**Basal tegular apophysis; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated Area. Scale line: 1 mm.

Actinopus smuzikae Ríos-Tamayo & Goloboff, 2018

Actinopus szumikae Ríos-Tamayo & Goloboff, 2018: 66, figs 34 A–G, 35 A–F, 45 (holotype ♂, [31º 39' S 64º 25' W], Alta Gracia "La Granja", Córdoba, Argentina, i.1939, C. Brunch leg., MACN-Ar 36564; paratype ♀, [31º 24' S 64º 31' W], Carlos Paz, La Cruz, Córdoba, Argentina, i.1939, C. Brunch leg., MACN-Ar 27111; not examined); World Spider Catalog, 2020.

Diagnosis. Males of *A. smuzikae* (Ríos-Tamayo & Goloboff, 2018, fig. 34 D–F) are characterized by PA continuous to PI; PA more pronounced than *A. apalai* (Fig. 15 A–C) and *A. mairinquensis* (Fig. 18 A–C) and BTA in the middle of the width of tegulum as in *A. apalai*; serrated area represented by four cusps distal to PI. They differ from *A. apalai* by more developed PA and from *A. mairinquensis* by slender PA. They differ from those of the other two species of group *apalai* by absence of abdominal scutum and by shorter PS. Females of *A. smuzikae* (Ríos-Tamayo & Goloboff, 2018, fig. 35 D–E) resemble those of *A. paraitinga* (Fig. 59 D), *A. itapitocai* (Fig. 83 D), *A. dubiomaculatus* (Fig. 112 D–H), *A. laventana* (Fig. 129 D), *A. itacolomi* (Fig. 153 D), *A. princeps* (Fig. 217 A–D) and *A. taragui* (Ríos-Tamayo & Goloboff, 2018, fig. 37 D–E) by the shape of spermathecae, with two receptacles and lateral lobes longer than inner lobes. *A. smuzikae* resemble *A. itapitocai* and *A. taragui* by the absence of lateral swellings on inner lateral lobes of receptacles. females of *A. smuzikae* differ from all other species of the genus by long external lobes curved outward.

Description. See Ríos-Tamayo & Goloboff (2018: 66).

Distribution. ARGENTINA: Córdoba, Buenos Aires, Santa Fe, and Corrientes.

Group *fractus*

Diagnosis. The group *fractus* is recognized by the following combination of characters: Medium total length; tegulum thin, with proximal third of the embolus narrow and long; embolus with only two keels (PS and PI). Females may be recognized by the single spermathecae, strongly fused to base, with pore distribution widespread by basal membrane.

Species included. *Actinopus fractus* Mello-Leitão, 1920; *Actinopus obidos* sp. nov.; and *Actinopus buritiensis* sp. nov.

Actinopus fractus Mello-Leitão, 1920

Figs 19–21, Map 3

Actinopus fractus Mello-Leitão, 1920: 58 (holotype ♂, [20° 31' 59.9982" S 47° 23' 59.9994" W], Franca, São Paulo, Brazil, MZSP 323, examined); Mello-Leitão, 1923: 21; World Spider Catalog, 2020.

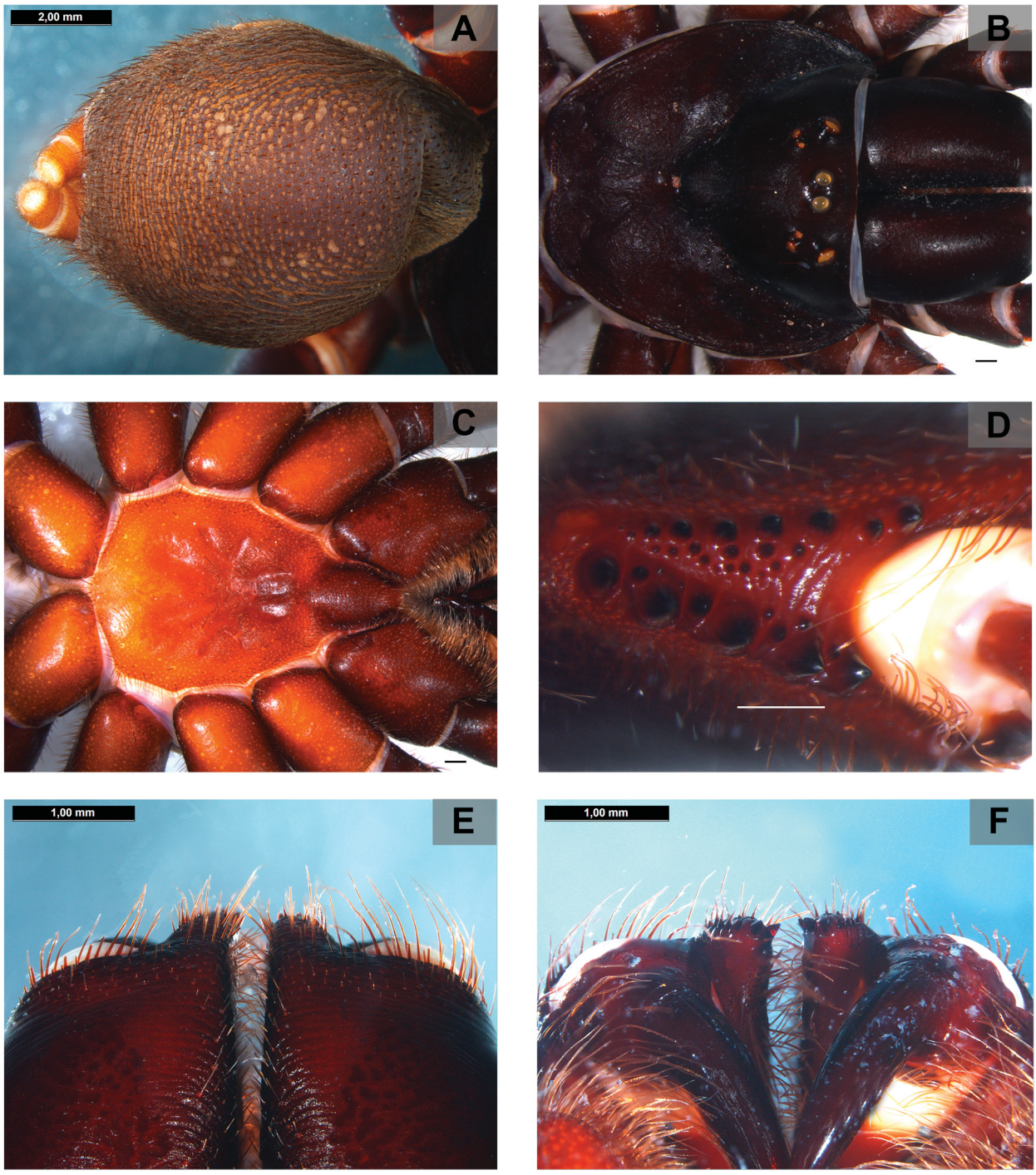


FIGURE 19. *Actinopus fractus* Mello-Leitão, 1920, male: A–F IBSP 114535: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral. Scales lines B, C–D: 0.5 mm.

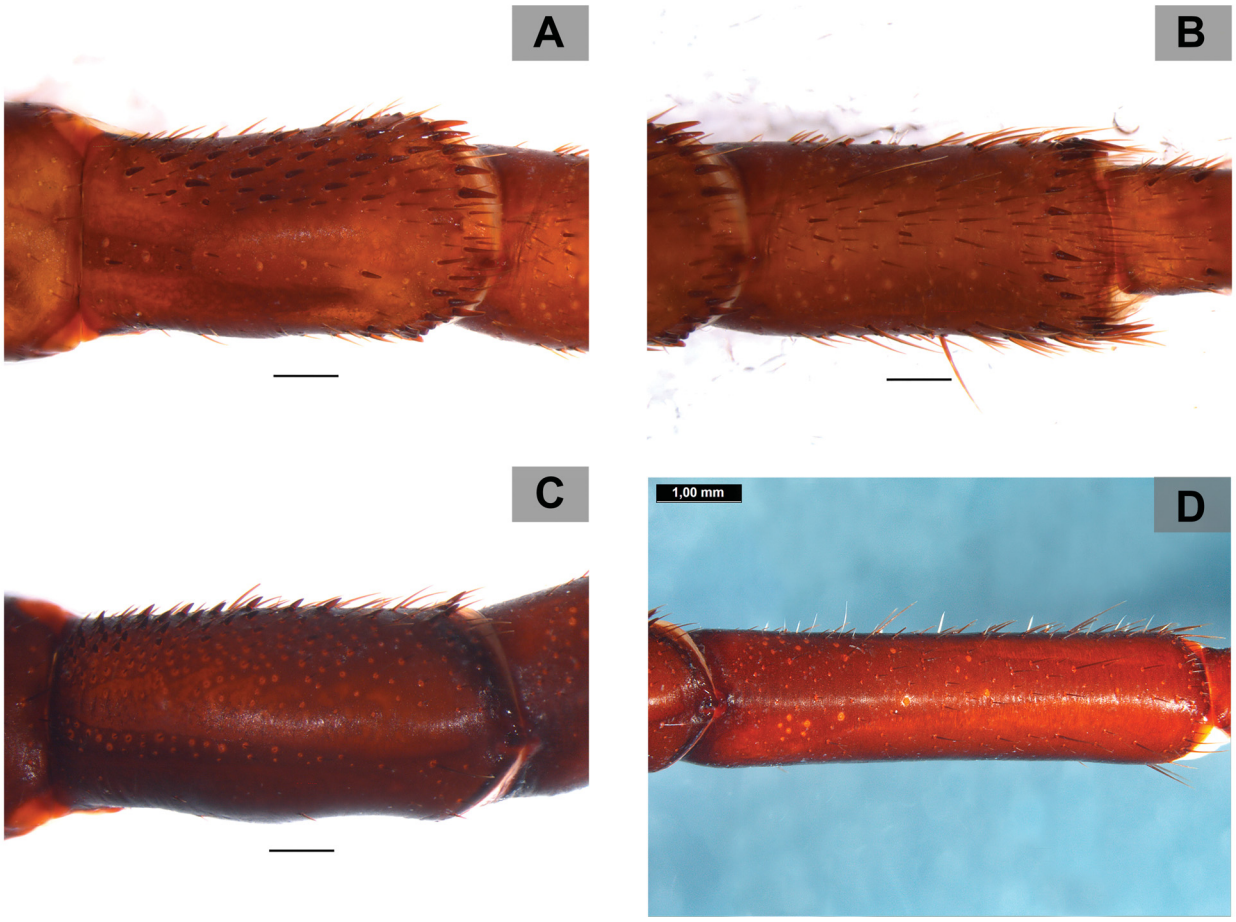


FIGURE 20. *Actinopus fractus* Mello-Leitão, 1920, male: A–D IBSP 114535: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal. Scales lines A–C: 0.5 mm.

Diagnosis. Males of *A. fractus* differ from those of other species belonging to the group *fractus*, by the BTA displaced dorsally in relation to a middle longitudinal line along prolateral tegular surface; and by the more developed PA (Fig. 21 A–C).

MALE (IBSP 114535): Total length 15.75; Carapace, long 7.47; wide 7.92. Carapace anterior part rounded. Eyes. Anterior eye row slightly procurved, posterior row recurved (Fig. 19 B). Few short bristles between AME-clypeus and posterior eyes. Sternum with eight sigilla fused medially, two distal sigilla more fused to each other than others (Fig. 19 C). Rastellum protuberant, subtriangular, hirsute, with row of strong spines apically (Fig. 19 E–F). Subinguinal sulci with small denticles along prolateral row of teeth. Denticles in middle of prolateral row of teeth. Teeth on both margins, subequals in size (Fig. 19 D). Patella and tibia III with distal crown of well-developed thorns, interrupted on the middle on patella III and not interrupted in middle on tibia III (Fig. 20 A–B). Tibia III with recurved crown of spines (Fig. 20 B). Patellae IV with spines on prolaterodorsal face along all length of article (Fig. 20 C). Tibia IV without spines on prolateral surface (Fig. 20 D). Ventral pseudoscopulae diffuse, in two parallel rows, occupying 70% of tarsi I, 50% of II and compacts, occupying 100% of tarsi III and IV. Carapace and chelicerae dark-brown; sternum reddish brown; legs dark-reddish-brown; tibia of palp slightly yellow; and abdomen dark-gray (Fig. 19 A). **Eyes: Diameters:** PME 0.25, PLE 0.21, ALE 0.47, AME 0.34; MOQ: Length 1.22, front width 1.02, back width 2.34; Interdistances: PME–PME 1.96, PLE–PME 0.18, AME–AME 0.24, ALE–AME 1.06, ALE–PLE 0.66, AME–PME 0.74. Ocular area: OAL 5.83, OAW 4.36, and IF 3.28. Body: Clypeus: 0.38; Fovea: 3.11; Labium: long 2.21; wide 1.61; Chelicerae: long 4.72; wide 2.53; Sternum: long 5.33; wide 4.87. Abdomen: long 8.07; wide 6.81. **Leg measurements:** I: Fe 7.66/ Pa 3.68/ Ti 3.46/ Me 5.14/ Ta 2.64/ total 22.58. II: 7.22/ 3.66/ 3.63/ 5.26/ 2.75/ 22.52. III: 6.07/ 3.87/ 2.8/ 5.71/ 2.98/ 21.43. IV: 8.39/ 3.95/ 5.65/ 6.6/ 3.11/ 27.7. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-0-3, d0, p0, r0; Me v0-3-5, d0, p0-1-3, r0-1-4; ta v0-2-1, d0, p0-2-2, r1-3-4.

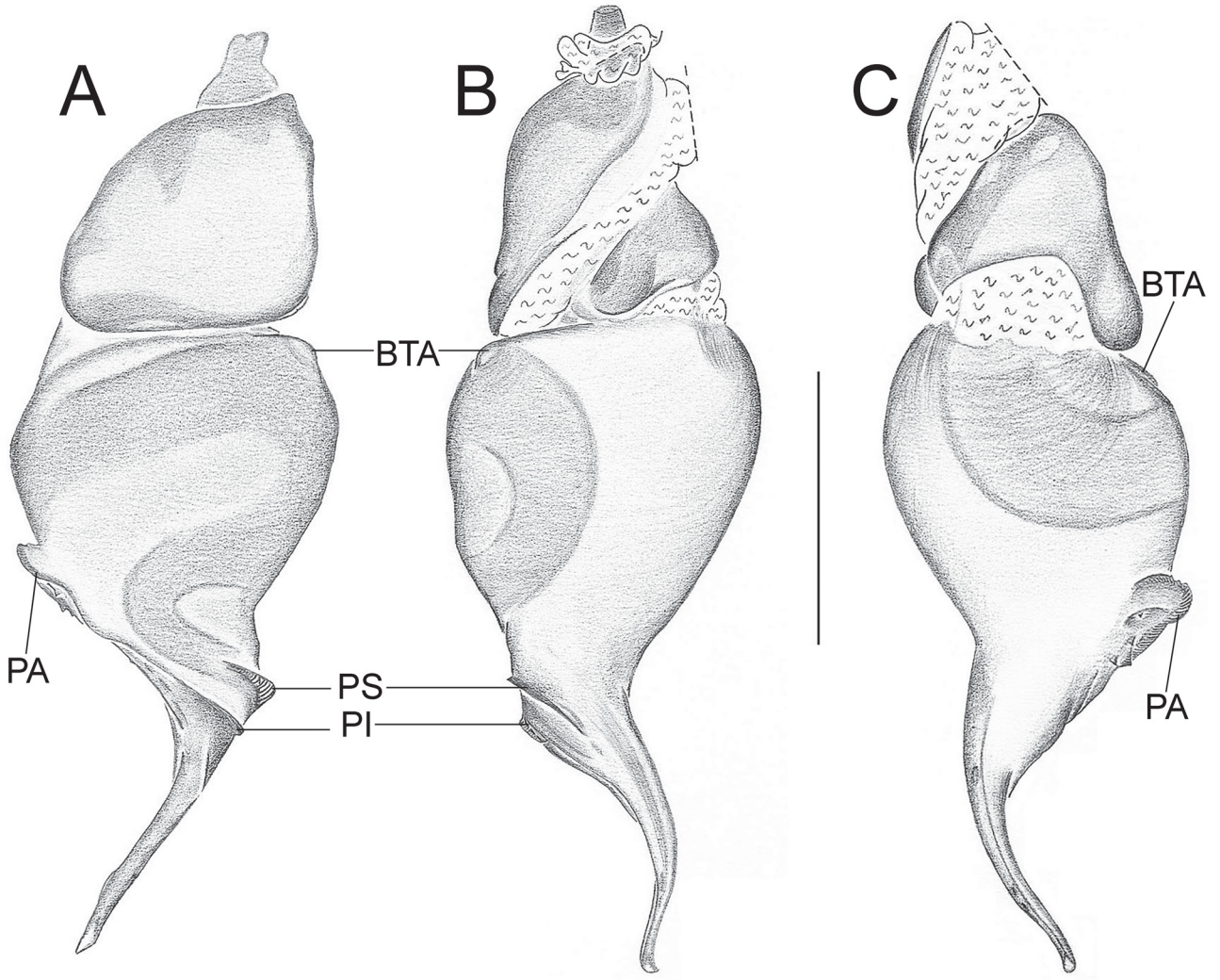


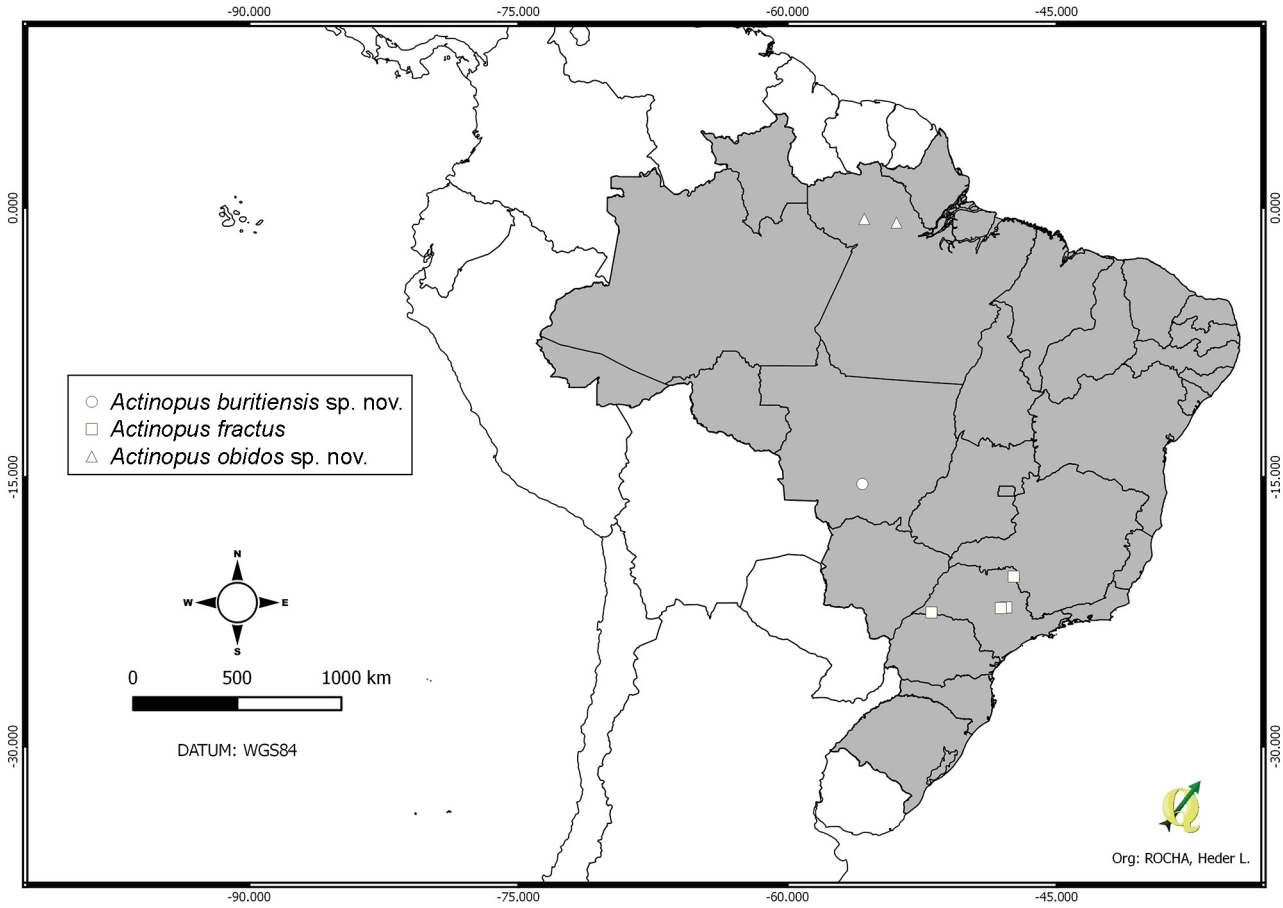
FIGURE 21. *Actinopus fractus* Mello-Leitão, 1920, male: A–C IBSP 14535: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA-**Basal tegular apophysis; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel. Scale line: 1 mm.

II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-5-1, d0, p0, r0-1-3; Me v0-3-5, d0, p0-2-3, r0-0-2; ta v0, d0, p0-2-2, r3-7-5. III—Fe v0, d0, p0, r0; Pa v0, d5-10-15, p0, r0-0-3; ti v0, d1-0-12, p0-0-2, r0-1-3; Me v0-0-2, d3-4-4, p1-0-2, r0-2-1; ta v0, d0, p0, r0; IV—Fe v0, d0, p0, r0; Pa v0, d17-7-4, p3-4-0, r0; ti v0, d0, p0, r0; Me v1-0-2, d0, p0-1-3, r0; ta v0, d0, p1-5-7, r0. **Palp:** BTA poorly developed, dorsally. Without PAc. Distal third of embolus with sharp inclination in relation to tegulum. PA poor pronounced (Fig. 21 A–C).

VARIATION

MALES (n=4): **Eyes: Diameters:** PME 0.22–0.25, PLE 0.21–0.41, ALE 0.42–0.54, AME 0.34–0.45; MOQ: Length 1.22–1.38, front width 1.02–1.21, back width 2.34–2.72; **Interdistances:** PME–PME 1.96–2.25, PLE–PME 0.13–0.18, AME–AME 0.22–0.39, ALE–AME 0.89–1.07, ALE–PLE 0.57–0.7, AME–PME 0.67–0.8. **Ocular area:** OAL 5.02–5.83, OAW 3.75–4.54, and IF 2.61–3.28. **Body:** Total length: 12.87–19.31; Carapace: Length 6.36–7.77; wide 6.93–8.55; Clypeus: 0.24–0.38; Fovea: 3–3.15; Labium: Length 2–2.45; wide 1.58–1.74; Chelicerae: Length 3.95–5.32; wide 2.2–2.53; Sternum: Length 5.17–7.45; wide 4.43–6.14. Abdomen: Length 5.61–10.62; wide 5.27–10.26. **Leg measurements:** I: Fe 6.93–7.98/ Pa 3.23–3.96/ Ti 3.46–4.48/ Me 5.01–5.6/ Ta 2.42–2.67/ total 21.36–24.53. II: 7.15–7.5/ 3.3–3.87/ 3.6–4.3/ 4.7–5.62/ 2.45–2.75/ 21.36–23.74. III: 5.8–6.39/ 3.59–3.87/ 2.67–3.24/ 5.47–6.22/ 2.98–3.31/ 20.85–22.97. IV: 7.86–8.92/ 3.78–4.29/ 5.46–6.56/ 6.26–6.84/ 3.11–3.71/ 26.84–30.32.

Distribution. BRAZIL. São Paulo: São Carlos, Itirapina, and Brotas.



MAP 3. Distribution map of *Actinopus fractus* Mello-Leitão, 1920, *Actinopus obidos* sp. nov., and *Actinopus buritiensis* sp. nov.

Examined material. BRAZIL: São Paulo: São Carlos, 1♂, [22° 31' 59.9982" S 51° 58' 59.9988" W] x.1982, E. J. Godoy leg. (IBSP 114535); Itirapina, Estação Ecológica de Itirapina, 22º15' S 47º49' W, 1♂, 14–21.v.2001, C. Bertim *et al.* leg. (IBSP 114457); Brotas, [22° 16' 59.9982" S 48° 7' 0.0006" W], Região de Campo Cerrado, 1♂, 01.vii.1999, E. O. Oliveira leg. (IBSP 107918).

Actinopus obidos sp. nov.

Figs 22–24, Map 3

Type material. Holotype male from 00° 37.331' S 55° 43.529' W, Estação Ecológica do Grão Pará (Centro), 900m da trilha 3 (ponto 12), Óbidos, Pará, Brazil,10–31.i.2009, M. S. Hoogmoed, T. C. S. Ávila-Pires & P.L.V. Peloso leg. (MPEG 22274). **Paratypes:** BRAZIL: Pará: Óbidos, 900m da trilha 3 (ponto 12), Estação Ecológica do Grão Pará (Centro), 00° 37.331' S 55° 43.529' W, 4♂, 10–31.i.2009, M. S. Hoogmoed, T. C. S. Ávila-Pires & P.L.V. Peloso leg. (MPEG 22272, one removed for MEV); 1♂ (IBSP); 1♂ (CAD); Almeirim, Reserva Biológica do Maicuru, Área do Acampamento, 00° 49.718' S 53° 55.882' W, 1♀, 19.x–5.xi.2009, M. S. Hoogmoed, T. C. S. Ávila-Pires & W. Rocha leg. (MPEG 22273).

Etymology. The specific name is a noun in apposition derived from the type locality name.

Diagnosis. Males of *Actinopus obidos* differ from those of almost all other species of the genus by the absence of PAc and from those of *A. fractus* (Fig. 21 A–C) by the undeveloped PA and by the position of BTA, placed medially on the tegular prolateral surface, and from *A. buritiensis* (Fig. 29 A–C) by the wider tegulum, with less conspicuous BTA (Fig. 26 A–C). Females differ from all others species by the single spermathecae, strongly fused to base, with pore distribution widespread through basal membrane (Fig. 26 D).

MALE (MPEG 22274): Total length 10.62; Carapace, long 4.3; wide 4.5. Carapace anterior part tapering. Anterior eye row slightly procurved, posterior row recurved (Fig. 22 B). Without bristles between AME-clypeus. One short and weak bristle between ALE–PLE and 16 short and weak bristles between posterior eyes-fovea. Sternum with eight sigilla fused medially and strongly demarcated, two distal sigilla more fused than others (Fig. 22 C). Rastellum protuberant, inverted V-

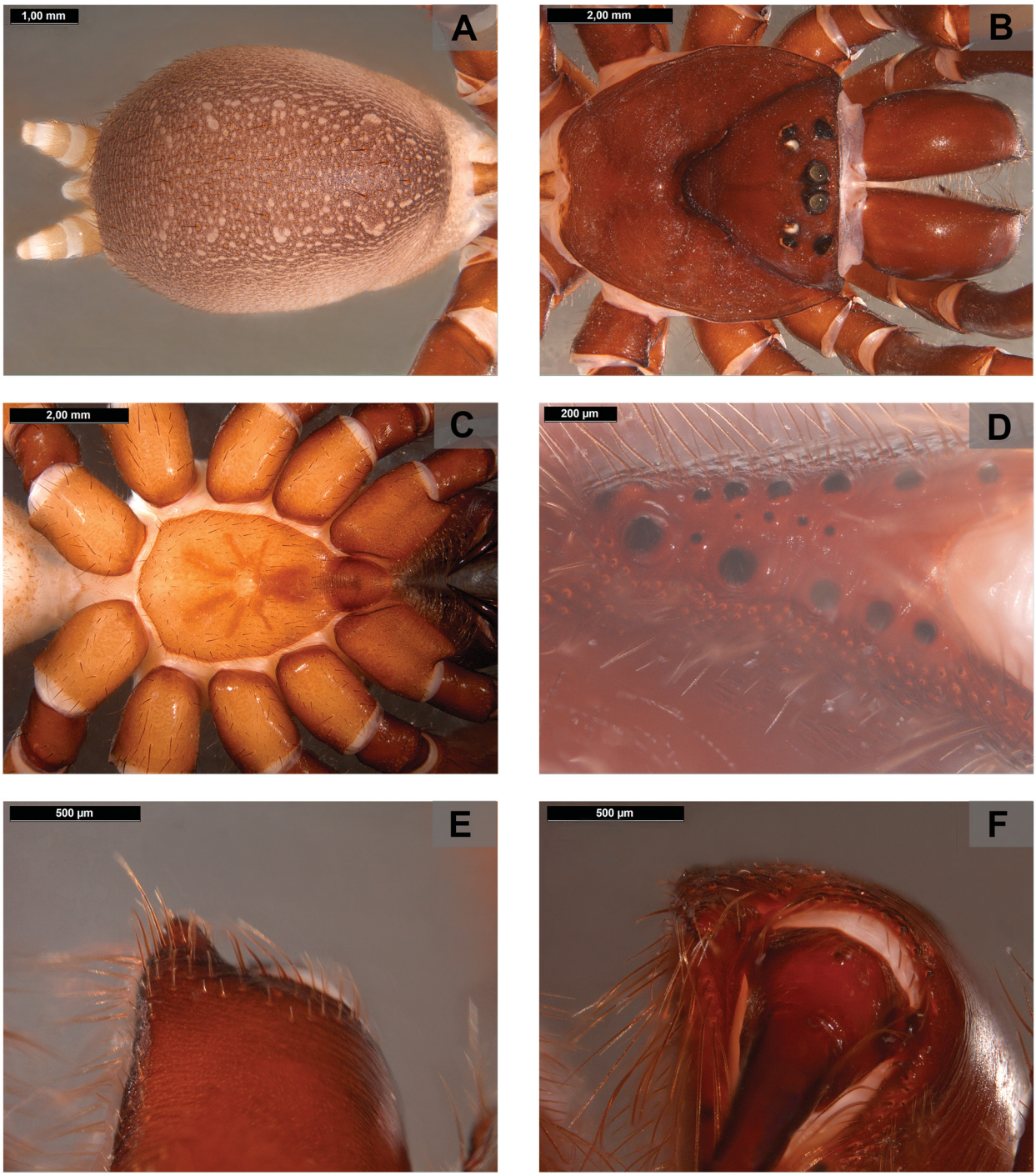


FIGURE 22. *Actinopus obidos* sp. nov., holotype, male: A–F MPEG 22274: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

shaped, hirsute, without spines apically (Fig. 22 E–F). Chelicerae with four denticles along prolateral row of teeth. Prolateral row with six megateeth and one denticle between two basal megateeth. Retrolateral row with five megateeth and one denticle between two basal megateeth (Fig. 22 C). Patella and tibia III with distal crown of well-developed thorns, not interrupted in middle (Fig. 23 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 23 A, C). Tibia IV without spines on prolateral surface and with trichobothria in two irregular visible rows (Fig. 23 D). Ventral pseudoscopulae occupying 30% of tarsi I, 50% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; on tarsi III and IV, compact. Carapace and chelicerae reddish brown; sternum, coxae, trochantera, femora, patellae ,tibiae, metatarsi and tarsi yellowish

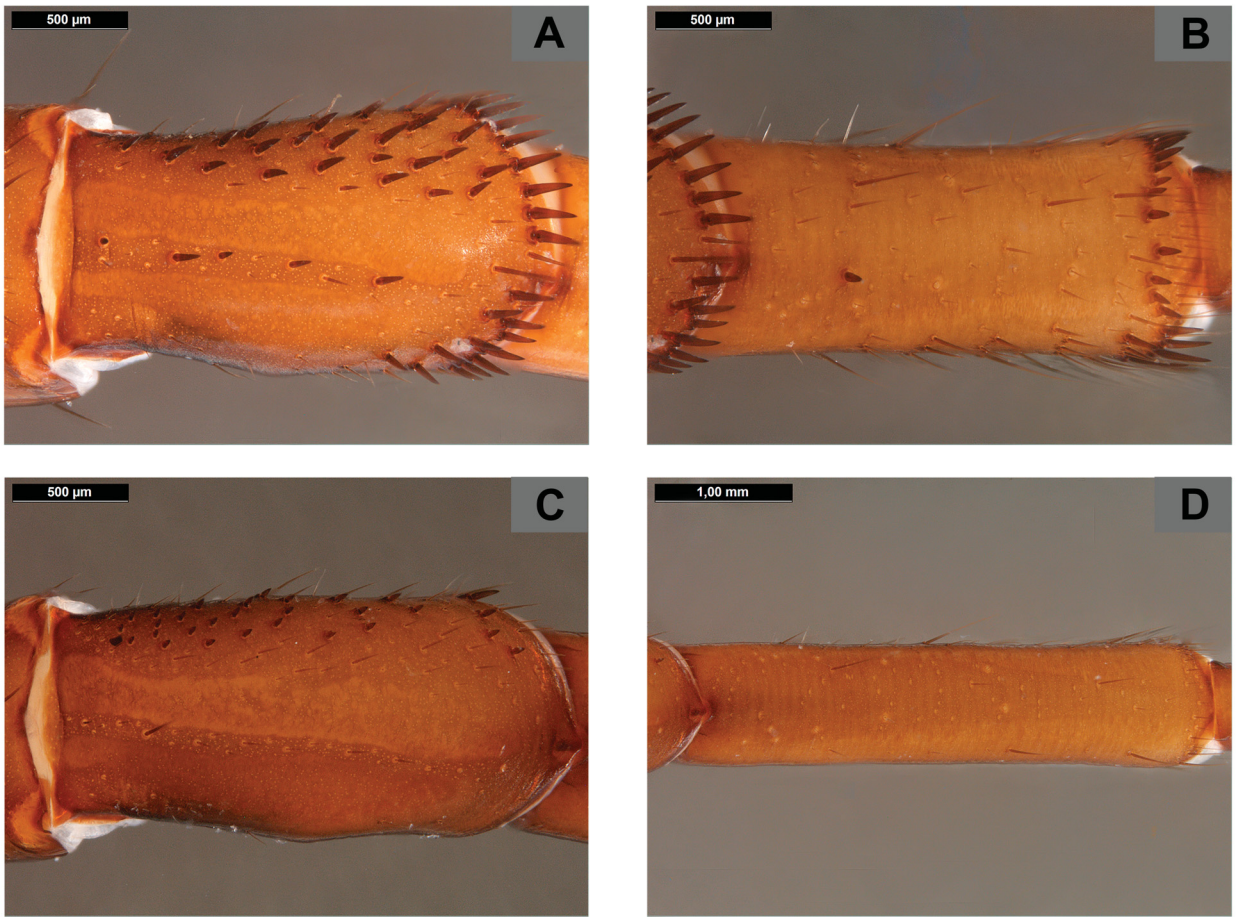


FIGURE 23. *Actinopus obidos* sp. nov., holotype, male: A–D MPEG 22274: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

brown; tibia of palp and cymbium pale yellow than others articles and abdomen pale gray (Fig. 22 A). **Eyes: Diameters:** PME 0.3, PLE 0.325, ALE 0.35, AME 0.35; MOQ: Length 1, front width 2.25, back width 2.075; **Interdistances:** PME–PME 1.125, PLE–PME 0.075, AME–AME 0.2, ALE–AME 0.375, ALE–PLE 0.375, AME–PME 0.325. **Ocular area:** OAL 3.32, OAW 2.4, and IF 2.8. **Body:** Clypeus: 0.2; Fovea: 1.9; Labium: long 1.06; wide 0.93; Chelicerae: long 2.7; wide 1.3; Sternum: long 3.125; wide 2.625. Abdomen: long 5.2; wide 4. **Leg measurements:** I: Fe 4.75/ Pa 2/ Ti 2.75/ Me 3.875/ Ta 2.12/ total 15.5. II: 4.62/ 2.12/ 2.87/ 3.87/ 2.25/ 15.75. III: 3.5/ 2.12/ 1.75/ 3.75/ 2.12/ 13.25. IV: 5/ 2.25/ 3.75/ 4.25/ 2.5/ 17.75. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v1-5-8, d0, p0-0-2, r0; Me v4-6-11, d0, p1-3-3, r0-3-4; ta v3-2-4, d0, p2-3-4, r4-4-6. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v1-3-6, d0, p0, r0-2-3; Me v4-7-11, d0, p1-2-3, r2-3-3; ta v3-2-3, d0, p3-4-6, r4-8-7. III—Fe v0, d0, p0, r0; Pa v0, d7-9-28, p0-0-4, r0-0-4; ti v0-0-6, d0-1-13, p0-0-3, r0-0-3; Me v1-4-8, d4-5-5, p1-2-3, r1-3-4; ta v0, d0-0-2, p2-6-7, r0-6-7; IV—Fe v0, d0, p0, r0; Pa v0, d12-10-5, p0-1-1, r0; ti v1-2-6, d0, p0, r0; Me v4-5-7, d0-0-2, p0-1-0, r0; ta v0, d0-0-2, p2-6-10, r3-3-5. **Palp:** PA poorly developed, embolus with two keels (PI and PS). Basal surface of tegulum smooth. BTA small in prolateral view and in middle of tegulum width; prolateral tegulum with two denticles next to base of embolus; embolar bases thinner (Fig. 26 A–C).

FEMALE (MPEG 22273): Total length 23.62; Carapace, long 10.75; wide 9.75. Carapace anterior part square and posterior part triangular. Anterior eye row procurved, posterior row slightly recurved. Many short bristles and one long bristle between AME-clypeus, one long bristle between PLE–ALE, short and long bristles between posterior eyes-fovea and short bristles between lateral eyes-edge of carapace (Fig. 24 B). Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 24 C). Rastellum protuberant, subquadrate, hirsute, with row of short spines in edge of rastellum and many short spines cover dorsal rastellum (Fig. 24 E–F). Chelicerae with denticles along prolateral row of teeth. Prolateral row with four megateeth and four

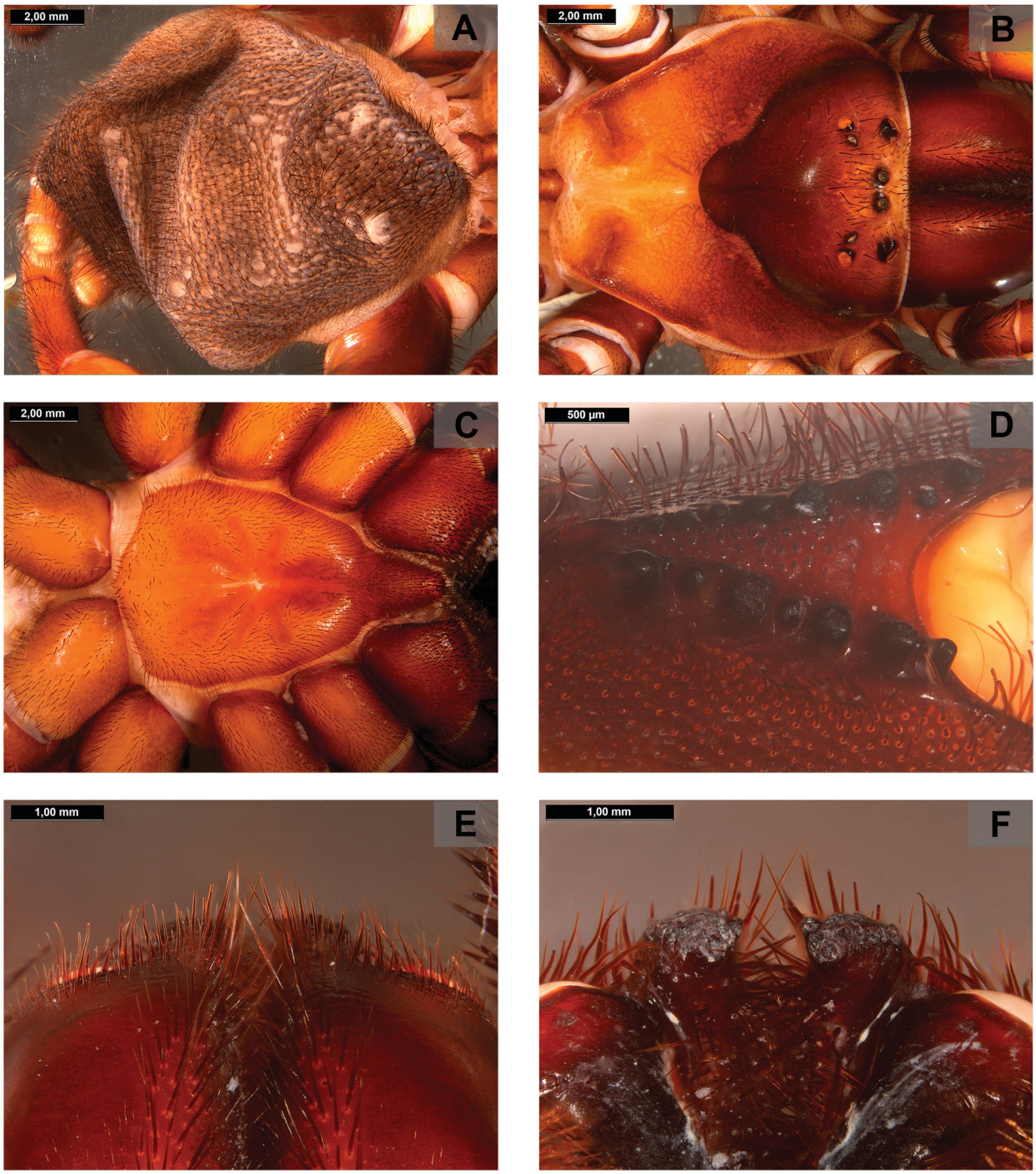


FIGURE 24. *Actinopus obidos* sp. nov., paratype, female: A–F MPEG 22273: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

teeth, the first one between two distal teeth and others on basal area. Retrolateral row with six megateeth and three teeth between four basal megateeth (Fig. 24 D). Patella III with distal developed crowns of thorns and tibia III with distal interrupted crown of thorns (Fig. 25 A–B). Patella IV with prolaterodorsal short spines along extension of article (Fig. 25 C). Tibia IV without spines on prolateral surface and with many long bristles on prolateral surface (Fig. 25 D). Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi, tarsi and palp reddish brown, and abdomen pale brown with a big portion of unpigmented areas in dorsal view (Fig. 24 A). 22 labial cuspules, 126 on right maxilla and 145 on left. **Eyes: Diameters:** PME 0.4, PLE 0.45, ALE 0.65,

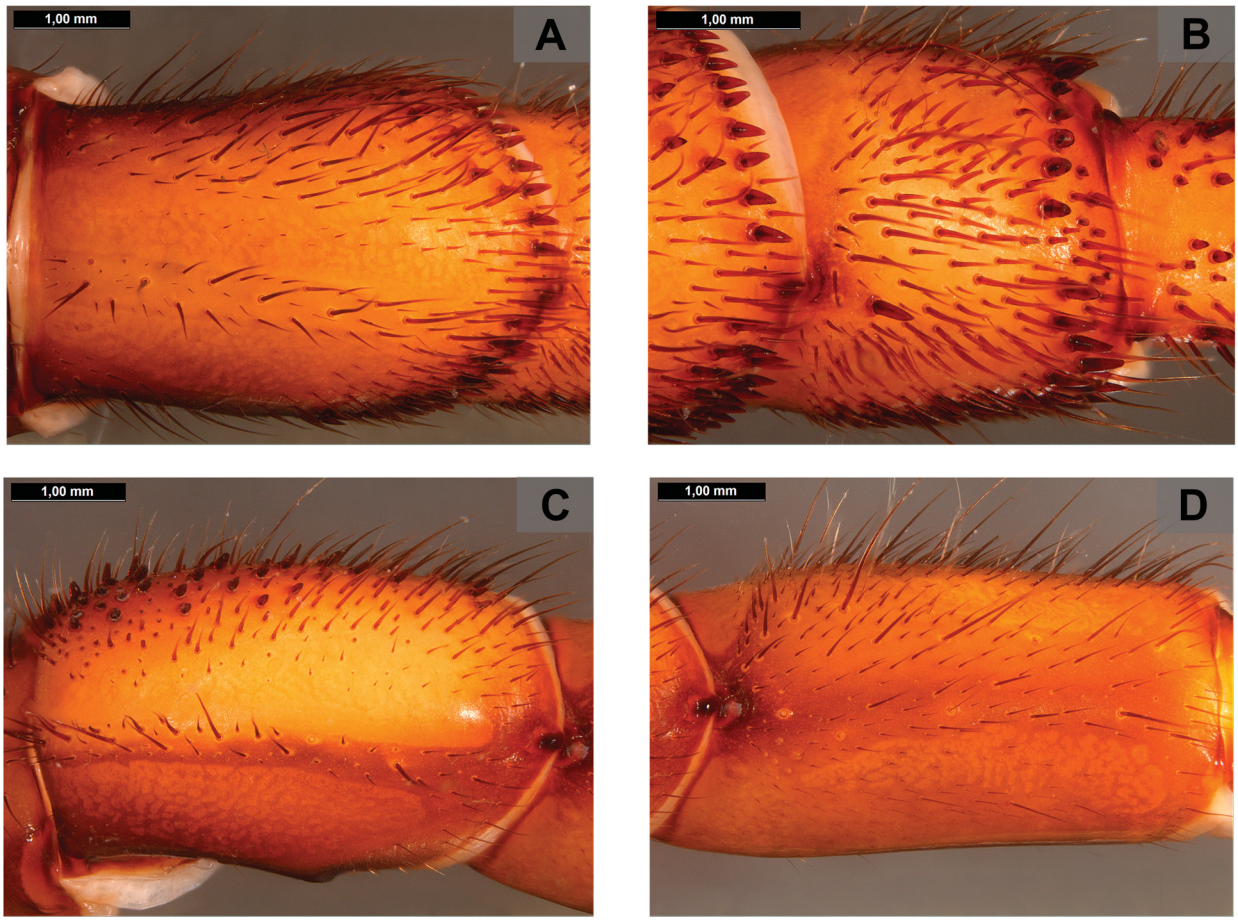


FIGURE 25. *Actinopus obidos* sp. nov., paratype, female: A–D MPEG 22273: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

AME 0.3; MOQ: Length 1.8, front width 4.3, back width 4.35; **Interdistances:** PME–PME 2.65, PLE–PME 0.25, AME–AME 0.5, ALE–AME 1.35, ALE–PLE 1, AME–PME 1.05. **Ocular area:** OAL 8, OAW 6.7, and IF 3.62; **Body:** Clypeus: 0.37; Fovea: 4.375; Labium: long 1.62; wide 1.37; Chelicerae: long 4.75; wide 3.62; Sternum: long 7.5; wide 6.12. Abdomen: long 12.5; wide 10.12. **Leg measurements:** I: Fe 5.37/ Pa 3.75/ Ti 2.37/ Me 3.12/ Ta 1.62/ total 16.25. II: 5.62/ 3.87/ 2.62/ 3.5/ 1.5/ 17.12. III: 5.62/ 4.5/ 2/ 4/ 1.37/ 17.5. IV: 7.625/ 4/ 4/ 4.87/ 1.25/ 21.75. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v2-0-1, d0, p0-3-6, r1-14-11; Me v0-0-2, d0, p10-9-9, r9-10-13; ta v0-0-3, d0, p2-3-3, r5-4-4. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0-0-1, r12-49-38; Me v0-2-0, d0, p7-12-10, r16-19-15; ta v3-0-3, d0, p6-7-4, r4-5-4. III—Fe v0, d0, p0, r0; Pa v0, d0-0-23, p0-0-3, r0-0-12; ti v0, d1-0-13, p0-0-2, r7-12-19; Me v0-2-9, d0-2-3, p2-1-0, r9-17-18; ta v15-16-18, d0, p1-3-3, r7-15-9; IV—Fe v0, d0, p0, r0; Pa v0, d15-11-6, p0, r0; ti v0, d0, p0, r0; Me v0-0-3, d0, p0-1-2, r0; ta v8-17-12, d0, p4-11-8, r0-0-3. **Spermathecae:** Represented by single seminal receptacles strongly fused to base, long as wide, with short duct. Single receptacle with two lobes, right lobe on dorsal view bigger than left lobe. Pore distribution reaching base and along of membrane area (Fig. 26 D).

VARIATION

MALES (n=10): **Eyes: Diameters:** PME 0.2–0.3, PLE 0.25–0.32, ALE 0.3–0.4, AME 0.25–0.4; MOQ: Length 0.77–1, front width 2.02–2.25, back width 1.8–2.07; **Interdistances:** PME–PME 1.02–1.12, PLE–PME 0,075–0.12, AME–AME 0.1–0.2, ALE–AME 0.32–0.62, ALE–PLE 0.2–0.37, AME–PME 0.27–0.35. **Ocular area:** OAL 2.96–3.32, OAW 2.2–2.5, and IF 1.12–2.8. **Body:** Total length: 8–10.62; Carapace: long 3.68–4.5; wide 4–4.5; Clypeus: 0.16–0.2; Fovea: 1.68–1.9; Labium: long 1–1.12; wide 0.84–1; Chelicerae: long 0.96–2.7; wide 0.48–1.37; Sternum: long 2.75–3.62; wide 2.24–2.62. Abdomen: long 1.6–5.5; wide 1.2–4. **Leg measurements:** I: Fe 3.87–4.75/ Pa 1.75–2/ Ti 2.62–2.75/ Me 2.87–3.87/ Ta 2–2.25/ total 13.75–15.5. II: 3.75–4.62/ 1.75–2.12/

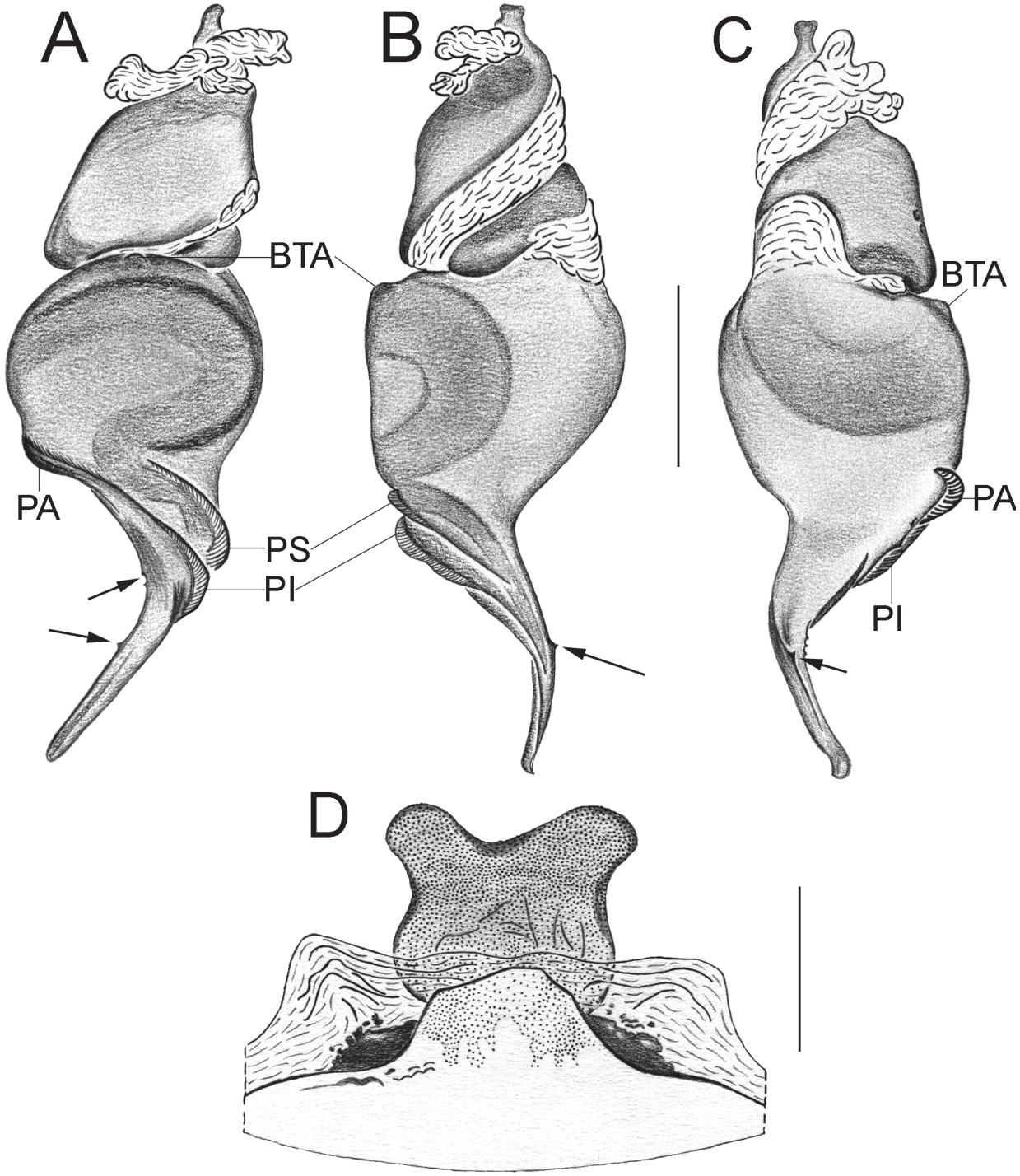


FIGURE 26. *Actinopus obidos* sp. nov., male: A–C MPEG 22274: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated Area. Paratype, female: D MPEG 22273: D. Spermathecae, dorsal view. Scale line: Male: 0.5 mm; and female 1 mm.

2.62–2.87/ 3.37–3.87/ 1.5–2.25. III: 3–3.5/ 1.87–2.12/ 1.75–1.87/ 2.87–3.85/ 1.75–2.12/ 11.87–13.25. IV: 4.37–5/ 2–2.25/ 3.5–3.75/ 3.75–4.25/ 2.12–2.5/ 15.75–17.75.

Distribution. BRAZIL. Pará: Óbidos and Almeirim (Map 3).

***Actinopus buritiensis* sp. nov.**

Figs 27–29, Map 3

Type material. Holotype male from [55º 50' S 15º 23' W], Buriti, Chapada dos Guimarães, Mato Grosso, Brazil, xii.1992, L. F. Silva leg. (MCTP 2940).

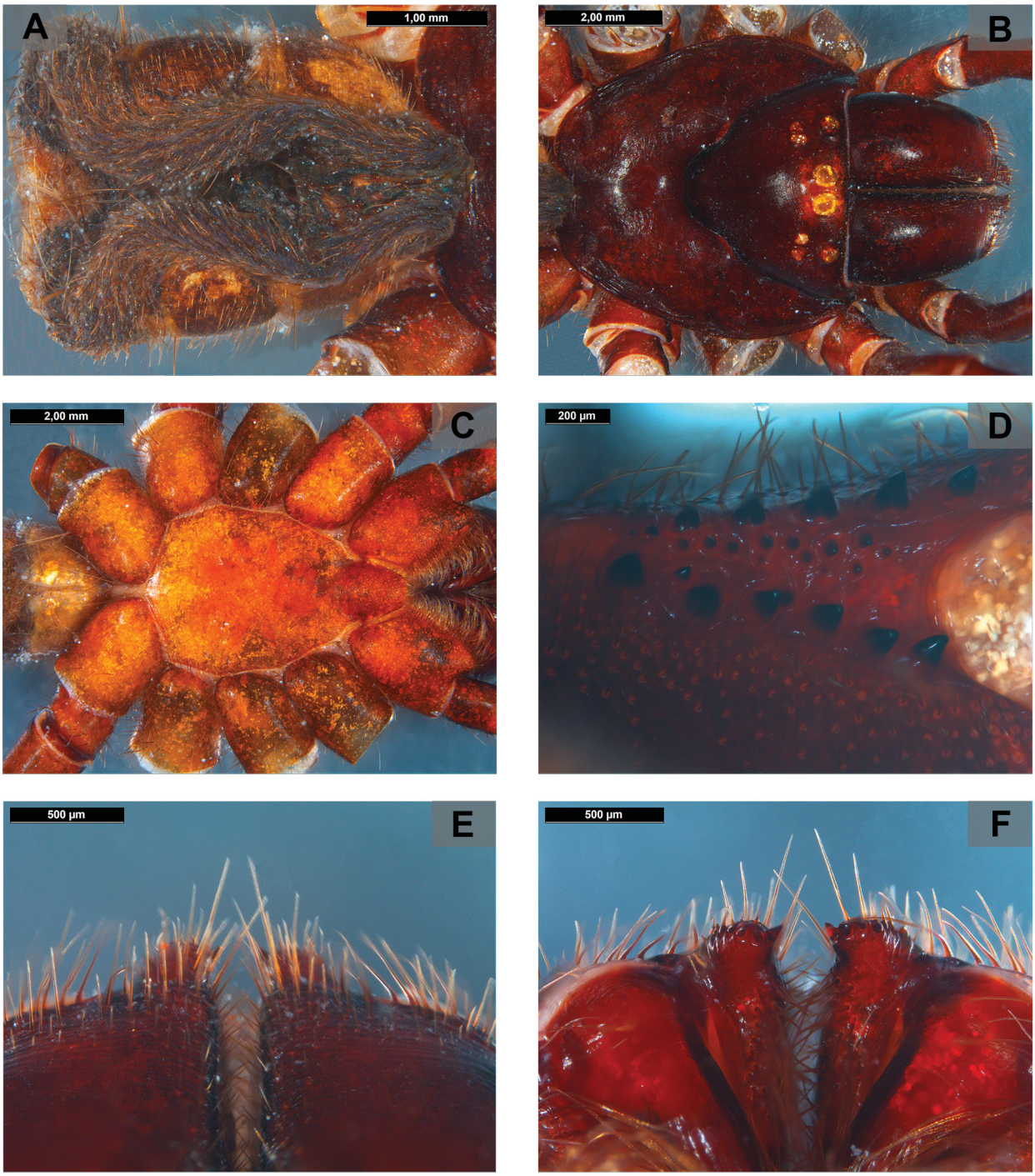


FIGURE 27. *Actinopus buritiensis* sp. nov., holotype, male: A–F MCTP 2940: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, Dorsal; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

Etymology. The specific name is a noun in apposition from the type locality name.

Diagnosis. The male of *A. buritiensis,* as in *A. obidos* (Fig. 26 A–C), presents the BTA positioned medially on the tegular prolateral surface, and PA inconspicuous in prolateral view. It resembles those of other species with only two embolar keels (PS and PI) by the small serrated area along the embolus, with few cusps; tegulum thin and proximal third of the embolus narrow and long. It differs from males of *A. obidos* by the thinner and elongated tegulum and by the well-developed BTA (Fig. 29 A–C).

MALE (MCTP 2940): Note. The holotype lacks both legs II.

Total length 9; Carapace, long 5.37; wide 5.25. Carapace anterior part tapering. Eyes. Anterior row slightly procurved, posterior row recurved (Fig. 27 B).

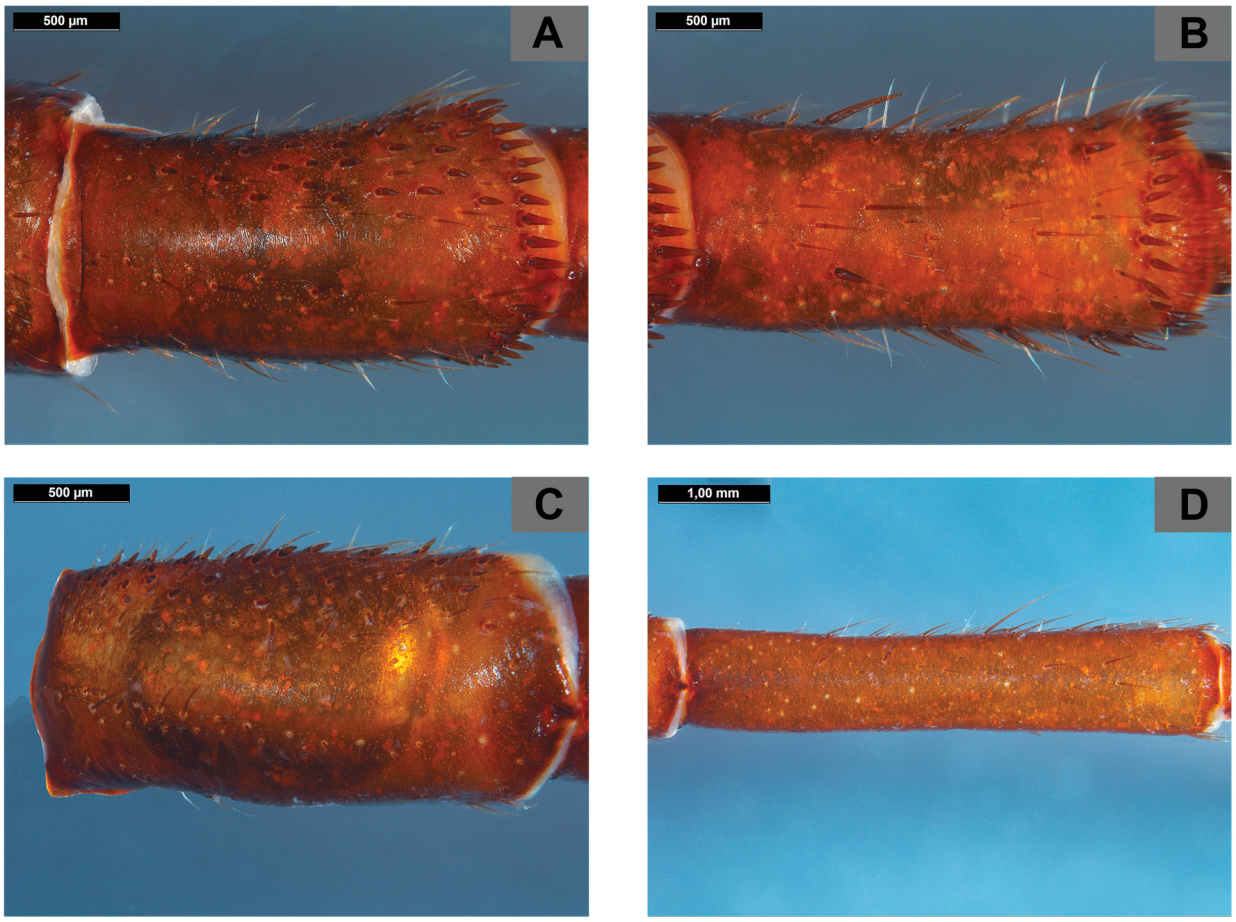


FIGURE 28. *Actinopus buritiensis* sp. nov., holotype, male: A–C MCTP 2940: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

With many short bristles between AME-clypeus, one bristle between ALE–ALP and many short and weak bristles between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 27 C). Rastellum protuberant, inverted V-shaped, hirsute, with row of strong spines apically (Fig. 27 E–F). Chelicerae with 14 denticles along prolateral row of teeth. Prolateral row with five megateeth. Retrolateral row with six megateeth and two denticles, one between three distal and four distal and other between two basal megateeth (Fig. 27 D). Patella and tibia III with distal crown of well-developed thorns, not interrupted in middle (Fig. 28 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 28 A, C). Tibia IV without spines on dorsal surface (Fig. 28 D). Ventral pseudoscopulae occupying 40% of tarsi I and 100% of III and IV. Pseudoscopula of tarsi I with setae spaced, forming diffuse group of bristles; on tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish brown; tibia of palp paler than other articles; Abdomen gray (Fig. 27 A). **Eyes: Diameters:** PME 0.24, PLE 0.24, ALE 0.32, AME 0.44; MOQ: Length 0.84, front width 2.56, back width 2.44; **Interdistances:** PME–PME 1.52, PLE–PME 0.12, AME–AME 0.12, ALE–AME 0.6, ALE–PLE 0.32, AME–PME 0.44. **Ocular area:** OAL 3.87, OAW 3, and IF 2.25. **Body:** Clypeus: 0.12; Fovea: 2.25; Labium: long 1.25; wide 1; Chelicerae: long 2.25; wide 1.62; Sternum: long 3.5; wide 3.12. Abdomen: long 4.12; wide 2.75. **Leg measurements:** I: Fe 4.62/ Pa 2.37/ Ti 3.5/ Me 4/ Ta 2.25/ total 16.75. III: 4/ 2.37/ 2.5/ 3.87/ 2.75/ 15.5. IV: 5.62/ 2.37/ 4.75/ 4.62/ 3.12/ 20.5. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v1-1-8, d0, p0-0-2, r0; Me v7-7-2, d0, p3-3-3, r1-1-1; ta v4-3-3, d0, p2-2-2, r0-1-2. III—Fe v0, d0, p0, r0; Pa v0, d7-9-25, p1-0-20, r0-0-2; ti v0, d0, p0-1-2, r0-1-3; Me v1-2-4, d0, p1-0-2, r0-2-4; ta v0, d0, p0-2-4, r0-4-4. IV—Fe v0, d0, p0, r0; Pa v0, d12-8-9, p0, r0; ti v0, d0, p0-1-0, r0; Me v0-1-3, d0-0-1, p1-2-7, r0; ta v0, d0, p1-2-7, r0-2-6. **Palp:** poorly developed PA poorly developed, embolus with two keels (PI and PS). Basal surface of tegulum smooth. BTA small in prolateral view and in the middle

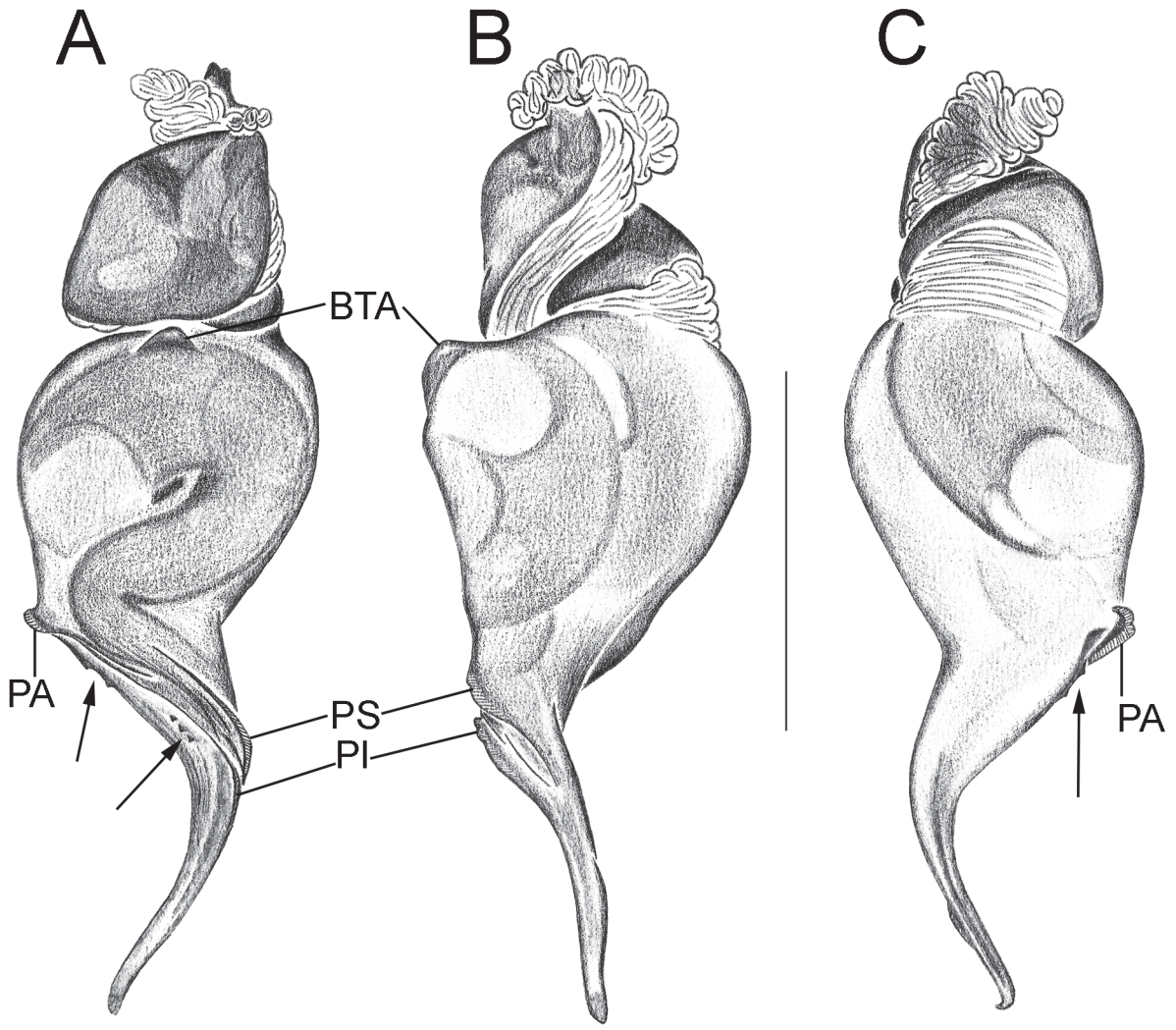


FIGURE 29. *Actinopus buritiensis* sp. nov., male: A–C MCTP 2940: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA-**Basal Tegular Apophysis; **PI-**Prolateral Inferior keel; **PS-**Prolateral Superior keel; Arrows: Serrated Area. Scale line: 1 mm.

of tegulum width; prolateral tegulum with two denticles next PA and three denticles next to base of next to base of embolus; embolar bases thinner (Fig. 29 A–C).

Distribution. BRAZIL. Mato Grosso: Chapada dos Guimarães: Buriti (Map 3).

Group *pinhao*

Diagnosis. The group *pinhao* is recognized by the following combination of characters: Medium total length; serrated area distal to PAc large; BTA present; embolus with three long keels. Females are recognized by the spermathecae with two asymmetric receptacles, with 75%–100% of each receptacle filled by pores.

Species included. *Actinopus pinhao* sp. nov.; *Actinopus ducke* sp. nov.; *Actinopus hirsutus* sp. nov.; *Actinopus jaboticatubas* sp. nov.; *Actinopus confusus* sp. nov.; *Actinopus pampulha* sp. nov.; *Actinopus candango* sp. nov.; *Actinopus paraitinga* sp. nov.; *Actinopus cornelli* sp. nov.; *Actinopus insignis* (Holmberg, 1881); and *Actinopus ramirezi* Ríos-Tamayo & Goloboff, 2018.

Actinopus pinhao sp. nov.

Figs 30–32, Map 4

Type material. Holotype male from [25° 42’ 32.5764” S 51° 38’ 1.7988” W], Usina Hidroelétrica de Segredo, Pinhão, Paraná, Brazil, R. Pinto-da-Rocha leg. (MZSP 14718).

Etymology. The specific name is a noun in apposition from the type locality name.

Diagnosis. Males of *A. pinhao* resemble those of *A. hirsutus* (Fig. 37 A–D) by the hirsute legs (Figs 31 A–D,

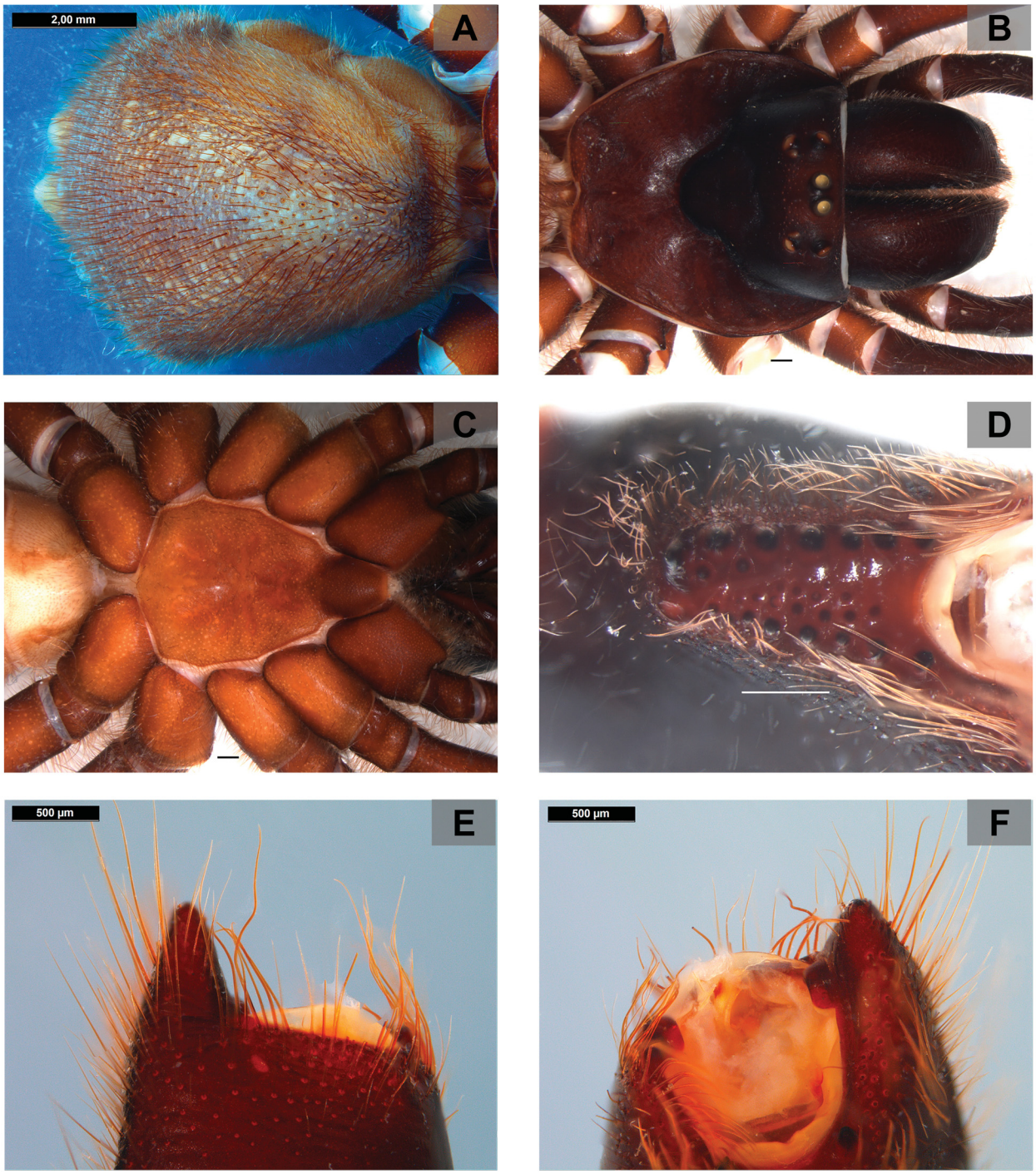


FIGURE 30. *Actinopus pinhao* sp. nov., male: A–F MZSP 14718: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral. Scales lines B–D: 0.5 mm.

37 A–D) and those of *A. ducke* (Fig. 35 A–C), *A. hirsutus* (Fig. 38 A–C) and *A. jaboticatubas* (Fig. 41 A–C) by the wide tegulum with robust basal tegular apophysis, placed medially on prolateral tegular surface (Figs 32 A–C). They are readily recognized by the following combination of characters: serrated area positioned distal to PAc (Fig. 32 A, B); PA continuous to PAc (Fig. 32 A); PA conspicuous; BTA developed (Fig. 32 A–C). Additionally, they differ from those of all other species on the group *pinhao* by the proximal surface of BTA with a swelling (Fig. 32 A).

MALE (MZSP 14718): Total length 13.27; Carapace, long 6.18; wide 6.83. Carapace anterior part tapering and slightly rounded. Anterior eye row procurved, posterior row recurved (Fig. 30 B). Many bristles on ocular area, between AME-clypeus, between lateral eyes-edge of carapace, between lateral eyes and on interdistances PME–

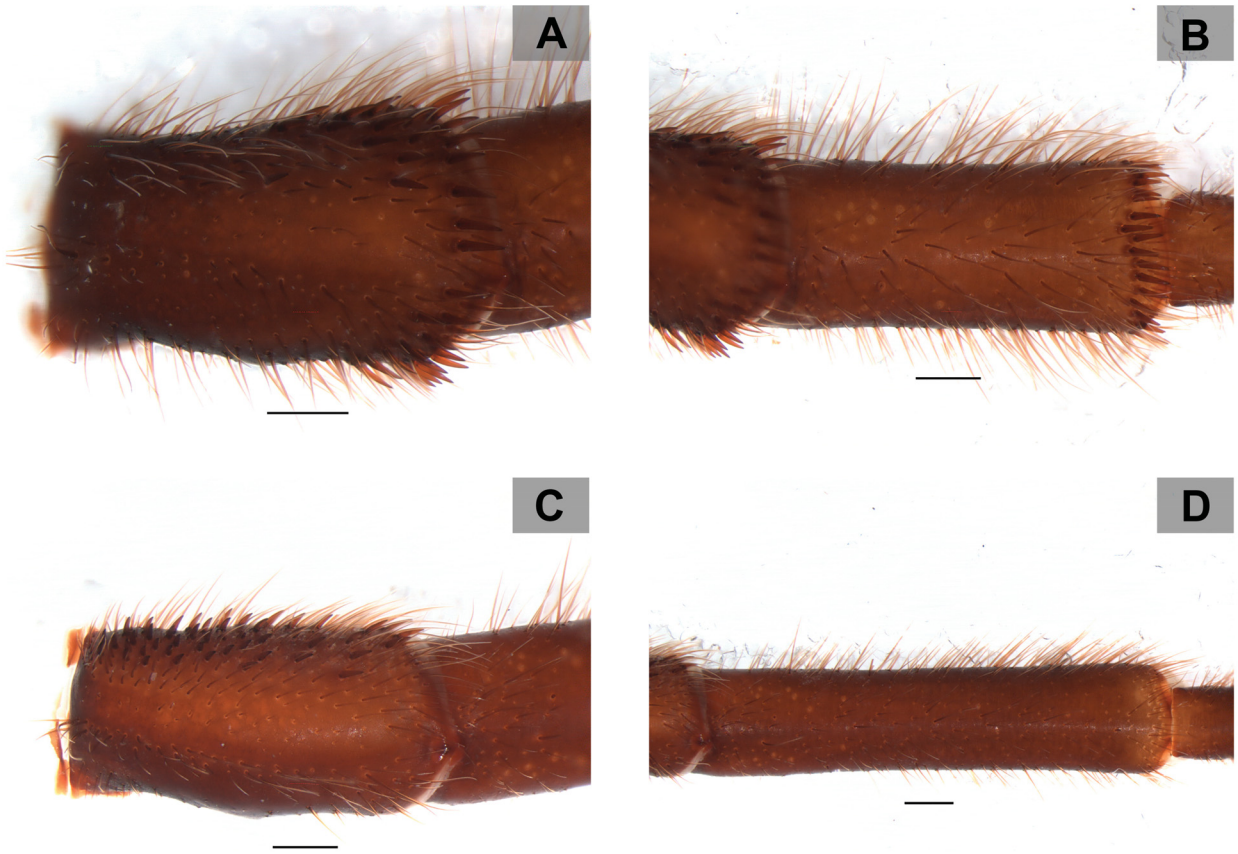


FIGURE 31. *Actinopus pinhao* sp. nov., male: A–D MZSP 14718: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal. Scales lines A–D: 0.5 mm.

PME and PLE–PLE. Sternum with eight inconspicuous sigilla fused medially, two distal sigilla more fused than others (Fig. 30 C). Rastellum protuberant, subtriangular, hirsute, without spines apically (Fig. 30 E–F). Denticles arranged in two rows along prolateral row of teeth. Retrolateral row decreasing in distal-proximal way, with two denticles on the edge of basal part (Fig. 30 D). Patella and tibia III with distal crown of well-developed thorns, not interrupted in middle (Fig. 31 A–B). Patella III with spines on distal part of prolateral face. Patella III and IV with spines on prolaterodorsal face, and one spine dorsal (Fig. 31 A, C). Tibia IV without spines on dorsal surface (Fig. 31 D). Ventral pseudoscopulae for full of tarsi III and IV and 33% of metatarsi IV. Hirsute legs. Carapace and chelicerae dark reddish-brown; sternum and legs reddish-brown; Abdomen pale gray (Fig. 30 A). **Eyes: Diameters:** PME 0.29, PLE 0.43, ALE 0.41, AME 0.34; MOQ: Length 1.2, front width 2.11, back width 0.96; Interdistances: PME–PME 1.8, PLE–PME 0.12, AME–AME 0.28, ALE–AME 0.75, ALE–PLE 0.54, AME–PME 0.68. Ocular area: OAL 5.03, OAW 3.7, and IF 4.92. Body: Clypeus: 0.26; Fovea: 3.09; Labium: long 1.83; wide 1.39; Chelicerae: long 3.98; wide 2.19; Sternum: long 4.18; wide 4.03. Abdomen: long 6.48; wide 5.48. **Leg measurements:** I: Fe 6.69/ Pa 2.56/ Ti 3.53/ Me 4.45/ Ta 3.01/ total 20.24. II: 6.55/ 2.79/ 4.3/ 5.01/ 3.06/ 21.71. III: 5.18/ 2.98/ 2.64/ 5.48/ 3.41/ 19.69. IV: 6.94/ 3.08/ 5.58/ 6.14/ 4.09/ 25.83. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0, r0; Me v0, d0, p0, r0; ta v0, d0, p0-1-0, r0-3-4. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0, r0; Me v0, d0, p0, r0-0-3; ta v0, d0, p0-2-3, r1-2-6. III—Fe v0, d0, p0, r0; Pa v0, d0-2-27, p0, r0-0-4; ti v0, d0-0-16, p0, r0; Me v0-0-2, d0, p1-0-4, r0-0-2; ta v0-0-8, d0, p0-3-4, r0-0-5; IV—Fe v0, d0, p0, r0; Pa v0, dx, p3-4-1, r0; ti v0, dx, p0, r0; Me v1-1-2, dx, p1-2-11, r0-0-3; ta v0-0-5, d15-17-9, p2-7-9, r1-6-8. **Palp:** BTA developed and placed medially on prolateral tegular surface, embolus with three keels (PAc, PS and PI) on dorsal and retrolateral faces. PAc on retrolateral face, continuous to distal part of embolus. PS inconspicuous on dorsal face (Fig. 32 B). Serrated area poorly developed and distal to PAc, evident on three views, continuous to proximal part of PAc. Tegulum robust, with PA developed and proximal part of tegulum, above to PA with a swelling (Fig. 32 A–C).

Distribution. BRAZIL. Paraná (Map 4).

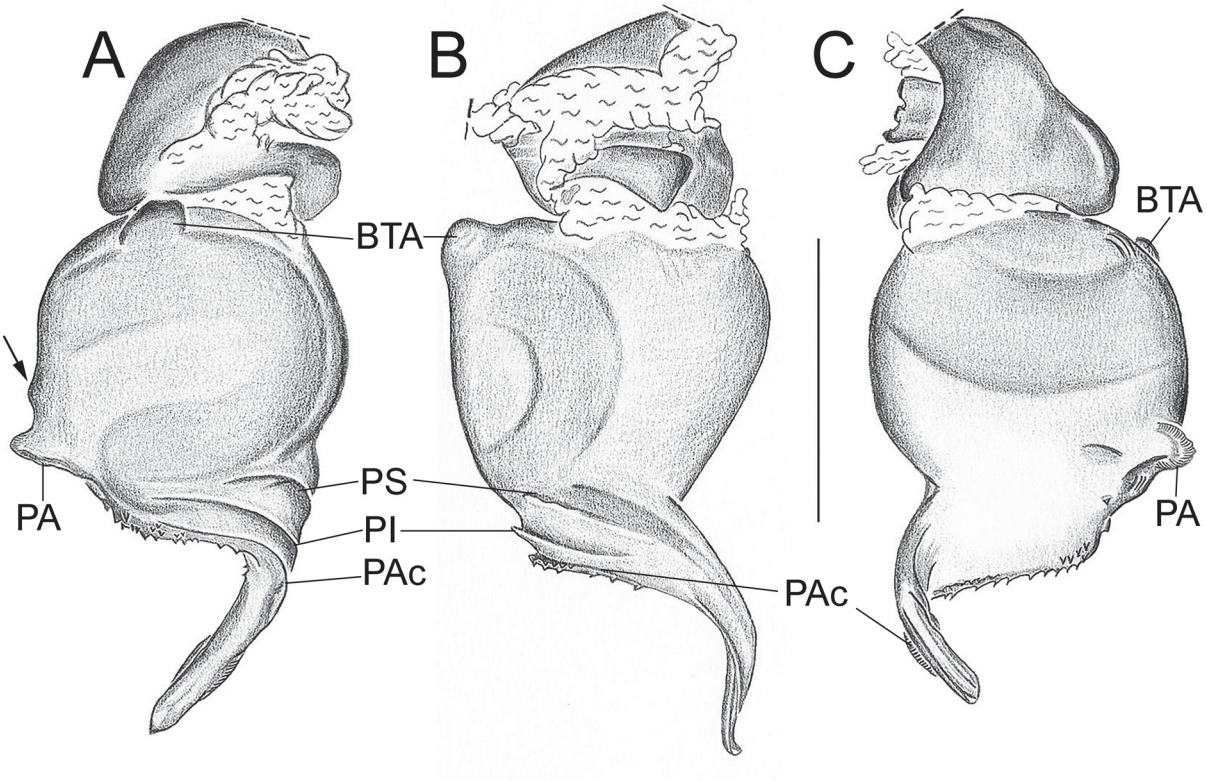
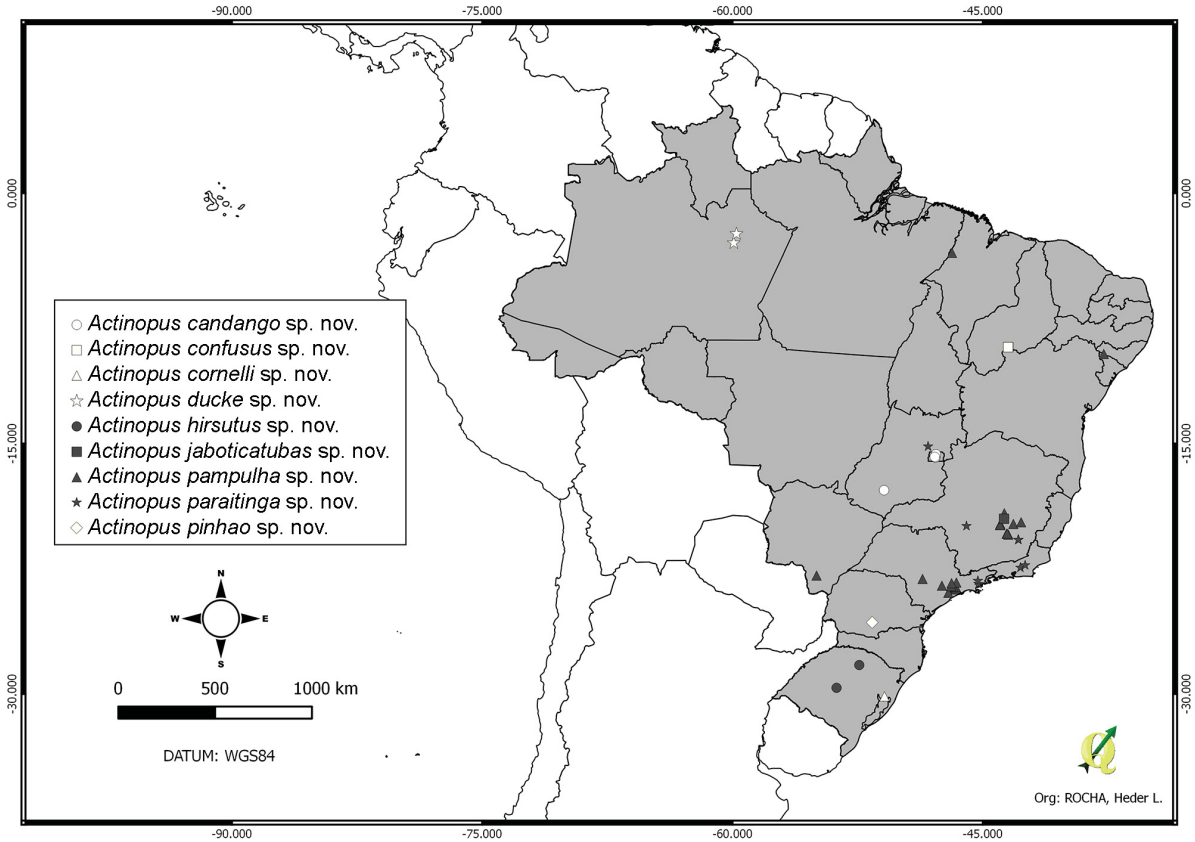


FIGURE 32. *Actinopus pinhao* sp. nov., male: A–C MZSP 14718: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrow: Swelling. Scale line: 1 mm.



MAP 4. Distribution map of *Actinopus confusus* sp. nov., *Actinopus jaboticatubas* sp. nov., *Actinopus hirsutus* sp. nov., *Actinopus ducke* sp. nov., *Actinopus cornelli* sp. nov., *Actinopus pampulha* sp. nov., *Actinopus paraitinga* sp. nov., *Actinopus candango* sp. nov., and *Actinopus pinhao* sp. nov.

***Actinopus ducke* sp. nov.**
Figs 33–35, Map 4

Type material. Holotype male from 2° 58' 5.9952" S 59° 55' 49.9836" W, Reserva Florestal Adolpho Ducke, Manaus, Amazonas, Brazil, 1993, Wollscheid & Curd leg. (MCN 24987). **Paratypes:** BRAZIL. Amazonas: Manaus, Reserva do Km 41, 02º 26' S 59º 46' W, 1♂, 05.viii.1996, G. Gascon leg. (IBSP 110498); Reserva Florestal Adolpho Ducke, 2° 58' 5.9952" S 59° 55' 49.9836" W, 3♂, viii–ix.1993, Wollscheid & Curd leg. (INPA 3512); 15♂, ix.2010 (INPA 6124).

Etymology. The specific name is a noun in apposition from the type locality name.

Diagnosis. Males of *A. ducke* resemble those of *A. pinhao* (Fig. 32 A–C), *A. hirsutus* (Fig. 38 A–C), *A. jaboticatubas* (Fig. 41 A–C) and *A. confusus* (Fig. 44 A–C) by the serrated area distal to PAc (Fig. 32 A–B); PA continuous to PAc (Fig. 35 A–C), except in *A. hirsutus* (Fig. 38 A–C). They resemble *A. paranensis* (Fig. 115

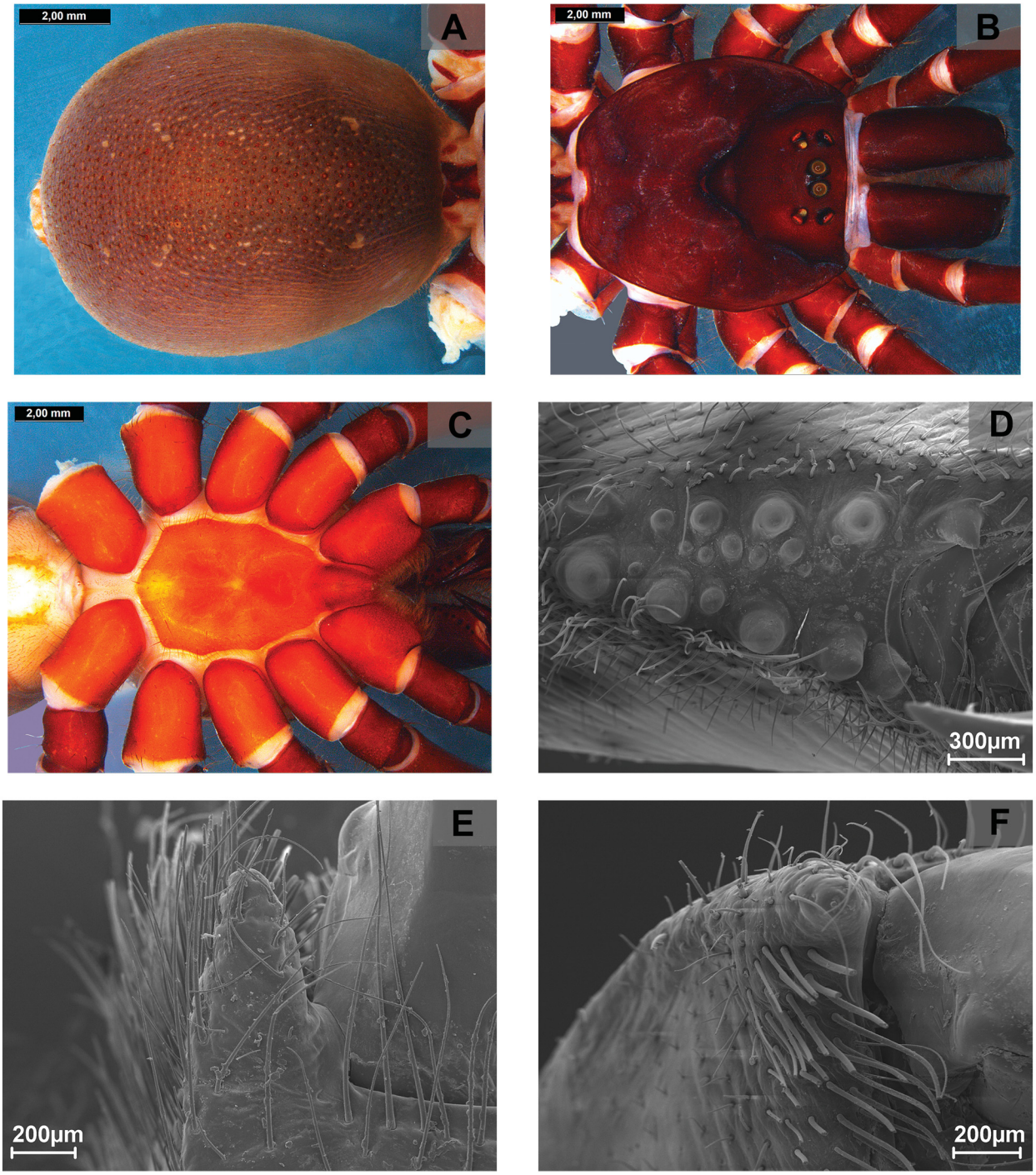


FIGURE 33. *Actinopus ducke* sp. nov., male: A–F MCN 24987 (Automontage photos) and INPA 6124 (SEM Images): A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

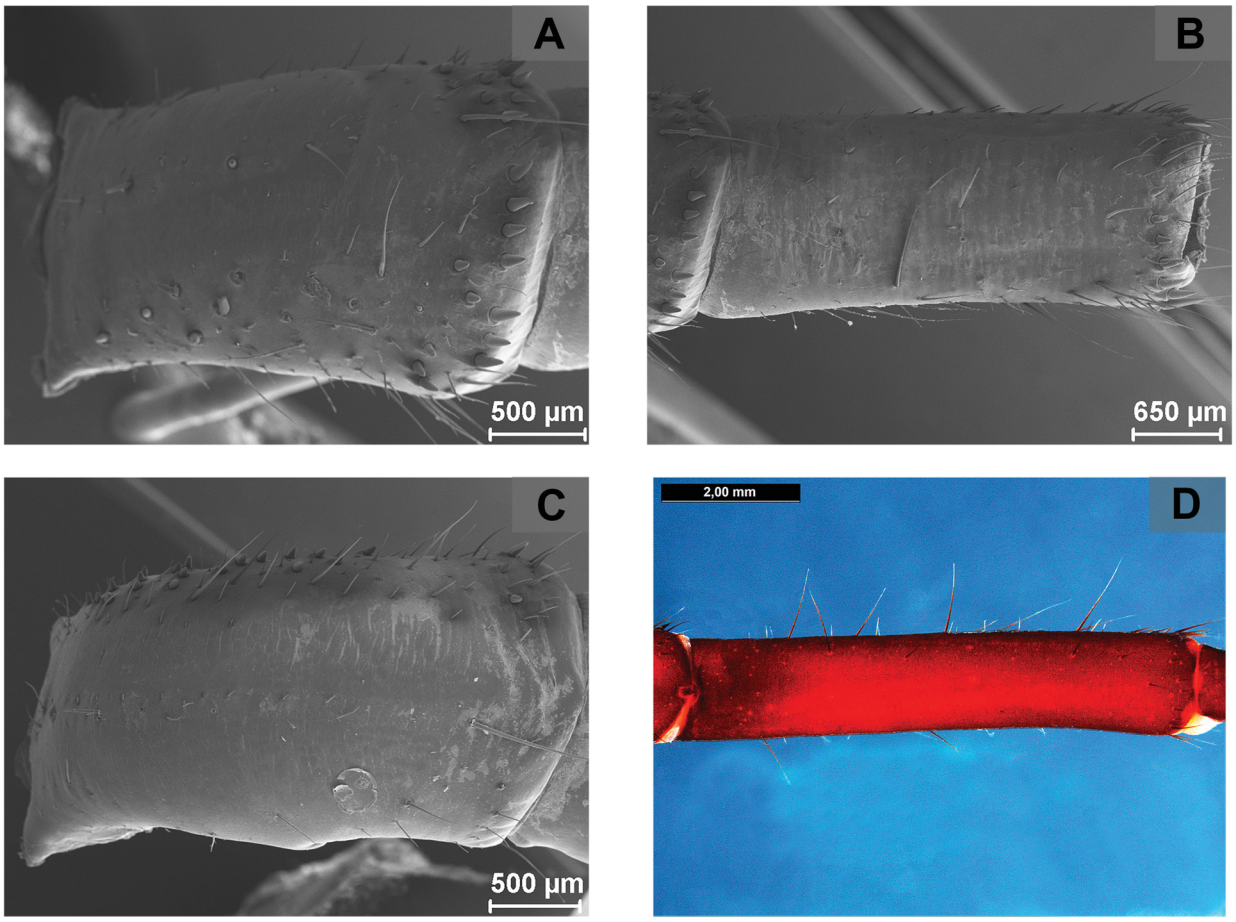


FIGURE 34. *Actinopus ducke* sp. nov., male: A–C MCN 24987 (Automontage photos) and INPA 6124 (SEM Images): A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

A–C), *A. hirsutus* and *A. jaboticatubas* by the wider tegulum with robust BTA, placed medially on prolateral tegular surface (Fig. 35 A–C). Males differ from those of *A. pinhao* and *A. hirsutus* by legs with few bristles and from all other species of the group by the presence of slots above PI, on prolateral tegular surface and pigmentation spots above PA on retrolateral view (Fig. 35 A–C).

MALE (MCN 24987): Total length 19.25; Carapace, long 8.375; wide 7.5. Carapace rounded. Anterior eye row slightly procurved, posterior row recurved almost without interdistance AME–ALE (Fig. 33 B). With short bristles between AME-clypeus. With one long bristle between ALE–ALP and many short and weak bristles between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 33 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines apically (Fig. 33 E–F). Chelicerae with six denticles along prolateral row of teeth. Prolateral row with five megateeth. Retrolateral row with five megateeth and two denticles between three basal megateeth (Fig. 34 D). Patella and tibia III with distal crown of well-developed thorns, not interrupted in middle (Fig. 34 A–B). Patella IV with spines on prolaterodorsal face (Fig. 34 C). Tibia IV without spines on dorsal surface (Fig. 34 D). Ventral pseudoscopulae occupying 20% of tarsus I, 50% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish brown; tibia of palp paler than other articles; Abdomen pale brown (Fig. 33 A). **Eyes: Diameters:** PME 0.28, PLE 0.32, ALE 0.52, AME 0.4; MOQ: Length 1.28, front width 2.84, back width 2.72; **Interdistances:** PME–PME 1.72, PLE–PME 0.02, AME–AME 0.24, ALE–AME 0.64, ALE–PLE 0.56, AME–PME 0.52. **Ocular area:** OAL 5, OAW 4.75, and IF 2.25. **Body:** Clypeus: 0.37; Fovea: 2.62; Labium: long 1.87; wide 1.37; Chelicerae: long 3.75; wide 1.87; Sternum: long 5.25; wide 4.12. Abdomen: long 9.12; wide 7.37. **Leg measurements:** I: Fe 7.75/ Pa 3.37/ Ti 5/ Me 5.25/ Ta 30.5/ total 51.87. II: 7.25/ 3.37/ 4.75/ 5.37/ 2.87/ 23.62. III: 6.62/ 3.62/ 3.75/ 5.25/ 3.12/ 22.37. IV: 9.12/ 3.87/ 7.37/ 6.37/ 3.5/ 30.25. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0,

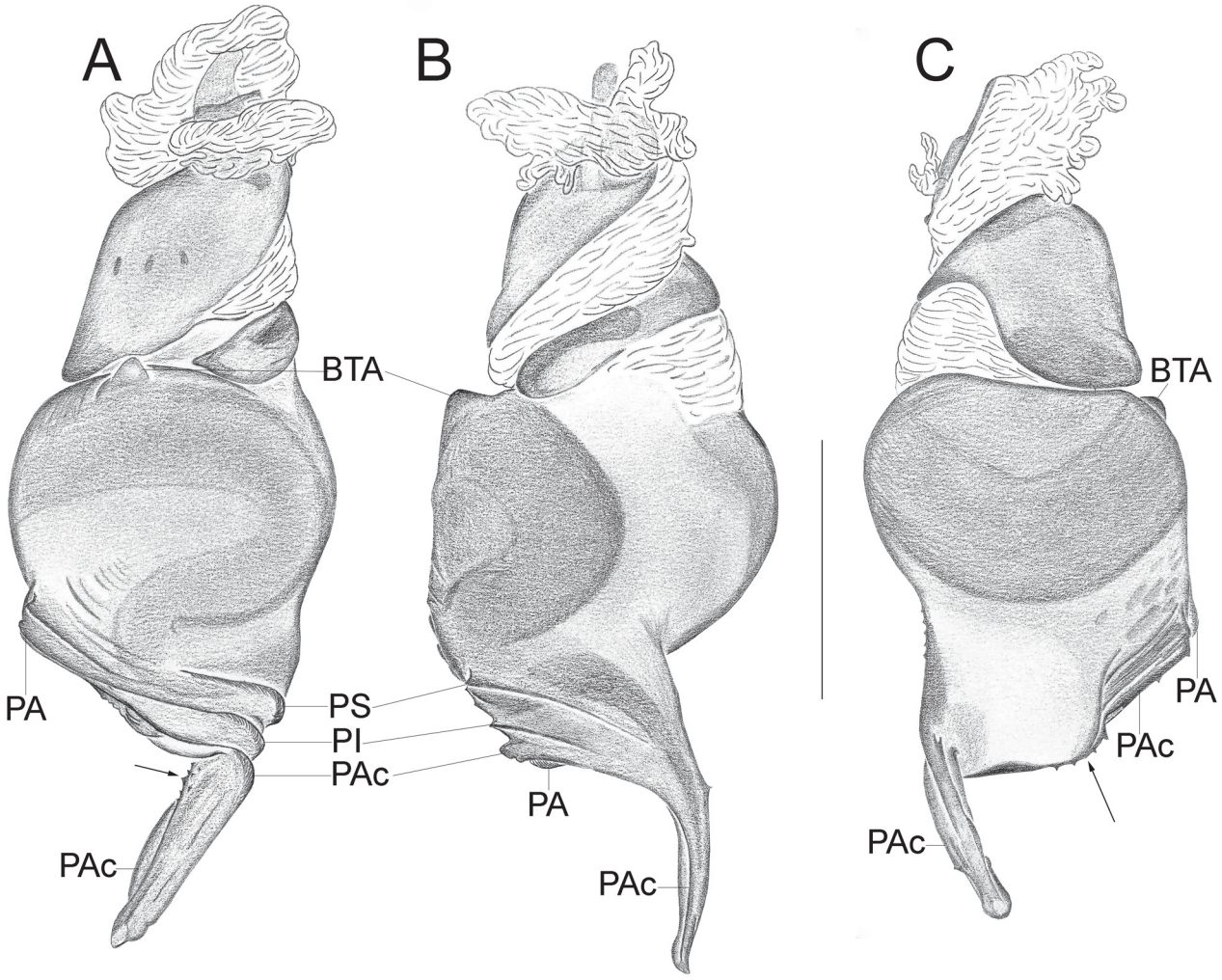


FIGURE 35. *Actinopus ducke* sp. nov., male: A–C MCN 24987: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated Area. Scale line: 1 mm.

p0, r0; ti v0-0-1, d0, p0, r0-0-2; Me v4-7-5, d0, p0-0-1, r4-4-7; ta v0-2-6, d0, p0-3-4, r4-8-9. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-4-3, d0, p0, r0-2-6; Me v7-13-15, d0, p0-0-3, r4-7-8; ta v3-7-8, d0, p2-8-9, r4-6-8. III—Fe v0, d0, p0, r0; Pa v0, d6-8-25, p0-0-2, r0-0-5; ti v0, d1-0-10, p0-0-4, r0-0-3; Me v11-6-5, d0, p1-4-5, r1-4-5; ta v0, d0, p6-7-6, r7-9-4; IV—Fe v0, d0, p0, r0; Pa v0, d8-6-2, p3-3-1 r0; ti v0, d0, p0, r0; Me v5-6-5, d0, p0-1-5, r1-1-4; ta v0, d0, p5-5-5, r2-5-7. **Palp:** PA poorly developed, embolus with three keels (PAc, PI and PS). Prolateral tegulum with slots above PI. BTA developed and placed medially on prolateral tegular surface; serrated area developed, positioned distal to prolateral accessory keel and next to base of next to base of embolus; embolar bases wider (Fig. 35 A–C).

Distribution. BRAZIL. Amazonas: Manaus (Map 4).

***Actinopus hirsutus* sp. nov.**

Figs 36–38, Map 4

Type material. Holotype male from [28° 15’ 40.19” S 52° 24’ 30.01” W], Flona, Passo Fundo, Rio Grande do Sul, Brazil, 1–8.ii.2009, R. Moraes leg. (MCN). **Paratypes:** BRAZIL. Rio Grande do Sul: Itaara, [29° 37’ 35.47” S 53° 46’ 08.53” W], 1♂, xii.2006, A. A. Lise leg. (MCTP 20487); iii.2007, A. A. Lise *et al.* leg. (MCTP 20483, 20484, 20485, 20486).

Etymology. The specific name is a Latin adjective meaning hairy, referring to the hirsute legs, a very notable and uncommon character in *Actinopus*.

Diagnosis. Males of *A. hirsutus* differ from those of all other species of *Actinopus*, except *A. pinhao* (Fig. 31 A–D), by the hirsute legs. They also resemble *A. pinhao* (Fig. 32 A–C), *A. ducke* (Fig. 35 A–C), *A. jaboticatubas* (Fig. 41 A–C) and *A. confusus* (Fig. 44 A–C) by the

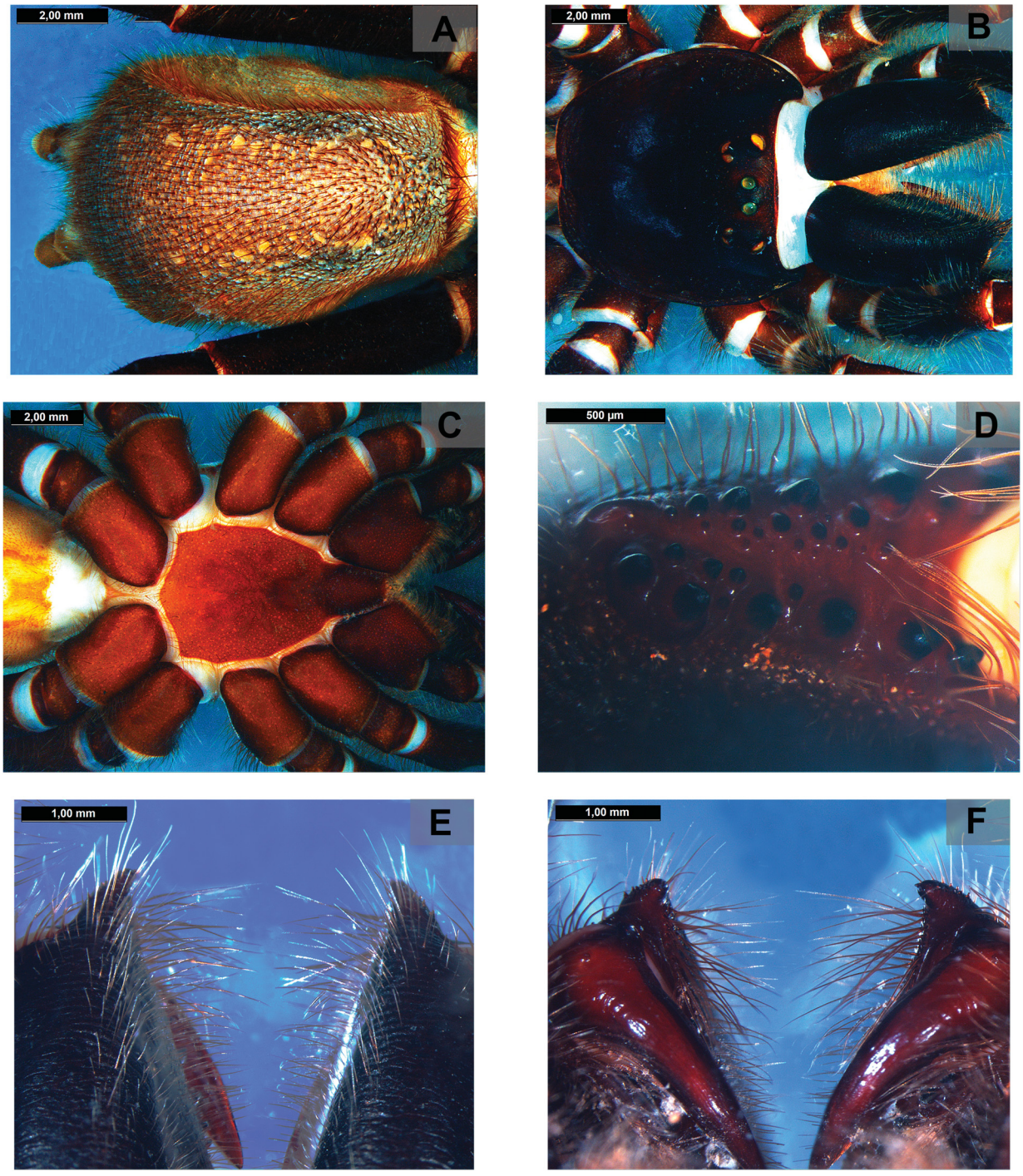


FIGURE 36. *Actinopus hirsutus* sp. nov., male: A–F MCN: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

serrated area distal to PAc (Fig. 38 A–C); they resemble those of *A. pinhao*, *A. ducke* and *A. jaboticatubas* by the wide tegulum with robust BTA, placed medially on the prolateral tegular surface (Fig. 38 A). They differ from all other species of the group *pinhao* by the PA continuous to PI (Fig. 38 A).

MALE (MCN): Total length 17.12; Carapace, long 6.87; wide 6.75. Carapace rounded. Anterior eye row slightly procurved, posterior row recurved (Fig. 36 B). With many short bristles between AME-clypeus. With one long bristle between ALE–ALP and many short and weak bristles between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 36 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines apically (Fig. 36 E–F). Chelicerae with 14

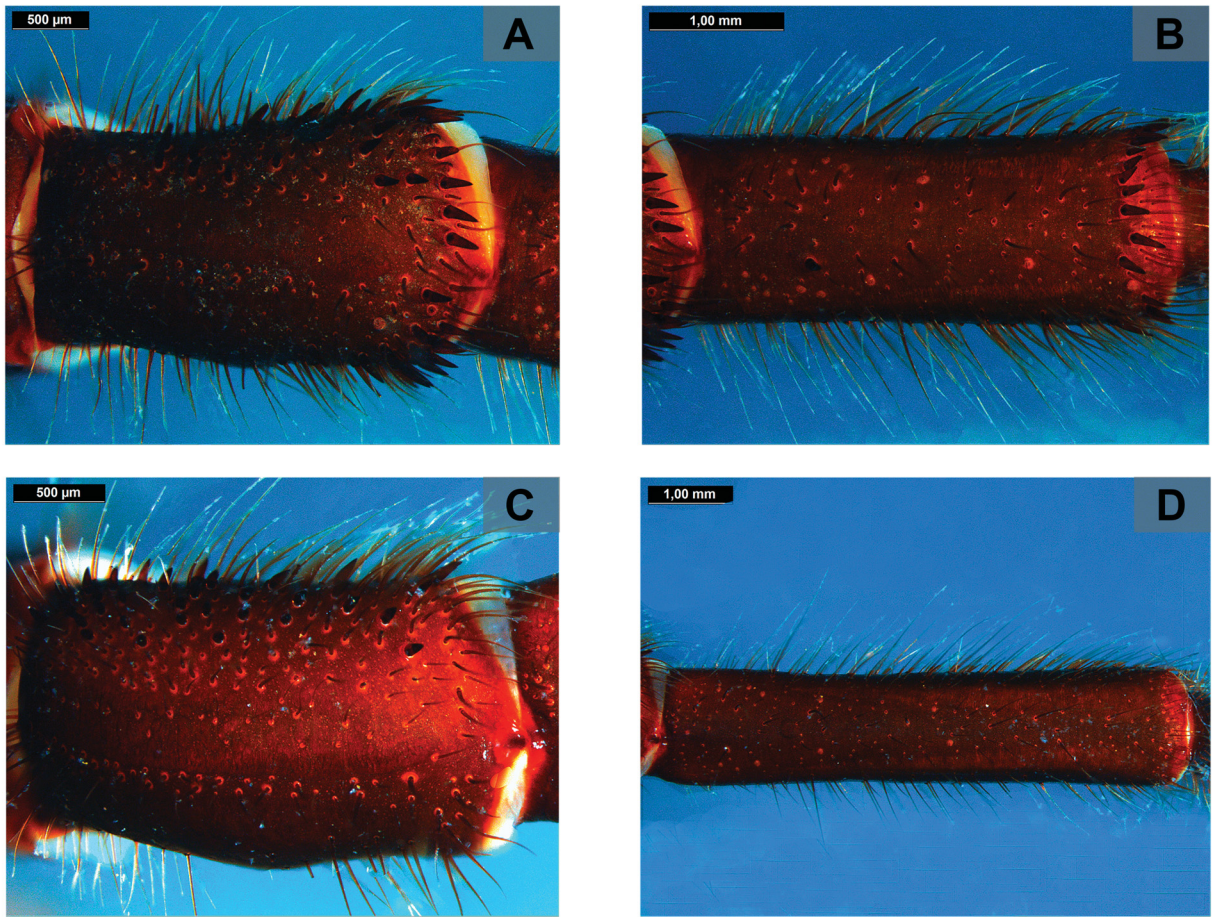


FIGURE 37. *Actinopus hirsutus* sp. nov., male: A–D MCN: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

denticles along Prolateral row and five along retrolateral row of teeth. Prolateral row with five megateeth. Retrolateral row with six megateeth (Fig. 36 D). Patella and tibia III with distal crown of well-developed thorns, not interrupted in middle (Fig. 37 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 37 A, C). Tibia IV without spines on dorsal surface (Fig. 37 D). Ventral pseudoscopulae occupying 30% of tarsus I, 50% of II, 100% of III and IV and 20% of metatarsus IV. Pseudoscopula of tarsi I and II and metatarsus IV with setae spaced, forming diffuse group of bristles; on tarsi III and IV, compact. Hirsute legs (Fig. 37 A–D). Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish brown; tibia of palp paler than other articles; abdomen pale brown (Fig. 36 A). Eyes: Diameters: PME 0.32, PLE 0.44, ALE 0.52, AME 0.36; MOQ: Length 1.28, front width 3.28, back width 2.96; Interdistances: PME–PME 1.76, PLE–PME 0.08, AME–AME 0.36, ALE–AME 0.84, ALE–PLE 0.56, AME–PME 0.64. Ocular area: OAL 5, OAW 4.12, and IF 3.37. Body: Clypeus: 0.37; Fovea: 2.75; Labium: long 1.75; wide 1.37; Chelicerae: long 4; wide 2.25; Sternum: long 4.12; wide 3.87. Abdomen: long 8.62; wide 5.87. Leg measurements: I: Fe 6/ Pa 3.12/ Ti 4.5/ Me 4.75/ Ta 3/ total 21.37. II: 7/ 3.25/ 4.37/ 5.25/ 3.25/ 23.12. III: 5.87/ 3.37/ 3.37/ 5.87/ 3.25/ 21.75. IV: 7.75/ 3.25/ 6.12/ 5/ 4/ 26.12. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0, r0; Me v0-0-0, d0, p0-3-2, r0; ta v0-1-1, d0, p0-1-1, r0-1-3. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0, r0-3-3; Me v0-1-1, d0, p0-1-5, r0-0-1; ta v0, d0, p0-1-3, r1-3-4. III—Fe v0, d0, p0, r0; Pa v0, d2-9-25, p1-3-3, r0-0-4; ti v0-0-0, d1-0-16, p0-0-3, r0-0-1; Me v0, d1-0-2, p1-3-2, r1-0-2; ta v0, d0, p0-3-7, r0-0-4; IV—Fe v0, d0, p0, r0; Pa v0-1-1, d16-12-7, p0, r0; ti v0-1-1, d0, p0, r0; Me v0-1-1, d0-0-1, p0-1-7, r0-0-2; ta v0, d0, p2-10-12, r1-8-9. **Palp:** PA developed, embolus with three keels (PAc, PI and PS). Robust tegulum. BTA developed and placed dorsally in relation to a middle longitudinal line; serrated area developed, positioned distal to prolateral accessory keel and next to base of embolus; embolus wide and with rounded apex (Fig. 38 A–C).

Distribution: BRAZIL. Rio Grande do Sul: Passo Fundo and Itaara (Map 4).

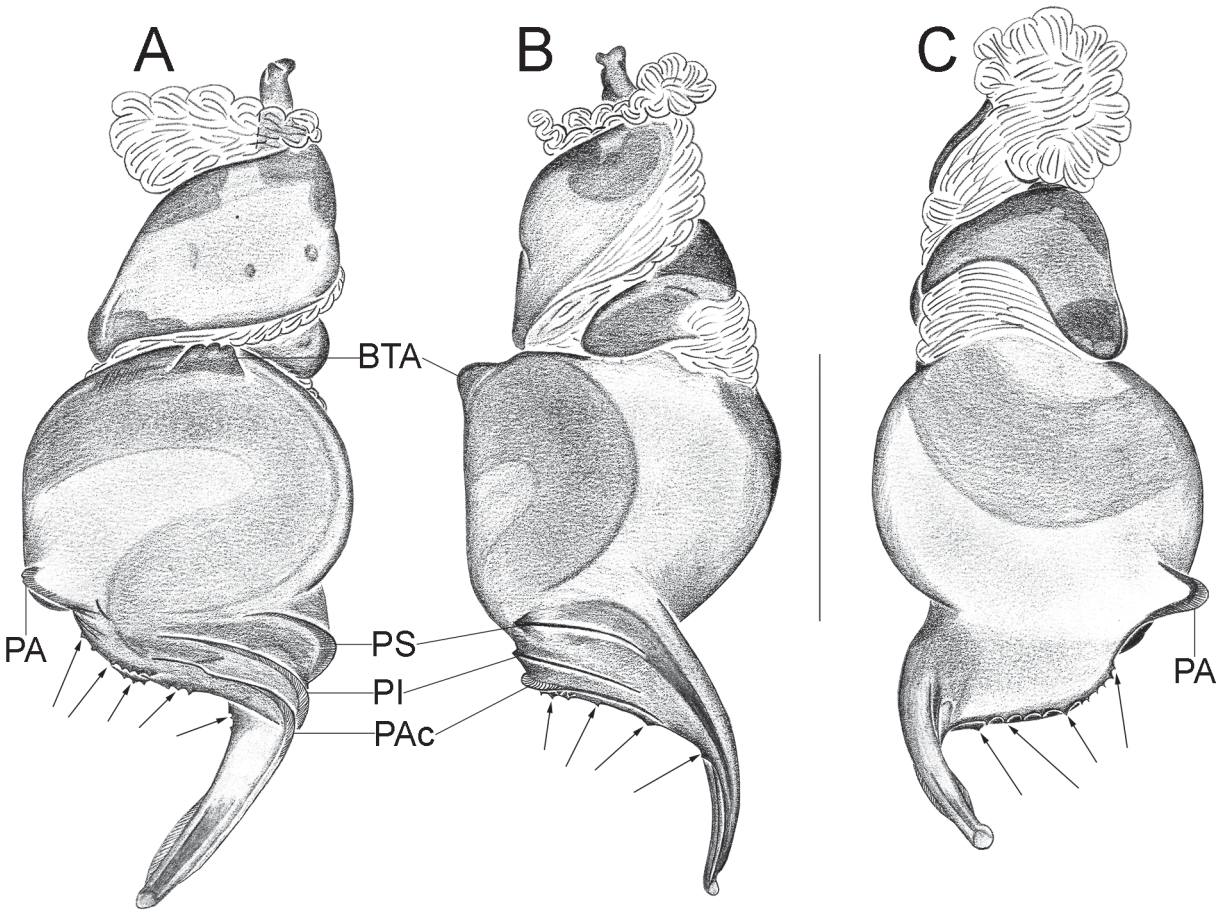


FIGURE 38. *Actinopus hirsutus* sp. nov., male: A–C MCN: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA**-Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated Area. Scale line: 1 mm.

***Actinopus jaboticatubas* sp. nov.**
Figs 39–41, Map 4

Type material. Holotype male from [19° 30' S 43° 44' W], Condomínio Vila Monte Verde, Jaboticatubas, Minas Gerais, Brazil, 23.x.2002, R. Chimicatti leg. (IBSP 113186).

Etymology. The specific name is a noun in apposition from the type locality name.

Diagnosis. The male of *A. jaboticatubas* resembles those of *A. pinhao* (Fig. 32 A–C), *A. hirsutus* (Fig. 38 A–C)*, A. ducke* (Fig. 35 A–C) *and A. confusus* (Fig. 44 A–C) by serrated area distal to PAc (Fig. 41 A–C); PA continuous to PAc (Fig. 41 A), except in *A. hirsutus*. The male resembles those of *A. pinhao*, *A. hirsutus* and *A. ducke* by wider tegulum; with robust BTA, placed medially in relation to a middle longitudinal line (Fig. 41 A–C). They differ from those of *A. pinhao* (Fig. 31 A–D) and *A. hirsutus* (Fig. 37 A–D) by legs with few bristles, as in most part of the species of genus. The male differs from those of all other species of group by a combination of a wider tegulum with embolus thinner and delicate; PI bigger than other keels and bending over the PAc; and many cusps on retrolateral surface below embolar bases (Fig. 41 C).

MALE (IBSP 113186): Total length 18.62; Carapace, long 7.37; wide 7.37. Carapace rounded. Anterior eye row slightly procurved, posterior row recurved (Fig. 39 B). Without bristles between AME-clypeus. Without bristles between ALE–ALP and some short and weak bristles between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 39 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines apically (Fig. 39 E–F). Chelicerae with 15 denticles widespread along prolateral row of teeth. Prolateral row with six spaced megateeth. Retrolateral row with six megateeth and two denticles between

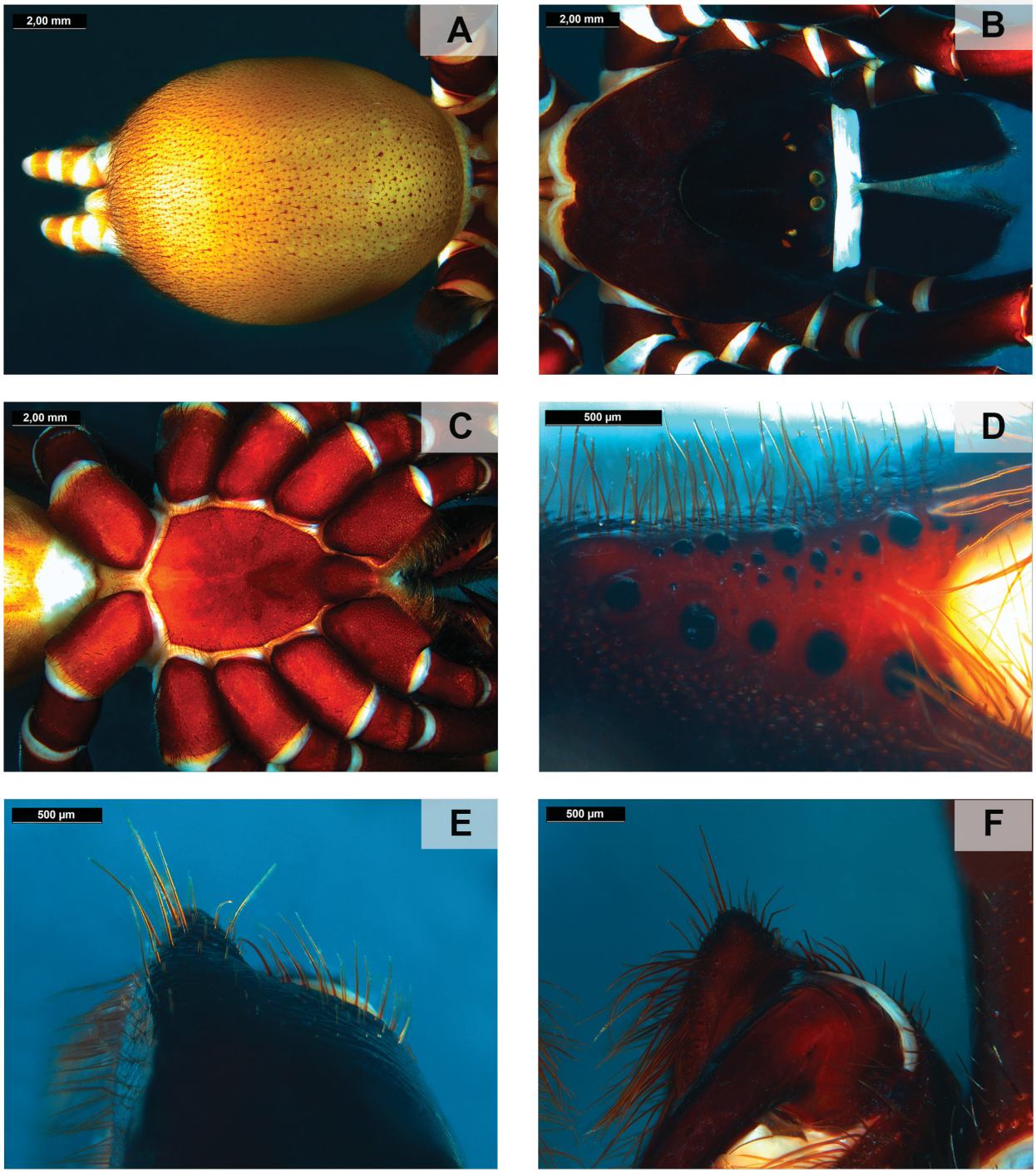


FIGURE 39. *Actinopus jaboticatubas* sp. nov., male: A–F IBSP 113186: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

the three basal megateeth (Fig. 39 D). Patella and tibia III with distal crown of well-developed thorns, not interrupted in middle (Fig. 40 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 40 A, C). Tibia IV without spines on dorsal surface (Fig. 40 D). Ventral pseudoscopulae occupying 70% of tarsus I, 80% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; on tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae and tibiae reddish-brown; metatarsi and tarsi paler than other articles; tibia of palp yellow, paler than other articles; abdomen pale brown (Fig. 39 A). **Eyes: Diameters:** PME 0.32, PLE 0.36, ALE 0.48, AME 0.36; MOQ: Length 1.32, front width 3.6, back width 3.16; **Interdistances:** PME–PME 2.12, PLE–PME 0.16, AME–AME 0.32, ALE–AME 1.08, ALE–PLE 0.72,

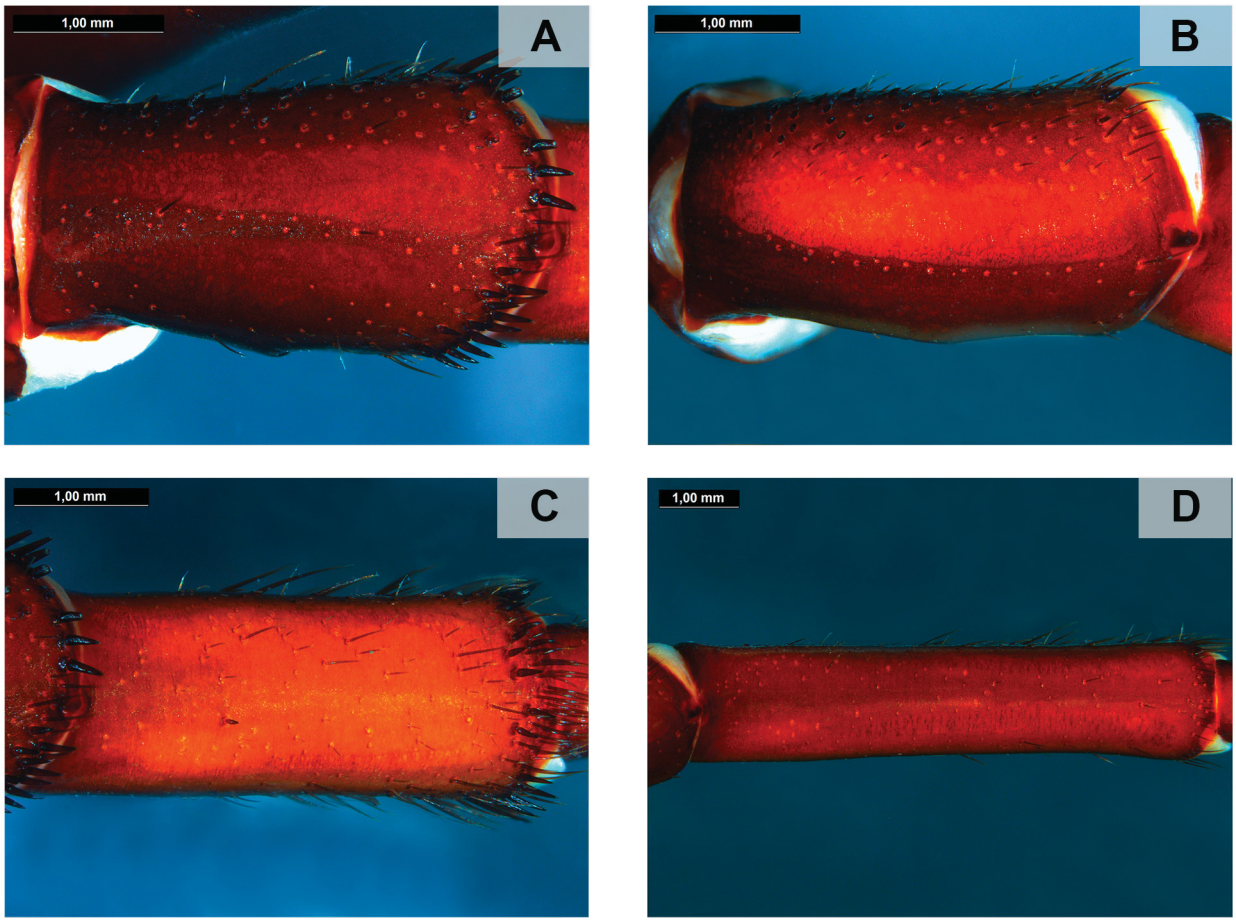


FIGURE 40. *Actinopus jaboticatubas* sp. nov., male: A–D IBSP 113186: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

AME–PME 0.76. **Ocular area:** OAL 5.25, OAW 4.25, and IF 2.75. **Body:** Clypeus: 0.37; Fovea: 3; Labium: long 1.5; wide 1.25; Chelicerae: long 4; wide 2.12; Sternum: long 5.12; wide 4.25. Abdomen: long 10; wide 7.12. **Leg measurements:** I: Fe 8.25/ Pa 3.25/ Ti 4.87/ Me 5.62/ Ta 3.37/ total 25.37. II: 7.75/ 3.12/ 4.62/ 5.37/ 3.12/ 24. III: 5/ 2.87/ 3.25/ 5.62/ 3/ 19.75. IV: 6.25/ 3.37/ 3.5/ 6.25/ 2.87/ 22.25. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v1-3-6, d0, p0, r0; Me v4-4-6, d0, p1-1-1, r0-0-2; ta v1-3-3, d0, p0-1-2, r0-0-1. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v1-3-4, d0, p0, r0-0-4; Me v3-2-3, d0, p1-1-3, r1-2-3; ta v2-3-5, d0, p2-3-3, r3-2-4. III—Fe v0, d0, p0, r0; Pa v0, d6-8-26, p0-0-3, r0-0-2; ti v0-0-6, d1-0-16, p0-0-3, r0-0-4; Me v0-0-2, d0, p1-0-2, r0-2-4; ta v0-0-1, d0, p1-1-1, r0-5-3; IV—Fe v0, d0, p0, r0; Pa v0, d16-8-4, p0, r0; ti v0-0-2, d0, p0, r0; Me v1-1-2, d0, p1-1-0, r0; ta v0, d0, p1-6-6, r0-1-1. **Palp:** PA developed, embolus with three keels (PAc, PI and PS). Retrolateral tegulum with cups below embolar base. BTA developed and placed dorsally in relation a middle longitudinal line; serrated area developed, positioned distal to PAc, next and below the base of embolus; embolar bases thin (Fig. 41 A–C).

Distribution. BRAZIL. Minas Gerais: Jaboticatubas (Map 4).

Actinopus confusus sp. nov.

Figs 42–44, Map 4

Type material. Holotype male from 9° 13’ 16” S 43° 29’ 21” W, PPBio Semiárido, Parque Nacional da Serra das Confusões, Caracol, Piauí, Brazil, x.2006, P. R. R. Silva *et al*. leg. (CHNUFPI 234). **Paratypes:** BRAZIL. Piauí: Caracol, [9° 13’ S 43° 29’ W], Parque Nacional da Serra das Confusões, 2♂ (MPEG); Parque Nacional da Serra das Confusões, PPBio Semiárido, 9° 13’ 16” S 43° 29’ 21” W, 1♂, x.2006, P. R. R. Silva *et al.* leg. (CHNUFPI 24, 27, 28, 237); 2♂, x.2006, P. R. R. Silva *et al.* leg. (CHNUFPI 2, 4); 4♂, x.2006, P. R. R. Silva *et al.* leg. (CHNUFPI 23, 244); 6♂, x.2006, P. R. R. Silva *et al.* leg. (CHNUFPI 243).

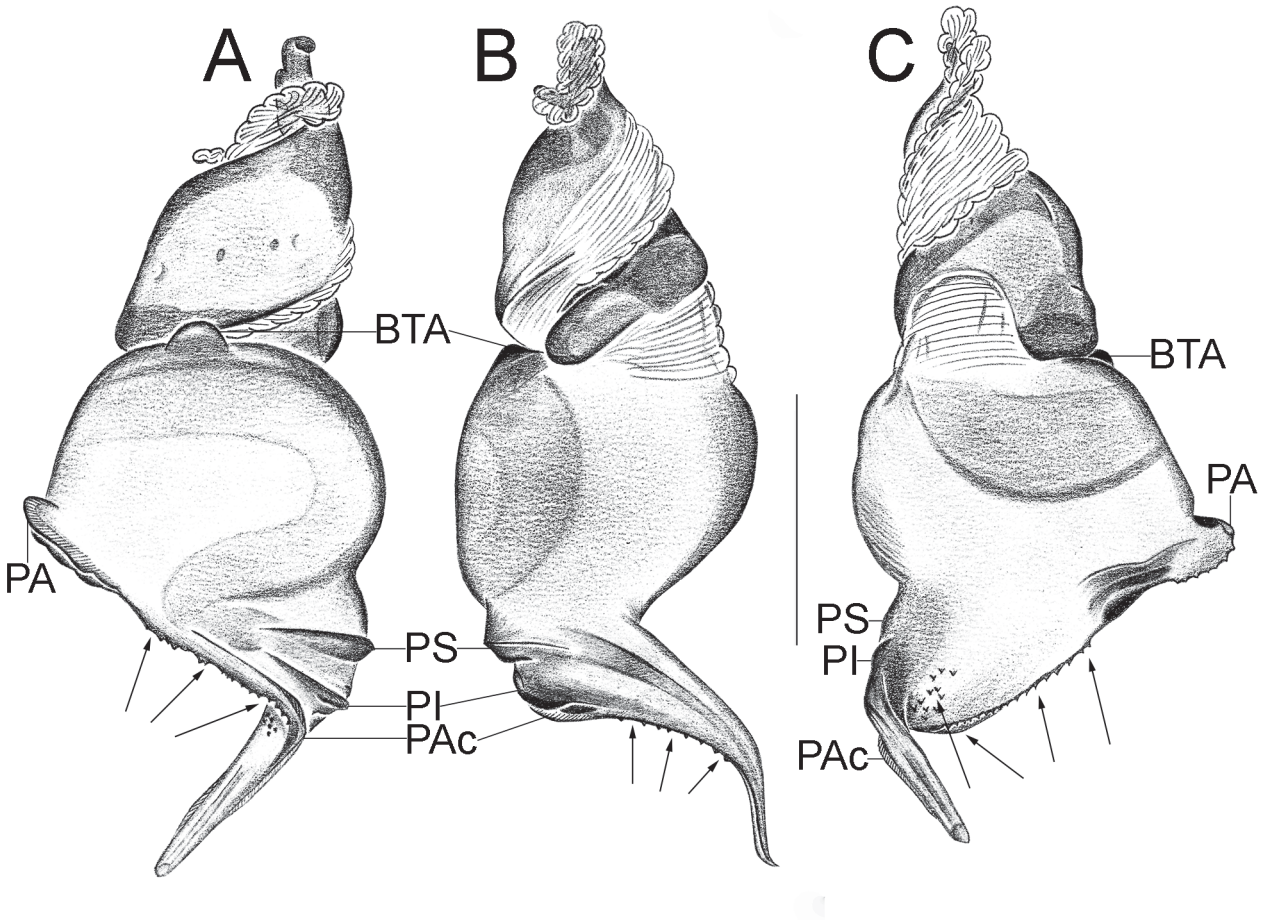


FIGURE 41. *Actinopus jaboticatubas* sp. nov., male: A–C IBSP 113186: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated Area. Scale line: 1 mm.

Etymology. The specific name, a Latin adjective meaning confounded, was inspired by the type locality name, Serra das Confusões, which stands for Confusion Mountains.

Diagnosis. Males of *A. confusus* resemble those of *A. jaboticatubas* (Fig. 41 A–C) by the serrated area distal to PAc (Fig. 44 A–C); PA developed and continuous to PAc (Fig. 44 A, C); thin embolus and BTA placed medially on prolateral tegular surface (Fig. 44 A). Males differ from those of *A. pinhao* (Fig. 32 A–C) and *A. jaboticatubas* (Fig. 41 A–C) by the long PS on dorsal view (Fig. 44 B) and from all other species of the group *pinhao* by the short keels prolateral view and tegular region with keels, with a basal swelling above PAc in prolateral view (Fig. 44 A).

MALE (CHNUFPI 234): Total length 19.37; Carapace, long 7.25; wide 7.25. Carapace rounded. Anterior eye row slightly procurved, posterior row recurved (Fig. 42 B). Without bristles between AME-clypeus. With one short bristle between ALE–ALP and without bristles between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 42 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines apically (Fig. 42 E–F). Chelicerae with 14 denticles along prolateral row of teeth. Prolateral row with six megateeth. Retrolateral row with six megateeth and one denticle in middle of row (Fig. 42 D). Patella and tibia III with distal crown of well-developed thorns, on patella III interrupted in middle and on tibia III not interrupted in middle (Fig. 43 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 43 A, C). Tibia IV without spines on dorsal surface (Fig. 43 D). Ventral pseudoscopulae occupying 50% of tarsus I, 70% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; on tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish brown; tibia of palp yellowish-brown,

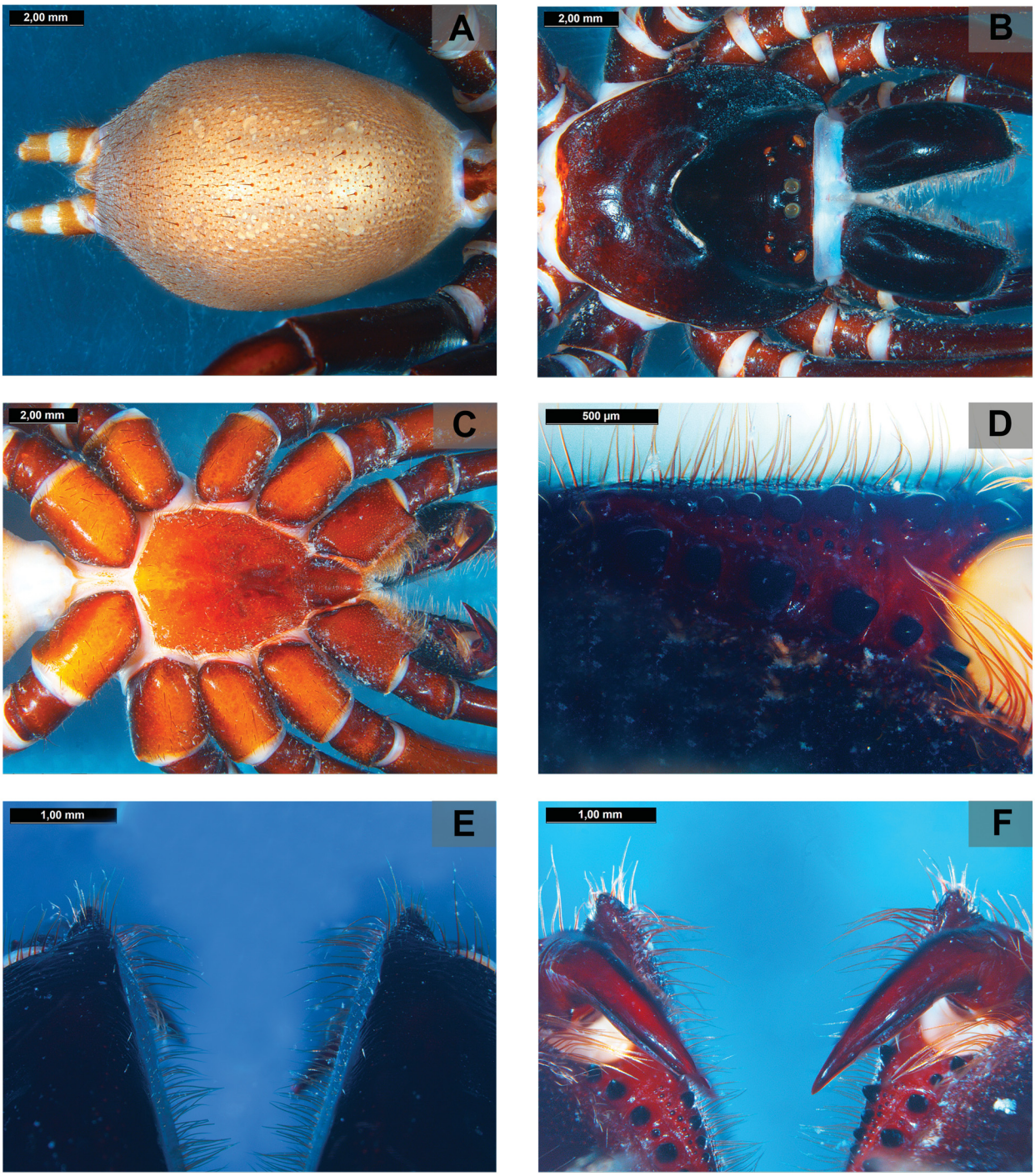


FIGURE 42. *Actinopus confusus* sp. nov., male: A–F CHNUFPI 234: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

paler than other articles. Abdomen pale brown (Fig. 42 A). **Eyes: Diameters:** PME 0.20, PLE 0.28, ALE 0.44, AME 0.40; MOQ: Length 1.16, front width 3.52, back width 2.96; **Interdistances:** PME–PME 2.04, PLE–PME 0.12, AME–AME 0.24, ALE–AME 1.04, ALE–PLE 0.68, AME–PME 0.68. **Ocular area:** OAL 5, OAW 4.12, and IF 2.37. **Body:** Clypeus: 0.37; Fovea: 3.12; Labium: long 1.5; wide 1.25; Chelicerae: long 4.125; wide 2; Sternum: long 4.87; wide 4.87. Abdomen: long 10.12; wide 6.87. **Leg measurements:** I: Fe 7.75/ Pa 3.25/ Ti 4.62/ Me 5.25/ Ta 3.5/ total 24.37. II: 7.5/ 3.25/ 4.62/ 5.75/ 3.5/ 24.62. III: 5.75/ 3.25/ 3.37/ 6.62/ 3.37/ 22.37. IV: 7.62/ 3.62/ 6.25/ 7/ 3.87/ 28.37. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-5-6, d0, p0-0-1, r0; Me v6-

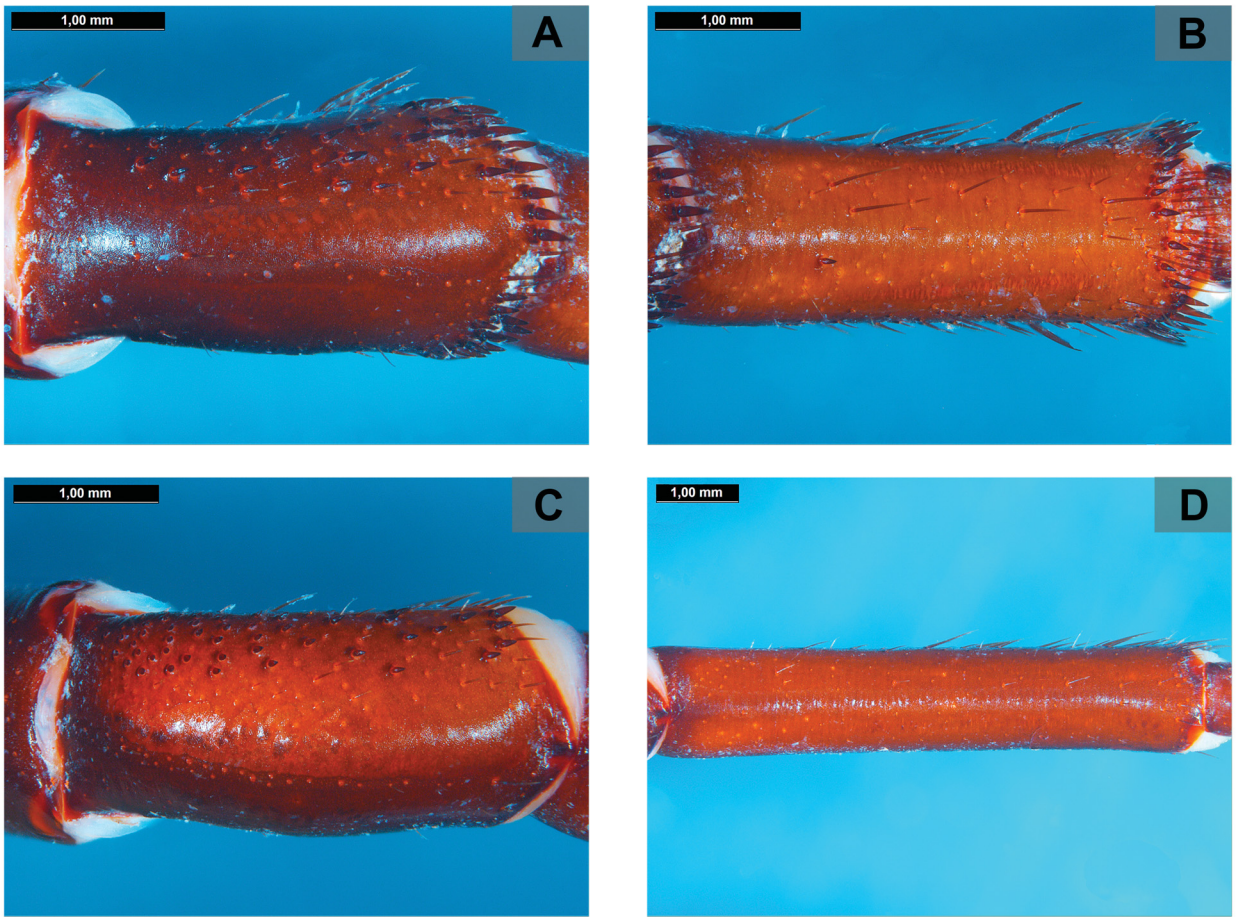


FIGURE 43. *Actinopus confusus* sp. nov., male: A–D CHNUFPI 234: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

4-7, d0, p1-2-3 r0; ta v1-5-7, d0, p1-2-2, r0. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-4-4, d0, p0, r0-3-4; Me v4-4-3, d0, p0-2-2, r3-6-5; ta v1-4-3, d0, p2-4-4, r4-9-11. III—Fe v0, d0, p0, r0; Pa v0, d4-10-25, p0, r0-0-3; ti v0-0-4, d1-0-19, p0-0-2, r0-0-3; Me v0-5-4, d0-0-1, p1-4-4, r1-3-8; ta v0-3-12, d0, p1-0-6, r0-9-12; IV—Fe v0, d0, p0, r0; Pa v0, d15-20-10, p0, r0; ti v0-0-2, d0, p0, r0; Me v3-4-4, d0, p3-0-3, r0; ta v0, d0, p2-8-12, r1-9-13. **Palp:** PA developed, embolus with three keels (PAc, PI and PS). BTA developed and placed medially on prolateral tegular surface; serrated area developed, distal to PAc and next to base of next to base of embolus; tegulum elongated and smooth, and embolar bases thinner. Tegular region with keels, with basal swelling below PAc in prolateral view (Fig. 44 A–C).

Distribution: BRAZIL. Piauí: Caracol, Parque Nacional da Serra das Confusões (Map 4).

***Actinopus pampulha* sp. nov.**

Figs 45–49, Map 4

Type material. Holotype male from 20° 02’ 23” S 43° 34’ 29” W, Povoado de Paiol, Serra do Baú, Santa Bárbara, Minas Gerais, Brazil, 24–30.x.2008, B. V. S. Pimenta & M. W. E. Faria leg. (UFMG 5389). **Paratypes:** BRAZIL. Minas Gerais: Marliéria, Parque Estadual Rio Doce, Trilha Macuco, 19º 42’30” S 42º 42’ 30” W, 1♂, 9.i.2005, S. S. P. Almeida leg. (MNRJ 6791); santana do Riacho, 19° 10’ 8” S 43° 42’ 57” W, 1♀, 14.v.2011, P. H. Martins leg. (UFMG 11263); Belo Horizonte, Bairro Minas Caixa, 19° 48’ 31.67” S 43° 57’ 22.65” W, 2♀, 24.v.2010 (UFMG 6064); João Monlevade, 19° 48’ 34.09” S 43° 10’ 25.75” W, 2♀, 13.iii.2001, W. E. Souza leg. (UFMG 6062); Estação Ecológica da Universidade Federal de Minas Gerais (UFMG), 19° 52’ 38” S 43° 58’ 16” W, 1♂, 2.x.2006 (UFMG 9984); 19° 58’ S 43° 58’ W, 1♂, xi.1996 (UFMG 578); Estação Ecológica da Universidade Federal de Minas Gerais (UFMG), Bambuzal [19º 52’ 38”S 43º 58º 16’W], 09–16.v.2013, B. N. Castro *et al.*

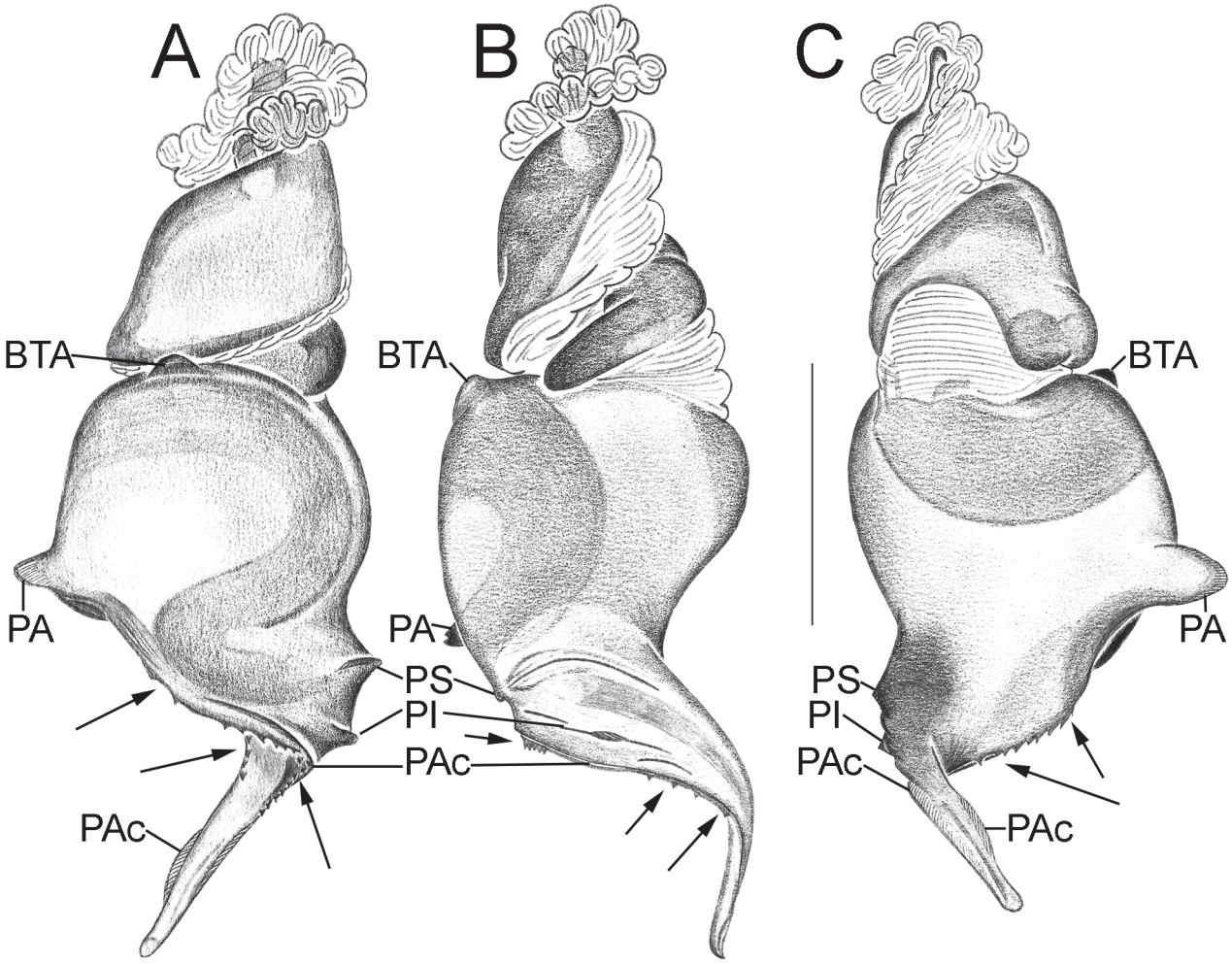


FIGURE 44. *Actinopus confusus* sp. nov., male: A–C CHNUFPI 234: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated Area. Scale line: 1 mm.

leg. (UFMG 16847); Reserva da Universidade Federal de Minas Gerais, Campus da Pampulha, 19º 52' S 43º 58' O, 1♂, vii.2000, E. S. S. Álvares leg. (IBSP 1144360); viii.2000, E. S. S. Álvares leg (IBSP 114441); x.2000, C. S. Azevedo, E. P. Machado, E. S. S. Álvares & M. Maria leg. (IBSP 110736); xii.2000, E. S. S. Álvares leg. (IBSP 114434); 3♂, ii.2000, E. S. S. Álvares leg. (IBSP 114437); 28.viii.2000, E. S. S. Álvares leg. (IBSP 114454, 1♂ removed for SEM; Ouro Preto, Parque Estadual do Itacolomi, 20° 22' S 32° 32' W, 1♂, 11–13.iv.2008, K. P. Santos *et al.* leg. (UFMG 2161); Estação Ecológica do Tripuí, 1246m, 20° 22' 69.3" S 43° 32' 56.1" W, 1♀, 08.i.2005 (IBSP); Estação Ecológica do Tripuí, [20° 23' 45" S 43° 34' 33" W], 1♂, 2001, H. Guimarães leg. (IBSP 114438, 114439, 114446, 114447). São Paulo: São José dos Campos, [22° 54' 00.00" S 54° 58' 00.00" W], São Francisco Xavier, 1♂, 07.i.1998, R. Gouveia leg. (IBSP 110481); Itatinga, 23° 06' 08.26" S 48° 36' 55.41" W, EMATER, Fazenda Santa Irene, 1♂, 22.v.1997, A. de Almeida leg. (IBSP 108288); Divisa Mairiporã/Atibaia, [23° 19' 06.14" S 46° 35' 14.00" W], 1♂, 02.iii.1994, L. Izidoro leg. (IBSP 110578); Cajamar, [23° 21' 23.44" S 46° 52' 36.73" W], 1♂, 26.xi.2004, F. W. Gluckstern leg. (IBSP 111068); são Paulo, Horto Florestal, [23° 27' 41" S 46° 38' 20" W], 1♂, 03.vi.1993 (IBSP 110573); Jandira, [23° 31' 42.88" S 46° 54' 11.92" W], 1♂, 24.i.2005, J. A. Coogan leg. (IBSP 111089); são Paulo, [23° 32' 56" S 46° 38' 20" W], 1♂, x.1959, L. Nogueira Neto leg. (IBSP 103524); 1994, Gérhand leg. (IBSP 110553); 15.iv.1996, V. Barsaline leg. (IBSP 112968); HUB, [23° 33' S 46° 39' W], 1♂ (IBSP 110557); Parque dos Príncipes, [23° 34' 7" S 46° 46' 14" W], 1♂, 30.xi.2004, P. S. Paulino leg. (IBSP 111070); Parque do Estado, [23° 39' 14" S 46° 37' 23" W], 1♂, 26.viii–1º.viii.2002, J. R. Valvassori leg.

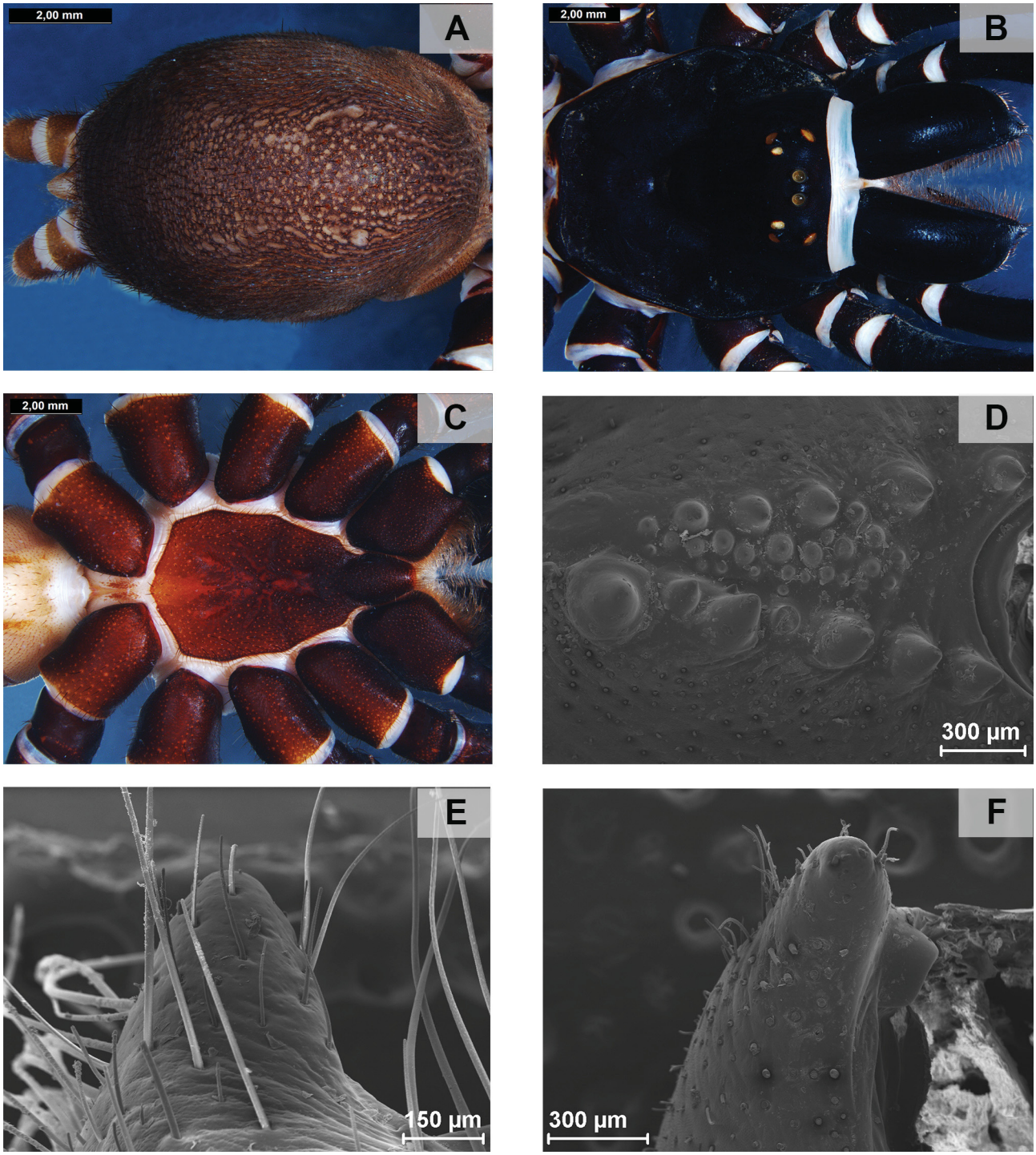
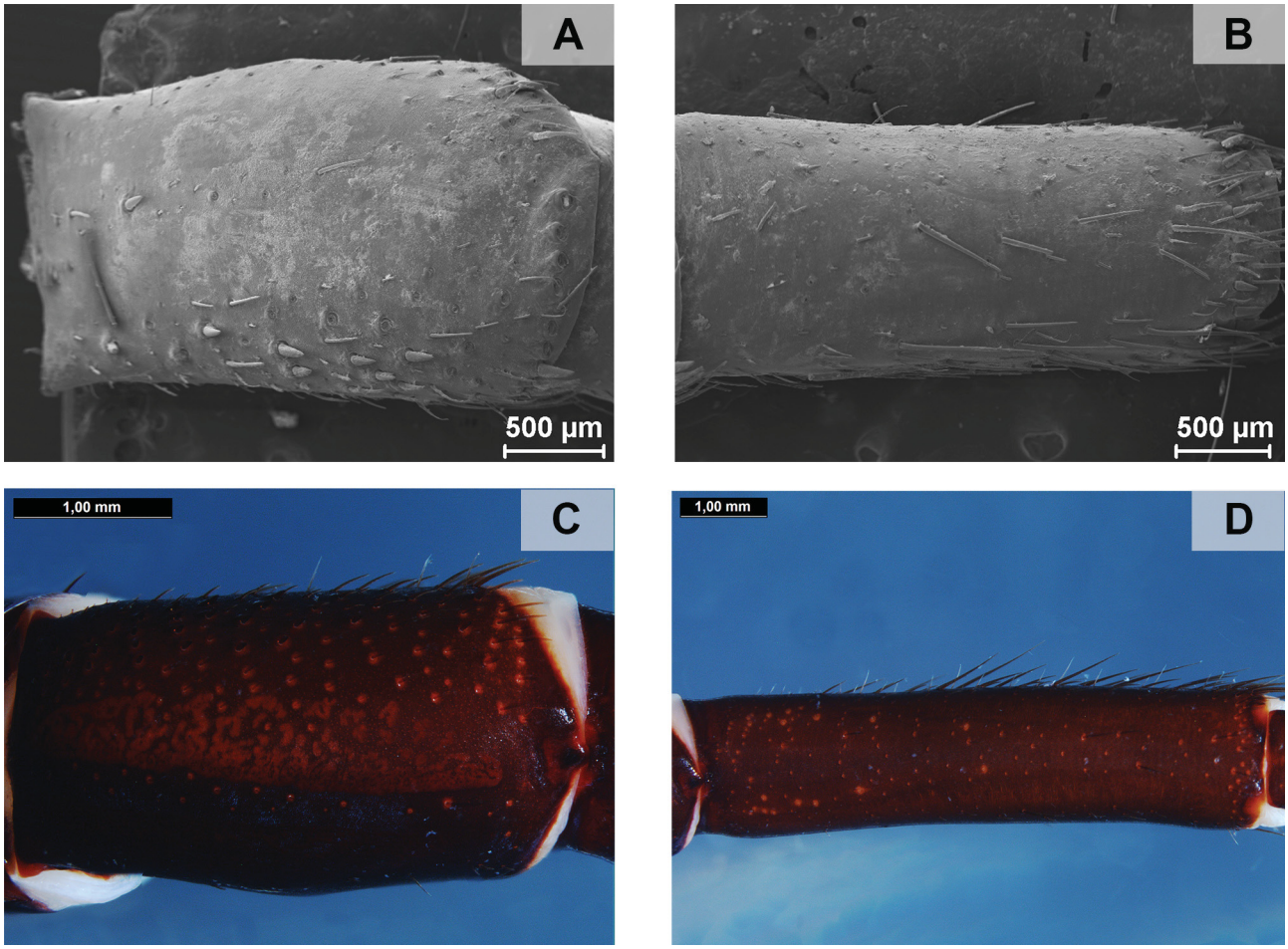


FIGURE 45. *Actinopus pampulha* sp. nov., male: A–F UFMG 5389 (Automontage photos) and IBSP 114454 (SEM Images): A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

(IBSP 113353); Itapecerica da Serra, [23° 43' 02.85" S 46° 50' 58.04" W], 1♂, 26.i.2001, M. C. da Cunha leg. (IBSP 108731); 26.v.1999, A. dos Santos leg. (IBSP 110479); Juquitiba, [23° 55' 52.78" S 47° 04' 09.09" W], 1♂, ii.1987, M. Serzedello leg. (IBSP 104929).

Etymology. The specific name is a noun in apposition from the name of a natural reserve at Campus da Pampulha, Universidade Federal de Minas Gerais, from where most of the specimens described below were collected.

Diagnosis. Males of *A. pampulha* resemble those of *A. candango* (Fig. 54 A–C) and *A. cornelli* (Fig. 62 A–C) by the wide tegulum and by the short, flattened embolus. They also share with *A. paraitinga* (Fig. 59 A–C) an extension of the embolar serrated area with many cusps



FIGURES 46. *Actinopus pampulha* sp. nov., male: A–D UFMG 5389 (Automontage photos) and IBSP 114454 (SEM Images): A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

below the embolar base, visible in retrolateral view. Males differ from those of all other species of the group *pinhao* by an elongated PI, which course reflects the PAc course, along entire length of embolus on dorsal surface (Fig. 49 A–C). Females differ from those of other species of the group by the presence of two or three similarly elongated lobes on each receptacle (Fig. 49 D).

MALE (UFMG 5389): Total length 18.12; Carapace, long 8.62; wide 8.12. Carapace anterior part tapering. Anterior eye row slightly procurved, posterior row recurved (Fig. 45 B). With few short bristles between AME-clypeus. With few short and weak bristles between ALE-ALP and between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially (Fig. 45 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines apically (Fig. 45 E–F). Chelicerae with 23 denticles along prolateral row of teeth. Prolateral row with five megateeth. Retrolateral row with five megateeth and two denticles between the three basal megateeth (Fig. 45 D). Patella and tibia III with distal crown of well-developed thorns, on patella III interrupted in middle and on tibia III not interrupted in middle (Fig. 46 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 46 A–C). Tibia IV without spines on dorsal surface (Fig. 46 D). Ventral pseudoscopulae occupying 20% of tarsus I, 50% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; on tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish-dark-brown; tibia of palp orange-brown, paler than other articles; Abdomen pale brown (Fig. 45 A). **Eyes: Diameters:** PME 0.36, PLE 0.44, ALE 0.52, AME 0.40; MOQ: Length 1.40, front width 3.44, back width 3.20; I**nterdistances:** PME–PME 1.88, PLE–PME 0.12, AME–AME 0.32, ALE–AME 0.96, ALE–PLE 0.68, AME–PME 0.60. **Ocular area:** OAL 5.75, OAW 5, and IF 3. **Body:** Clypeus: 0.62; Fovea: 2.62; Labium: long 1.62; wide 15; Chelicerae: long 4; wide 2.5; Sternum: long 5.37; wide 4.37. Abdomen: long 8.62; wide 6.12. **Leg measurements:** I: Fe 7.5/ Pa 3.62/ Ti 3.75/ Me 5/ Ta 3.12/ total 23. II: 7/ 3.62/ 4.25/ 5.12/ 3.12/ 23.12. III: 5.87/ 3.87/ 3.62/ 6/ 3.5/ 22. IV: 8/ 3.87/ 6.5/ 6.75/ 3.62/ 28.75. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0,

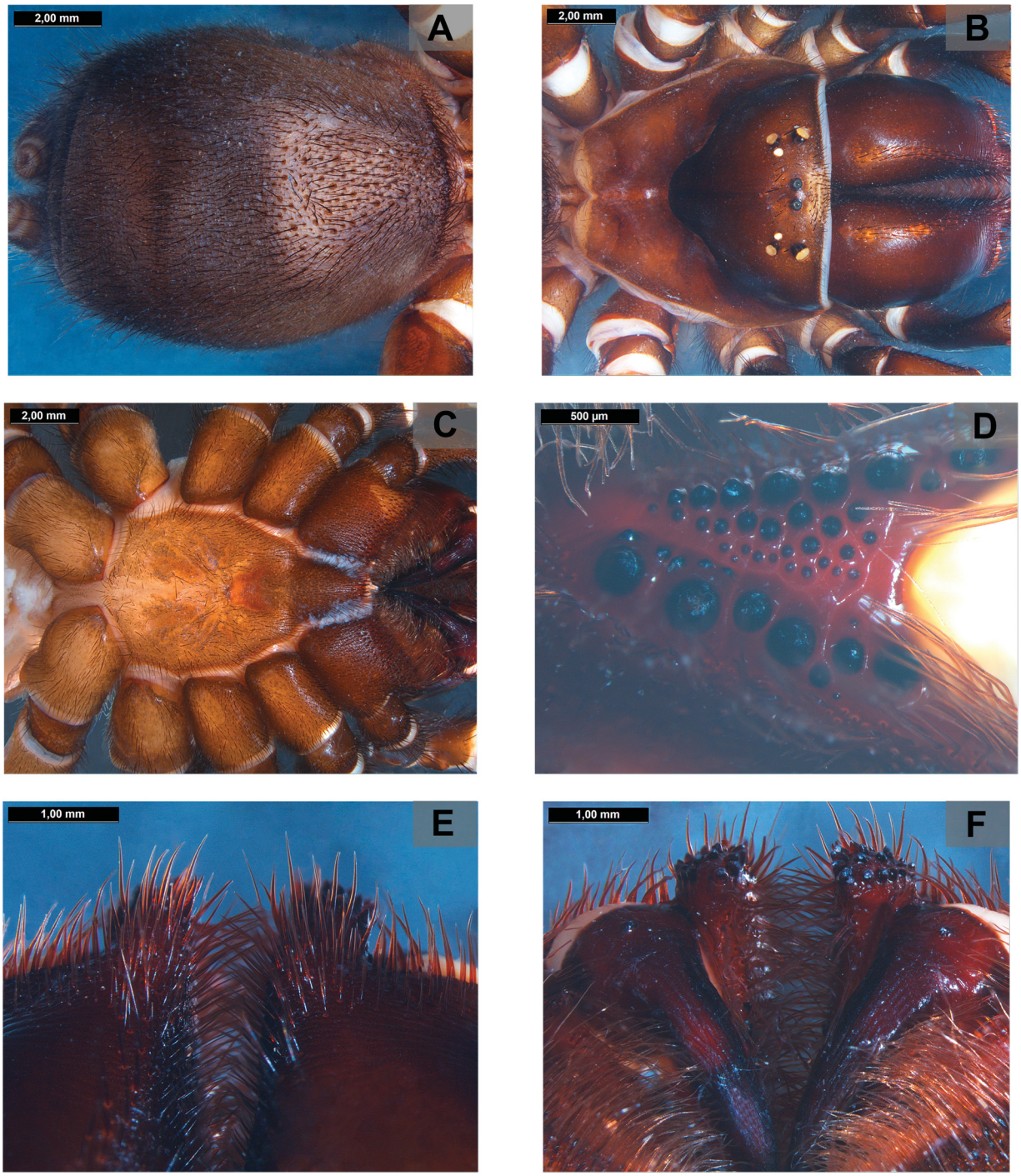


FIGURE 47. *Actinopus pampulha* sp. nov., female: A–F UFMG 6064: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

p0, r0; ti v0-0-3, d0, p0, r0; Me v1-2-3, d0, p0, r0; ta v0, d0, p0-2-2, r0-2-4. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-2-1, d0, p0, r0; Me v0-0-1, d0, p0-1-1, r0; ta v1-2-3, d0, p0-2-2, r1-2-3. III—Fe v0, d0, p0, r0; Pa v0, d0-0-20, p0-0-1, r0; ti v0, d1-0-12, p0, r0; Me v0-0-2, d0-0-1, p1-1-1, r0-0-1; ta v0, d0, p1-2-5, r0-2-6; IV—Fe v0, d0, p0, r0; Pa v0, d15-12-1, p0, r0; ti v0, d0, p0, r0; Me v1-1-0, d0-0-1, p1-1-2, r0; ta v0, d0, p1-6-5, r0-0-3. **Palp:** Wide, short tegulum; PA developed, embolus with three keels (PAc, PI and PS). BTA developed, placed medially on prolateral tegular surface; serrated area developed, positioned distal to PAc and next to base of embolus, with an extension of serrated area with many cusps below embolar bases on retrolateral view; embolar base flattened (Fig. 49 A–C).

FEMALE (UFMG 6064): Total length 19.87; Carapace, long 8.12; wide 8. Carapace anterior part square

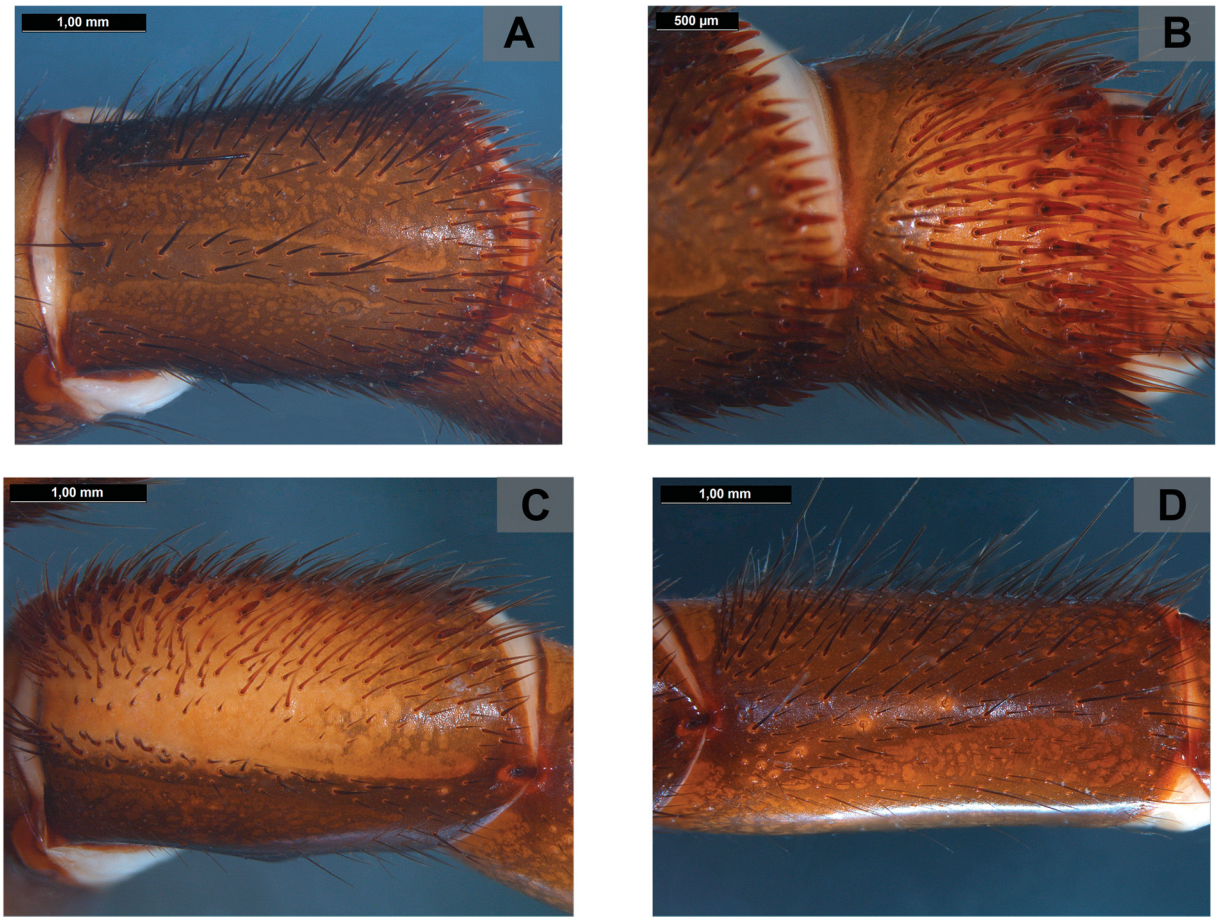


FIGURE 48. *Actinopus pampulha* sp. nov., female: A–D UFMG 6064: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

and posterior part triangular. Anterior eye row procurved, posterior row slightly recurved (Fig. 47 B). Many short and long bristles between AME-clypeus, one long bristle between PLE–ALE, short and long bristles between posterior eyes-fovea and short bristles between lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused to each other than others (Fig. 47 C). Rastellum protuberant, subquadrate, hirsute, with a row of short spines on the edge of rastellum and a lot of short spines covering dorsal rastellum (Fig. 47 E–F). Chelicerae with 24 denticles along prolateral row of teeth. Prolateral row with seven megateeth. Retrolateral row with seven megateeth, five denticles along basal part of retrolateral row and two denticles at inner and outer side of second distal megateeth (Fig. 47 D). Patella III with distal crown of thorns and tibiae III with distal developed curve crown of thorns (Fig. 48 A–B). Patella IV with prolaterodorsal short spines along extension of article (Fig. 48 C). Tibia IV without spines and with long bristles on prolaterodorsal surface (Fig. 48 D). Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi, tarsi and palp reddish brown; Abdomen pale brown with large basal portion of unpigmented area dorsally (Fig. 47 A). 18 labial cuspules, 104 on right maxilla and 96 on left. **Eyes: Diameters:** PME 0.24, PLE 0.40, ALE 0.48, AME 0.2; MOQ: Length 1.32, front width 4.00, back width 3.68; **Interdistances:** PME–PME 2.24, PLE–PME 0.20, AME–AME 0.36, ALE–AME 1.20, ALE–PLE 0.6, AME–PME 0.84. **Ocular area:** OAL 7, OAW 5.12, and IF 3.62. **Body:** Clypeus: 0.62; Fovea: 3.87; Labium: long 1.87; wide 1.75; Chelicerae: long 4.38; wide 3.50; Sternum: long 5.38; wide 4.88. Abdomen: long 10.00; wide 7.38. **Leg measurements:** I: Fe 4.5/ Pa 3.12/ Ti 1.87/ Me 2.87/ Ta 1.62/ total 14. II: 4.75/ 3.12/ 2/ 3/ 1.75/ 14.62. III: 4.37/ 3.62/ 1.5/ 2.75/ 1.37/ 13.62. IV: 5.87/ 3.75/ 3.5/ 3.75/ 1.87/ 18.75. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v1-2-2, d0, p0-0-3, r2-2-1; Me v1-1-3, d0, p4-5-8, r3-8-3; ta v2-2-3, d0, p3-3-2, r5-2-3. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-1-1, d0, p0, r28-37-44; Me v1-3-2, d0, p1-4-4, r24-12-5; ta v2-4-2, d0, p3-5-4, r4-3-1. III—Fe v0, d0, p0, r0; Pa v0, d0-1-28, p0, r0-0-10; ti v0, d1-0-22, p0-0-2, r6-15-8; Me v0-0-3, d6-5-10, p0, r0-4-16; ta v13-15-12, d2-4-2, p0-6-8, r10-10-5; IV—Fe v0, d0, p0,



FIGURE 49. *Actinopus pampulha* sp. nov., male: A–C UFMG 5389: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated area. Paratype, female: D ex-UFMG 6064: D. Spermathecae, dorsal view. Scales lines: 1 mm.

r0; Pa v0, d21-8-5, p0, r0; ti v0, d0, p0, r0; Me v0-0-3, d0, p0-1-4, r0; ta v4-10-8, d0, p0-5-3, r0-0-2. **Spermathecae:** Represented by two seminal receptacles strongly fused to base, longer than wide, with short duct. Receptacles with two or three lobes, asymmetrical on numbers of lobes and shape. Lateral walls of spermathecae describing a delicate lateral swelling (Fig. 49 D).

Distribution. BRAZIL. São Paulo: São José dos Campos, São Francisco Xavier, Itatinga, Mairiporã/ Atibaia, Cajamar, Sorocaba, São Paulo, Itapecerica da Serra and Juquitiba. Minas Gerais: Santa Bárbara, Santana do Riacho, Belo Horizonte, João Monlevale, Marliéria and Ouro Preto. Sergipe: Canindé de São Francisco (Map 4).

Material examined (burned in fire). BRAZIL. Sergipe: Canindé de São Francisco, Rio São Francisco, [09º 37’ 34” S 37º 45’ 22” W], Usina Hidroelétrica Xingó, 1♂, 16.XI.2000 (IBSP 114465). Minas Gerais: Belo Horizonte, Bosque Sossego, [19º 52’ S 43º 58º W], 1♂, II.2001, E. S. S. Álvares leg. (IBSP 114432); 3♂, VIII.2000, E. S. S. Álvares leg. (IBSP 114442); Ouro

Preto, Estação Ecológica do Tripuí, [20° 23’ 45” S 43° 34’ 33” W], 1♂, 2001, H. Guimarães leg. (IBSP 114430); 2♂, 2001, H. Guimarães leg. (IBSP 114435). São Paulo: Sorocaba, [23° 30’ 22.42” S 47° 27’ 21.28” W], 1♂, B. E. Gisinger (IBSP 110582); são Paulo, Parque do Estado, [23° 39’ 14” S 46° 37’ 23” W], 1♂, 26.VIII–1º.VIII.2002, J. R. Valvassori leg. (IBSP 113352); 10–25.X.2003, J. R. Valvassori leg. (IBSP 113338); Parque Estadual do Jaraguá, [23° 27’ 34” S 46° 45’ 57” W], 1♂, 06.XI.2004, R. P. Indicatti leg. (IBSP); Represa do Guarapiranga, Ilha Parque dos Eucaliptos, [23° 43’ 52” S 46° 45’ 15” W], 1♂, R. P. Indicatti leg. (IBSP).

***Actinopus candango* sp. nov.**

Figs 50–54, Map 4

Type material. Holotype male from [15º 49’ 57.18” S 47º 50’ 51.61” W], Lago Paranoá, Norte, 70000, Brasília, Distrito Federal, Brazil, xi.1977, C. T. S. Filho leg. (MZSP

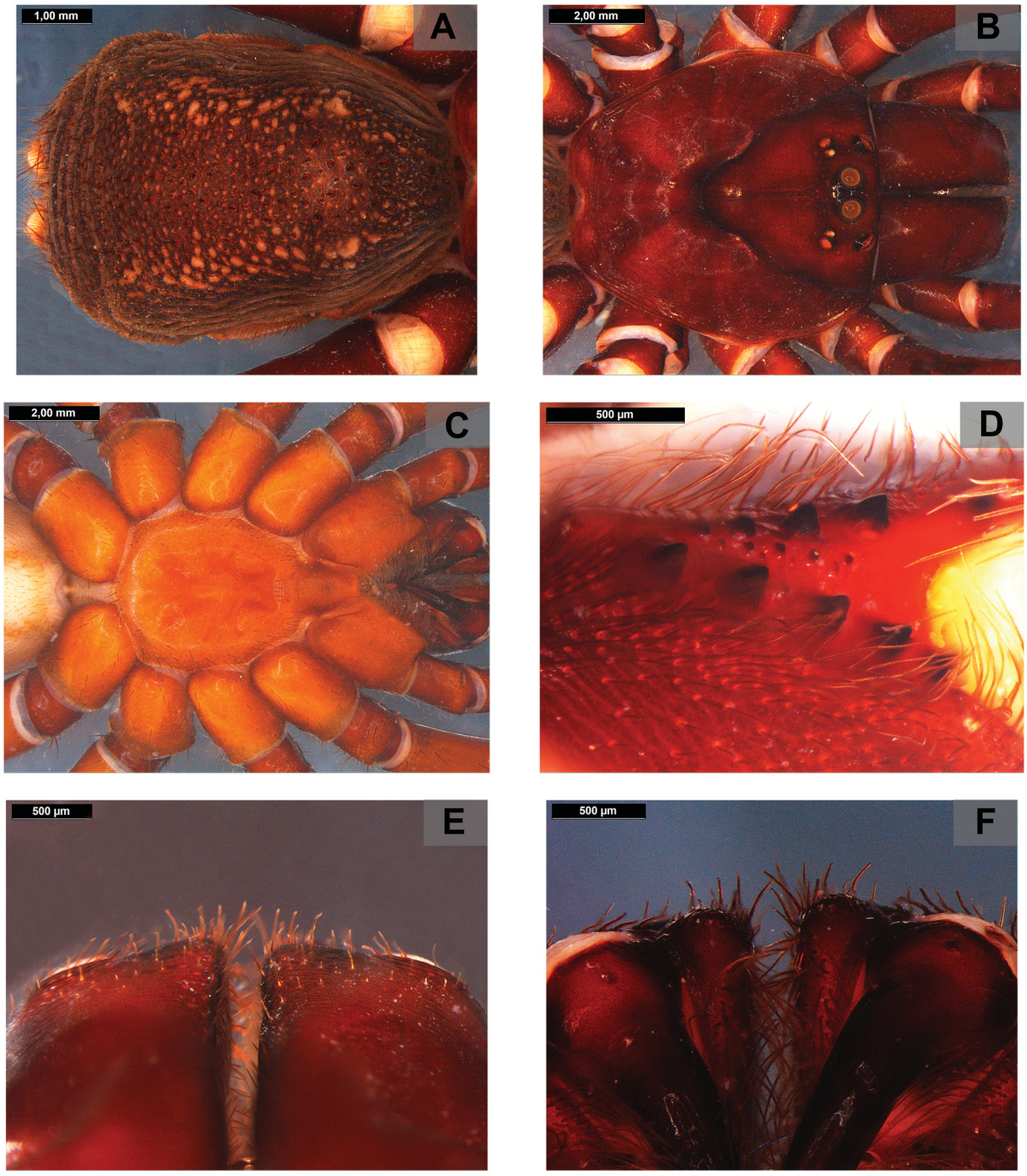


FIGURE 50. *Actinopus candango* sp. nov., male: A–F MZSP 22109: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

22109). **Paratypes:** BRAZIL. Distrito Federal: Brasília, Sobradinho, Área da Marinha, [15º 38' 00.00" S 47º 49' 00.00" W], 1♂, 29–31.x.1999, G. G. Montigelli leg. (IBSP 108003); xi.2005, C. S. Pinto leg. (IBSP 112324); 3♂, 29–31.x.1999, G. G. Montigelli leg. (IBSP 107999); 5♂, 29–31.x.1999, G. G. Montigelli leg. (IBSP 108013); [15º 47' 39" S 47º 52" 55" W], 1♂, 16.ii.1971, W. R. Lourenço leg. (MNRJ 6306); 70000, Norte, Lago Paranoá, [15º 49' 57.18" S 47º 50' 51.61" W], 1♀, xi.1977, C. T. S. Filho leg. (MZSP 22109). Goiás: Rio Verde, [17º 47' 22.28" S 50º 55' 13.54" W], 1♂, 13.xi.1989, J. H. G. Medeiros leg. (IBSP 110489).

Etymology. The specific name is a substantive honoring the candangos, the name given to the workers who constructed the city of Brasília, the type locality.

Diagnosis. Males of *A. candango* resemble those of *A. pampulha* (Fig. 49 A–C) and *A. cornelli* (Fig. 62 A–C) by the wide tegulum and by the short, flattened embolus. Share with *A. cornelli* the keel arrangement, which are equidistant. Males differ from those of all other species of the group *pinhao* by the delicate, small serrated area, present but inconspicuous; keels elongated on prolateral surface, almost reaching the base of PA (Fig. 54 A–C). Females differ from those of other species of the group by the absence of lobes on receptacles, with irregular edges; lateral swollen absent (Fig. 54 D).

MALE (MZSP 22109): Total length 17.38; Carapace, long 6.12; wide 5.62. Carapace rounded. Anterior eye row slightly procurved, posterior row recurved (Fig. 50 B). Only with marks of intersections of bristles on these interdistances: between AME-clypeus, between ALE–ALP and between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially (Fig. 50 C). Rastellum inconspicuous, inverted V-shaped, hirsute, without spines apically (Fig. 50 E–F). Chelicerae with eight denticles along prolateral row of teeth. Prolateral row with five megateeth. Retrolateral row with five megateeth (Fig. 50 D). Patella and tibia III with distal crown of well-developed thorns, not interrupted in middle (Fig. 51 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 51 A, C). Tibia IV without spines on dorsal surface (Fig. 51 D). Ventral pseudoscopulae occupying 10% of tarsus I, 20% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish beige; patella and tibia of palp paler than

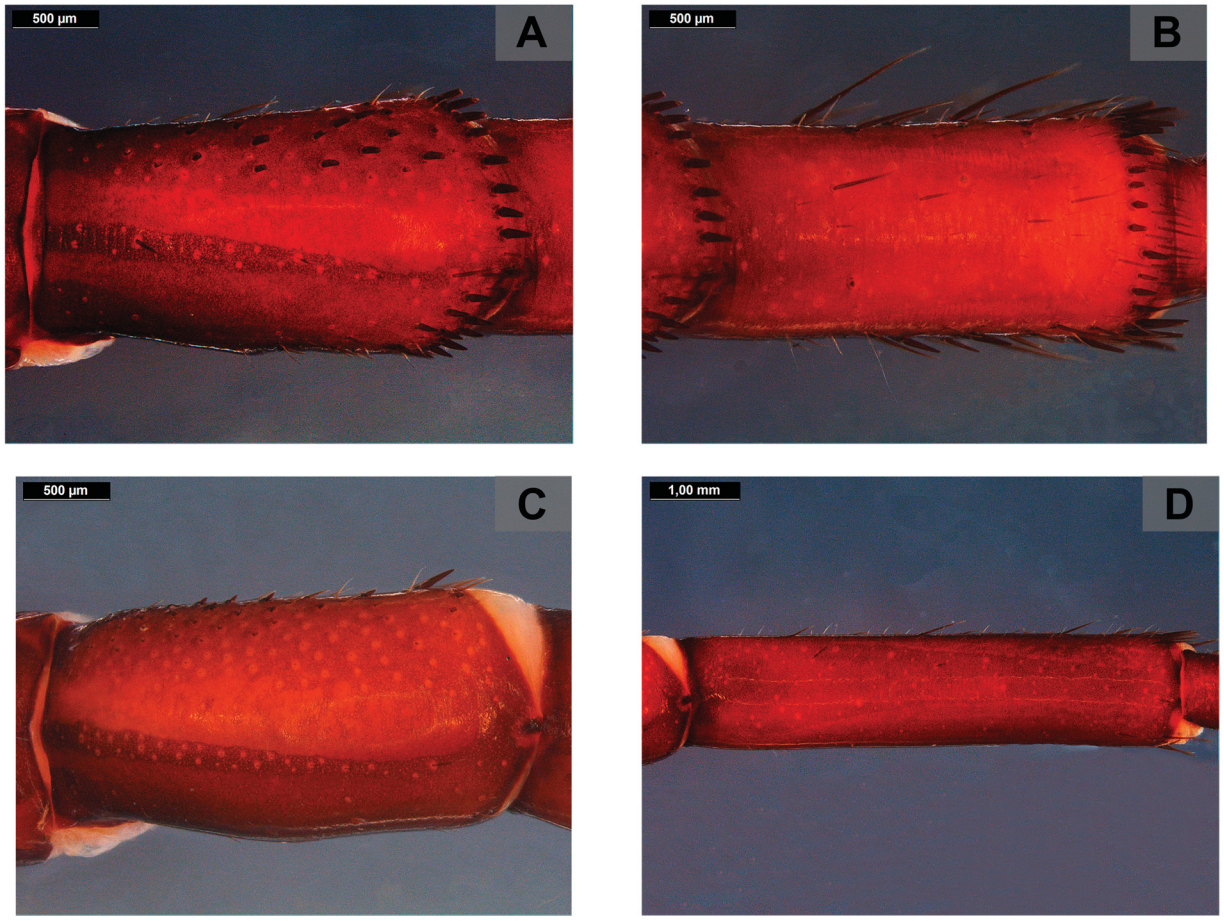


FIGURE 51. *Actinopus candango* sp. nov., male: A–D MZSP 22109: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

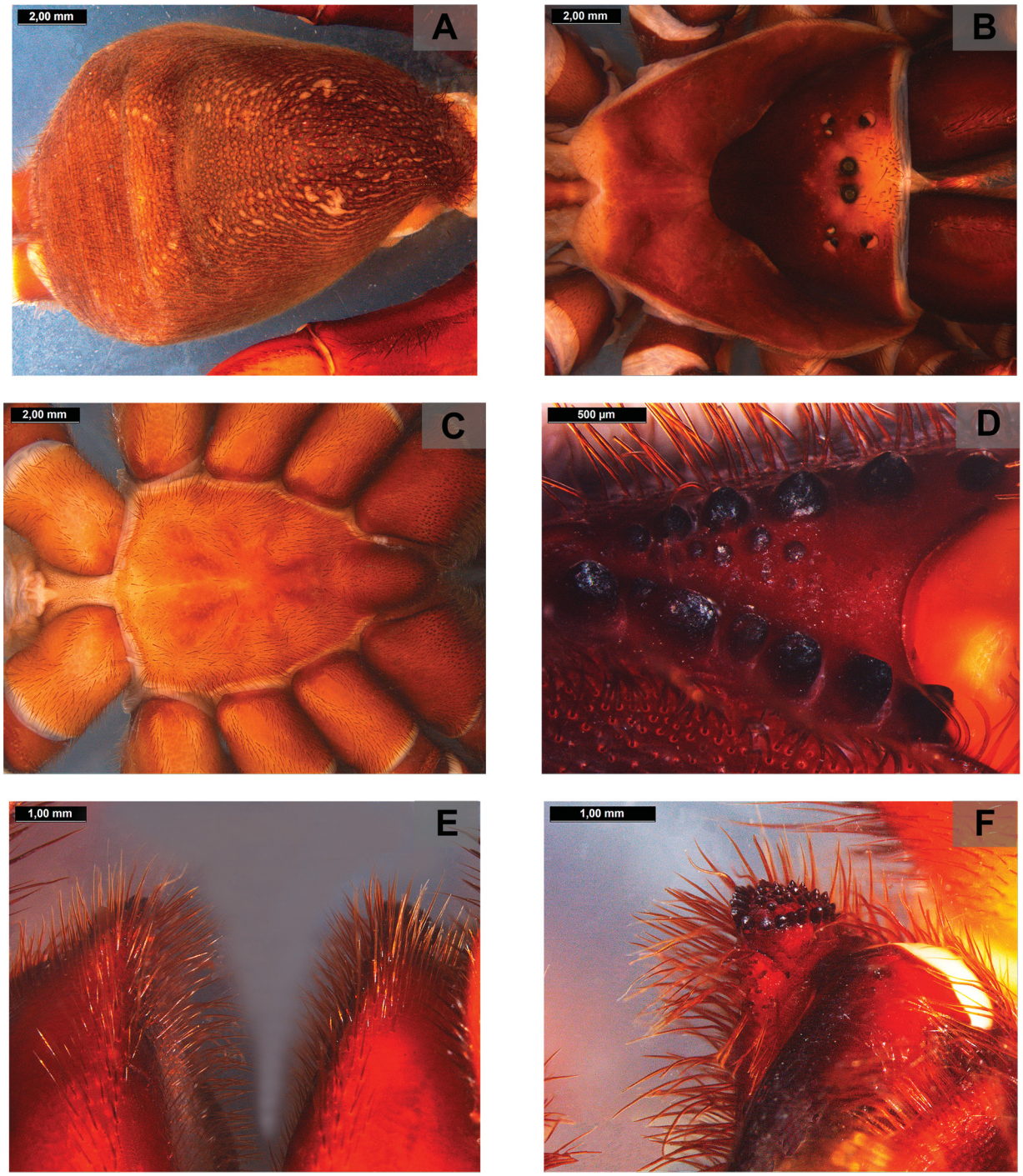


FIGURE 52. *Actinopus candango* sp. nov., female: A–F MZSP 22109: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

other articles, orangish. Abdomen pale gray (Fig. 50 A). **Eyes: Diameters:** PME 0.24, PLE 0.28, ALE 0.48, AME 0.4; MOQ: Length 1.2, front width 2.52, back width 2.4; **Interdistances:** PME–PME 1.6, PLE–PME 0.08, AME–AME 0.28, ALE–AME 0.36, ALE–PLE 0.6, AME–PME 0.4. **Ocular area:** OAL 4.37, OAW 3.75, and IF 2.37. **Body:** Clypeus: 0.25; Fovea: 2.62; Labium: long 1.37; wide 1.25; Chelicerae: long 2.25; wide 1.87; Sternum: long 5.25; wide 4.75. Abdomen: long 6; wide 4.37. **Leg measurements:** I: Fe 6.25/ Pa 2.62/ Ti 2.87/ Me 4.25/ Ta 2.62/ total 18.62. II: 6.25/ 2.75/ 3.62/ 4.12/ 2.5/ 19.25. III: 4.87/ 2.75/ 2.75/ 4.37/ 2.75/ 17.5. IV: 6.37/ 3/ 5.25/ 5/ 3.12/ 22.75. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-0-3, d0, p0-0-1, r0-0-2; Me v2-3-2, d0, p0-1-1, r1-4-3; ta v0-2-5, d0, p0-1-3, r2-3-5. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0, r0-0-

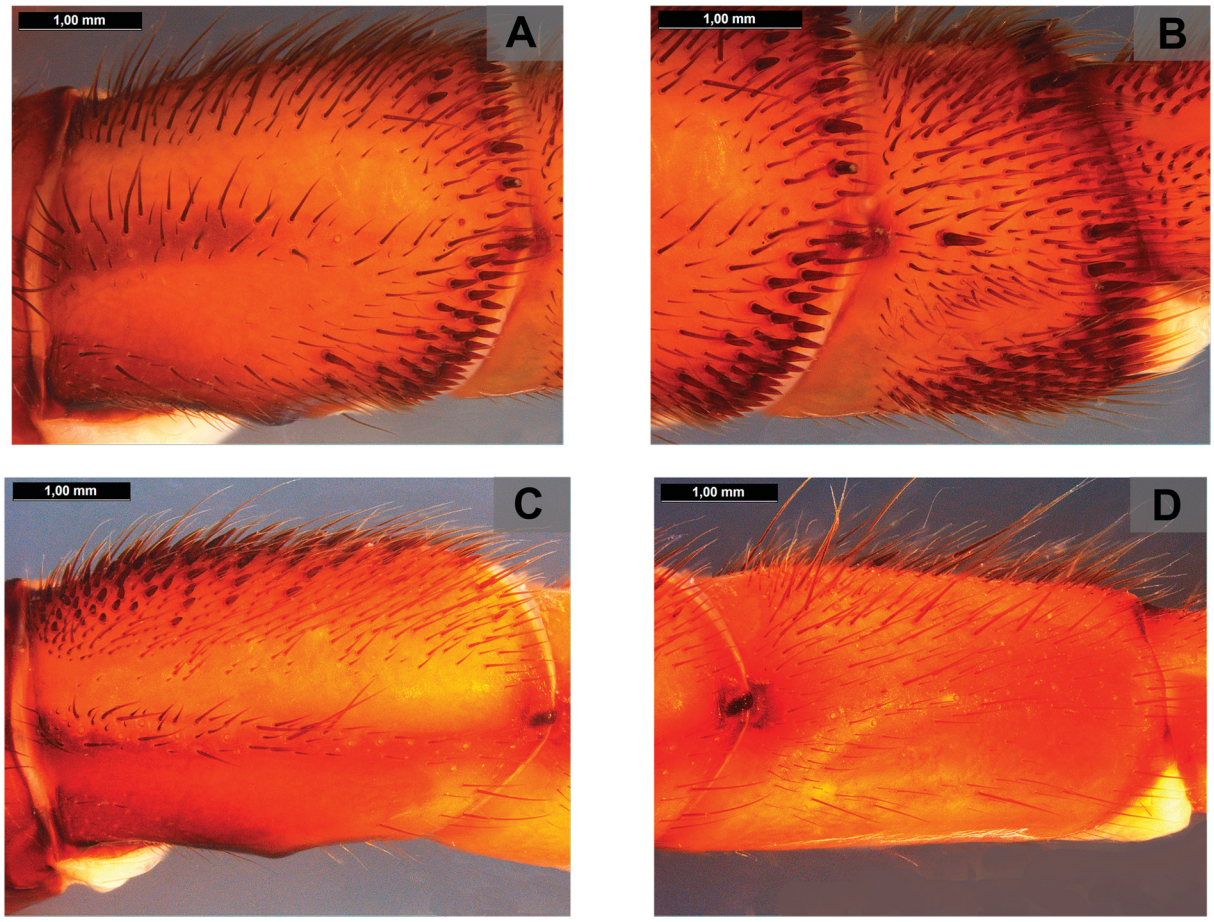


FIGURE 53. *Actinopus candango* sp. nov., female: A–D MZSP 22109: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

2; Me v0-4-2, d0, p0-1-2, r0-1-3; ta v0-5-5, d0, p0-3-3, r2-3-3. III—Fe v0, d0, p0, r0; Pa v0, d4-6-21, p0-0-2, r0-0-3; ti v0, d0-1-14, p0-0-2, r0-2-3; Me v0-1-5, d3-2-0, p1-3-1, r1-2-4; ta v0, d0, p1-10-12, r2-4-6; IV—Fe v0, d0, p0, r0; Pa v0, d20-12-8, p0, r0; ti v0-0-2, d0, p0, r0; Me v0-2-3, d0, p0-0-2, r0-3-2; ta v0, d0, p1-6-7, r0-1-3. **Palp:** Wide, short tegulum; PA developed, embolus with three keels (PAc, PI and PS). BTA developed, placed medially on prolateral tegular surface; serrated area positioned distal to PAc, next to base of embolus, represented by few small cusps; embolar base flattened (Fig. 54 A–C).

FEMALE (MZSP 22109): Total length 27.87; Carapace, long 10.5; wide 9.62. Carapace anterior part square and posterior part triangular. Anterior eye row procurved, posterior row slightly recurved (Fig. 52 B). Many short and long bristles between AME-clypeus, between PLE–ALE, between posterior eyes-fovea and between lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, all sigilla very fused to each other (Fig. 52 C). Rastellum protuberant, subquadrate, hirsute, with row of short spines on edge of rastellum and many short spines covering dorsal rastellum (Fig. 52 E–F). Chelicerae with eight denticles along prolateral row of teeth. Prolateral row with five megateeth and one tooth, basal to megateeth. Retrolateral row with five megateeth and two teeth between three basal megateeth (Fig. 52 D). Patella and tibia III with distal interrupted crowns of thorns (Fig. 53 A–B). Patella IV with prolaterodorsal short spines along extension of article (Fig. 53 C). Tibia IV without spines and with long bristles on prolaterodorsal surface (Fig. 53 D). Carapace, chelicerae, sternum, coxae, trochantera and femora reddish-brown; patellae, tibiae, metatarsi, tarsi of legs and palp yellowish-brown; abdomen pale brown with portions of unpigmented area in dorsal view (Fig. 52 A). 37 labial cuspules, 143 on right maxilla and 154 on left. **Eyes: Diameters:** PME 0.28, PLE 0.48, ALE 0.52, AME 0.32; MOQ: Length 1.72, front width 4.12, back width 4.12; **Interdistances:** PME–PME 2.6, PLE–PME 0.16, AME–AME 0.52, ALE–AME 1.36, ALE–PLE 0.92, AME–PME 0.88. **Ocular area:** OAL 8.12, OAW 6.25, and IF 4. **Body:** Clypeus: 1; Fovea: 4.87; Labium: long 2.75; wide 2.37; Chelicerae: long 6.12; wide 3.75; Sternum: long 9; wide 8.5. Abdomen: long 14.75; wide 8.87. **Leg measurements:** I: Fe 4.12/ Pa

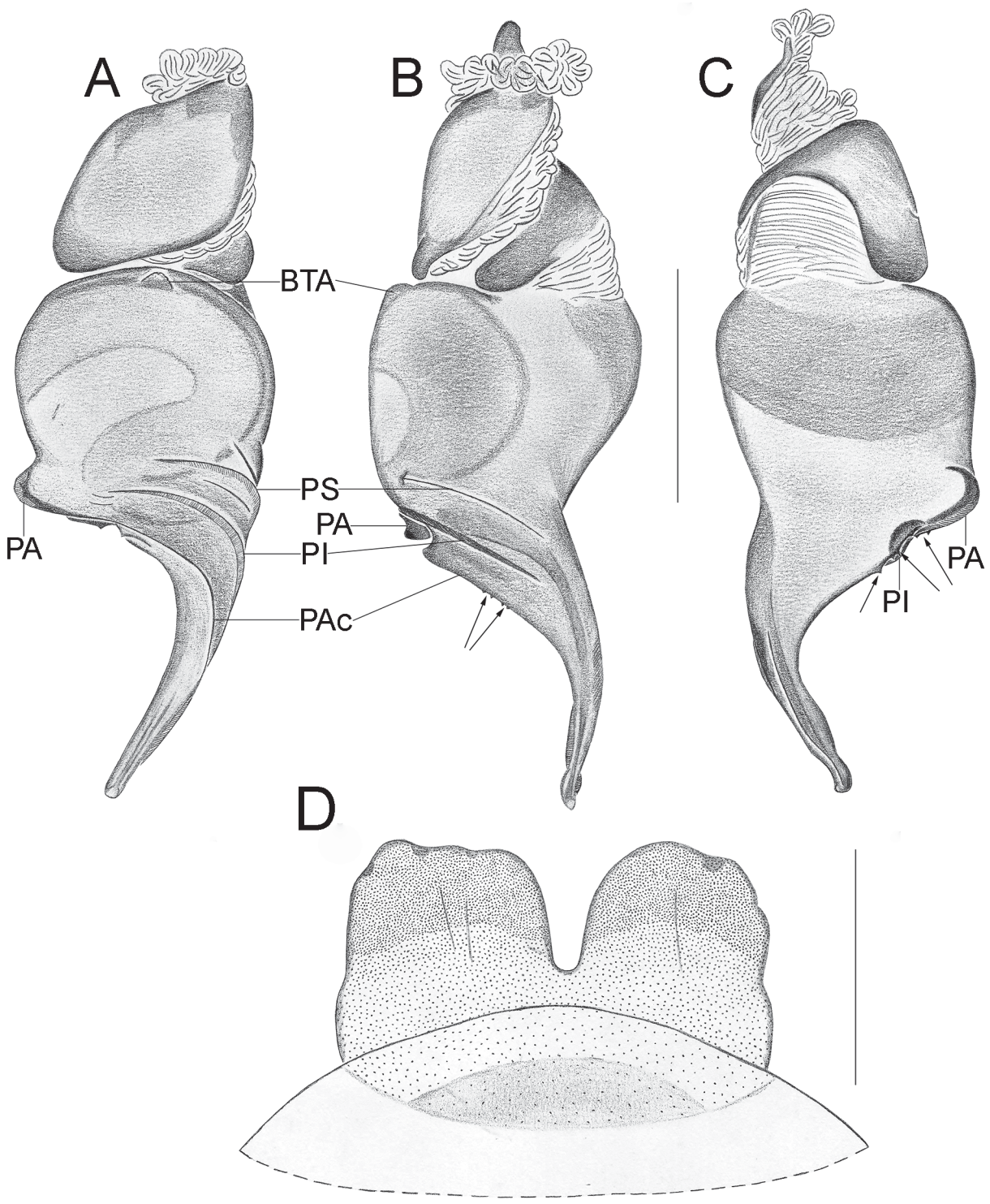


FIGURE 54. *Actinopus candango* sp. nov., male: A–C MZSP 22109: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated area. Paratype, female: D MZSP 22109: D. Spermathecae, dorsal view. Scales lines: 1 mm.

3.75/ Ti 2.75/ Me 3.12/ Ta 2.75/ total 16.5. II: 5.25/ 3.75/ 2.12/ 2.12/ 1.87/ 15.12. III: 4.37/ 4.25/ 1.62/ 3.75/ 1.5/ 15.5. IV: 6.25/ 4.5/ 3.75/ 4.37/ 1.62/ 20.5. Formula 4123.

Spination: I—Fe v0, d0, p0, r0; Pa v0-0-1, d0, p0, r0; ti v2-0-3, d0, p0-1-4, r8-11-10; Me v1-0-1, d0, p4-3-2, r1-5-2; ta v0-0-2, d0, p3-4-2, r5-3-2. II—Fe v0, d0, p0, r0; Pa

v0, d0, p0, r0; ti v3-6-5, d0, p0, r17-22-26; Me v2-2-3, d0, p5-6-5, r5-8-6; ta v2-3-5, d0, p3-4-4, r0-0-3. III—Fe v0, d0, p0, r0; Pa v0, d0-0-30, p0, r0-1-26; ti v0, d1-0-15, p0, r57-62-76; Me v0-2-6, d0, p4-8-11, r15-8-4; ta v36-25-20, d0-4-1, p15-8-8, r1-0-2; IV—Fe v0, d0, p0, r0; Pa v0, d38-17-12, p0, r0; ti v0, d0-1-0, p0-0-1, r0; Me v0-0-3, d0-2-3, p0-1-2, r0-2-3; ta v12-16-14, d0, p0-7-10, r0-0-4. **Spermathecae:** Represented by two seminal receptacles weakly fused to base, longer as wide, with short duct. No lobes on receptacles or lateral swelling (Fig. 54 D).

Distribution. BRAZIL. Distrito Federal: Brasília. Goiás: Rio Verde (Map 4).

Actinopus paraitinga sp. nov.

Figs 55–59, Map 4

Type material. Holotype male from [23° 24' 18" S 45° 15' 51" W], Parque Estadual Serra do Mar, Núcleo Santa Virgínia, São Luiz do Paraitinga, São Paulo, Brazil, 19.i.2005, Prado leg. (IBSP 113424). **Paratypes:** BRAZIL.

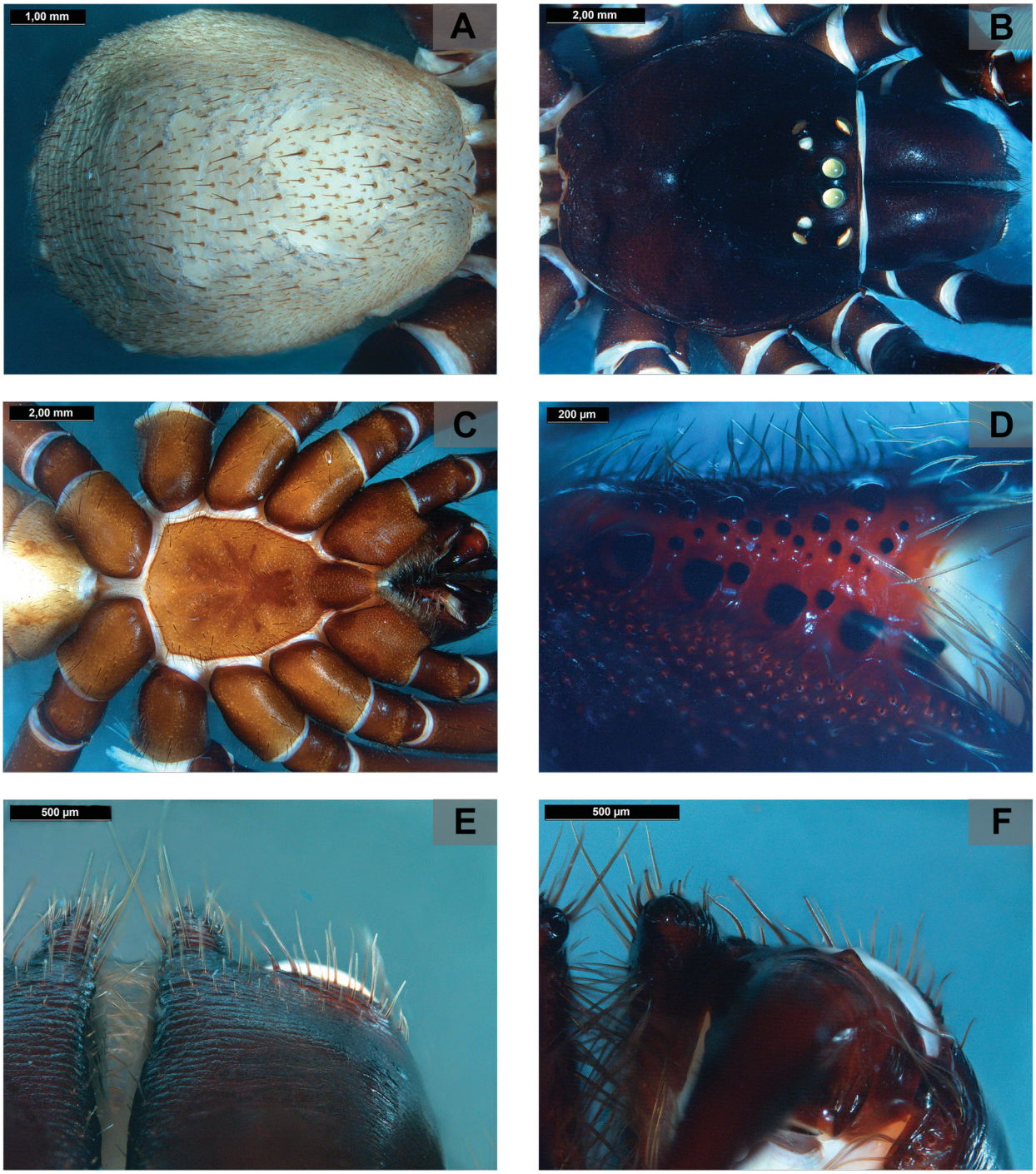


FIGURE 55. *Actinopus paraitinga* sp. nov., male: A–F IBSP 113424: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

Goiás: Padre Bernardo, Fazenda Santa Clara, [15º 10' 04" S 48º 17' 04" W], 1♂, D. Brureville leg. (MNRJ 6795). Minas Gerais: Belo Horizonte, Bairro Gamaleira, [19° 56' S 45° 59' W], 1♂, 24.ix.1999 (UFMG 581); Viçosa, Bairro de Lourdes, [20º 45' 21" S 42º 52' 59" W], 1♂, 22.i.2002, B. de S. Lima leg. (MNRJ 6789); Campus da Universidade Federal de Viçosa (UFV), Villa Gianetti 21, Varanda, [20º 45' 51" S 42º 52' 05" W], 1♂, 26.i.1990, M. A. M. Rocha leg. (MNRJ 6794). Rio de Janeiro: Macaé, Parque Natural Municipal Atalaia, [22° 17' S 42° 28' W], 2♂, 04.ix.2010, G. Costa leg. (UFRJ 6464); Cachoeiras do Macacu, Reserva Biológica de Guapiaçu, 22° 25' 45" S 2° 44' 62" W, 1♂ e 1j, 8–12.xi.2001, A. Giupponi leg. (MNRJ 3555); Pinheiral, [22° 31' S 43° 59' W], 2♂ e 1♀, M. Mello leg. (MNRJ 1). São Paulo: São Luiz do Paraitinga, [23° 13' S 45° 18' W] 1♂, 28.ii–1º.iii.2005, I. Messina leg. (IBSP 112998); 3♂, 28.ii–1º.iii.2005, I. Messina col. (IBSP 112999, one removed for SEM); 1♂ e 1♀, 28.ii–1º.iii.2005, I. Messina leg. (IBSP 113000); Parque Estadual Serra do Mar, Núcleo Santa Virgínia, [23° 24' 18" S 45° 15' 51" W], 1♂, 19.i.2005, Prado leg. (IBSP 113419, 113420, 113421, 113422, 113423, 113424).

Etymology. The specific name is a noun in apposition from the type locality name.

Diagnosis. Males of *A. paraitinga* differ from those of most species of the genus by the delicate embolus and notable BTA placed medially on prolateral tegular surface. Males differ from those of all other species of the group by the tegulum with a swelling, above PA (visible on both prolateral and retrolateral views) and by the thinner embolus (Fig. 59 A–C). Females differ from those of other species by a unique combination of characters: two receptacles, each with two lobes; external lobe subtriangular, bigger than internal lobe and the presence on external lateral wall of each receptacle with a slight swelling (Fig. 59 D).

MALE (IBSP 113424): Total length 12.12; Carapace, long 6.25; wide 6.25. Carapace anterior part tapering. Anterior eye row slightly procurved, posterior row recurved (Fig. 55 B). Six bristles between AME-clypeus. Sternum with eight sigilla fused medially, all sigilla strongly demarcated and fused to each other (Fig. 55 C) Rastellum protuberant, inverted V-shaped, hirsute, with two spines apically (Fig. 55 E–F). Chelicerae with denticles along prolateral row of teeth. Prolateral row with five megateeth and two denticles. Retrolateral row with five megateeth and three teeth between three basal megateeth (Fig. 55 D). Patella and tibia III with distal crown of well-developed

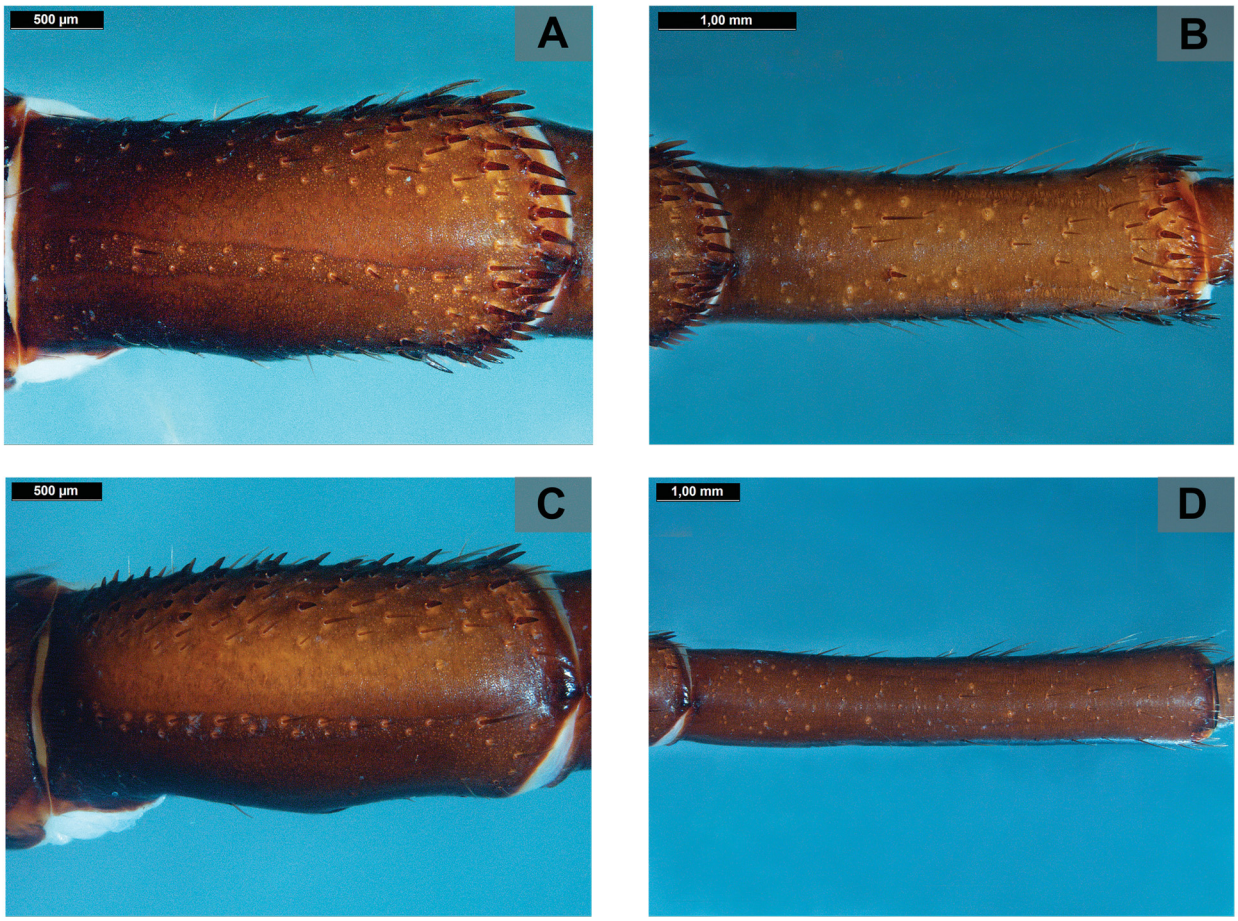


FIGURE 56. *Actinopus paraitinga* sp. nov., male: A–D IBSP 113424: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

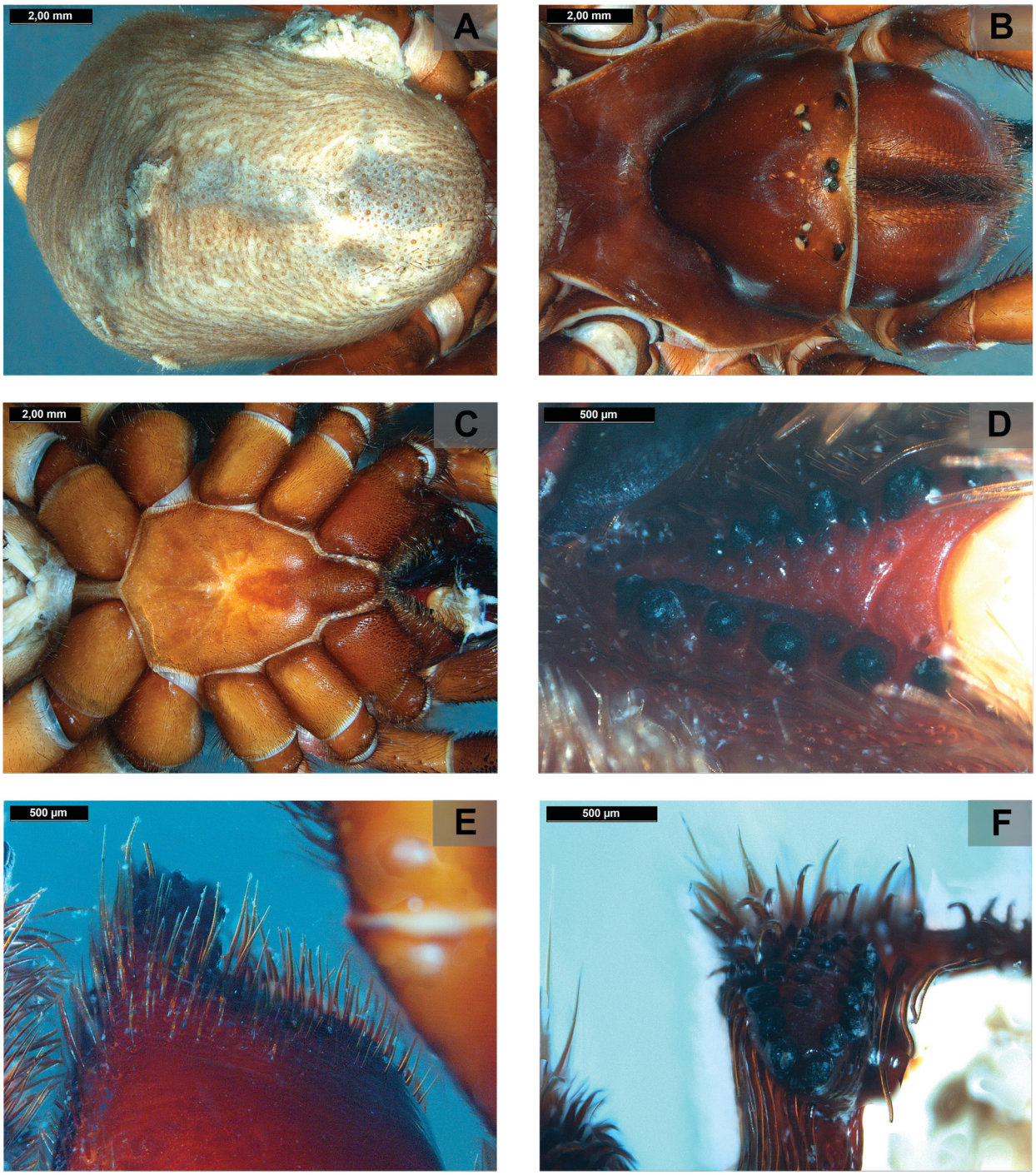


FIGURE 57. *Actinopus paraitinga* sp. nov., female: A–F MNRJ 1: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

thorns, not interrupted in middle (Fig. 56 A–D). Patellae III and IV with spines on prolaterodorsal face (Figs. 56 A, C). Patella IV with prolaterodorsal short spines along extension of article (Fig. 56 D). Ventral pseudoscopulae occupying 30% of tarsi I, 40% of II and 100% of III and IV, and occupying 15% of metatarsi I. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish brown, tibia of palp yellow and abdomen pale brown (Fig. 55 A). **Eyes: Diameters:** PME 0.3 PLE 0.4; ALE 0.5; AME 0.4; MOQ: Length 1.25, front width 2.7, back width 2.55; **Interdistances:** PME–PME 1.35, PLE–PME 0.15, AME–AME 0.2, ALE–AME 0.55, ALE–PLE 0.6,

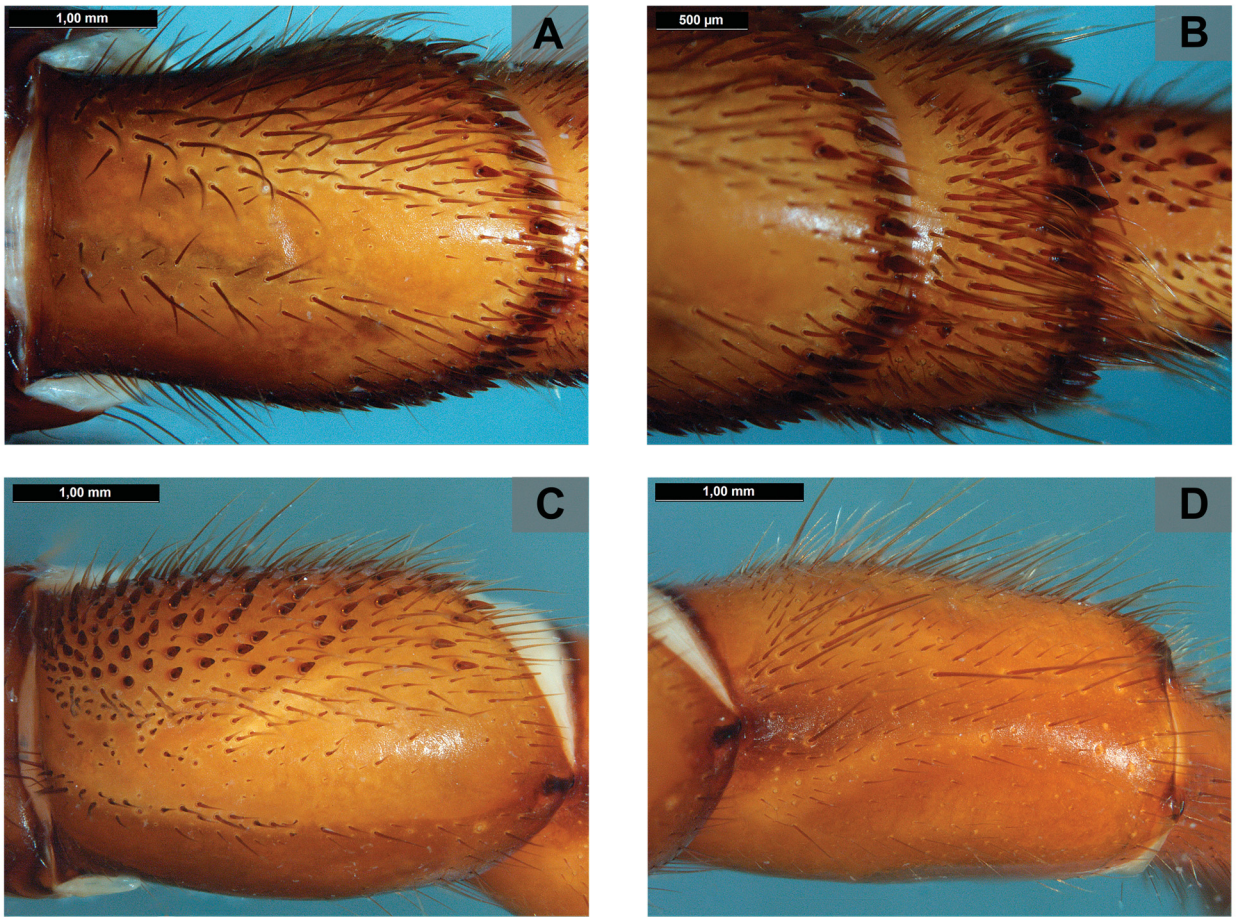


FIGURE 58. *Actinopus paraitinga* sp. nov., male: A–D MNRJ 1: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

AME–PME 0.45. **Ocular area:** OAL 4.25, OAW 3.55, and IF 1.55. **Body:** Clypeus: 0.37; Fovea: 2.32; Labium: long 1.58; wide 1.08; Chelicerae: long 3.08; wide 1.83; Sternum: long 4.3; wide 3.4. Abdomen: long 4.9; wide 3.9. **Leg measurements:** I: Fe 7.25/ Pa 2.87/ Ti 4.37/ Me 5/ Ta 3.12/ total 22.62. II: 7.25/ 3/ 9.5/ 5.37/ 3/ 28.12. III: 7.37/ 3/ 3.37/ 8/ 3.37/ 25.12. IV: 7.75/ 3.12/ 6.37/ 5.75/ 3.87/ 26.87. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-3-5, d0, p0-0-1, r0-0-4; Me v1-7-5, d0, p1-2-4, r3-3-3; ta v0-0-2, d0, p1-3-5, r3-5-9. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v1-1-7, d0, p0, r0-6-10; Me v2-8-12, d0, p1-3-3, r5-3-4; ta v0-1-3, d0, p2-4-3, r4-5-14. III—Fe v0, d0, p0, r0; Pa v0, d1-3-29, p0-1-3, r0-0-2; ti v0-0-7, d0-1-11, p0-0-2, r0-2-9; Me v1-15-18, d0, p2-1-1, r4-5-5; ta v0-0-5, d0, p4-7-10, r6-14-15; IV—Fe v0, d0, p0, r0; Pa v0, d20-15-9, p2-0-1, r0; ti v2-2-7, d0, p0, r0; Me v6-8-14, d0, p0-1-4, r0-0-2; ta v0-0-4, d0, p4-8-11, r3-9-18. **Palp:** PA well developed, embolus with three keels (PAc, PI and PS). Basal surface of tegulum with swelling above PA. BTA well developed, placed medially on prolateral tegular surface; prolateral tegulum serrated next to base of embolus; embolar base thin (Fig. 59 A–C).

FEMALE (MNRJ 1): Total length 12.37; Carapace, long 7.37; wide 7.5. Carapace anterior part square. Anterior eye row slightly procurved, posterior row recurved. Short bristles between AME-clypeus, one long bristle between PLE–ALE, short and long bristles between posterior eyes-fovea and short bristles between lateral eyes-edge of carapace (Fig. 57 B). Sternum with eight sigilla strongly fused medially, all sigilla very fused to each other (Fig. 57 C). Rastellum protuberant, subquadrate, hirsute, with row of spines on edge of rastellum and many spines on dorsal rastellum (Fig. 57 E–F). Chelicerae with denticles along prolateral row of teeth. Prolateral row with four megateeth and two teeth between three basal megateeth. Retrolateral row with five megateeth and four teeth between four basal megateeth (Fig. 57 D). Patella and tibia III with distal developed crowns of thorns (Fig. 58 A–B). Patella IV with prolaterodorsal spines along extension of article (Fig. 58 C). Tibia IV without spines along extension of article (Fig. 58 D). Carapace, chelicerae, sternum, coxae,

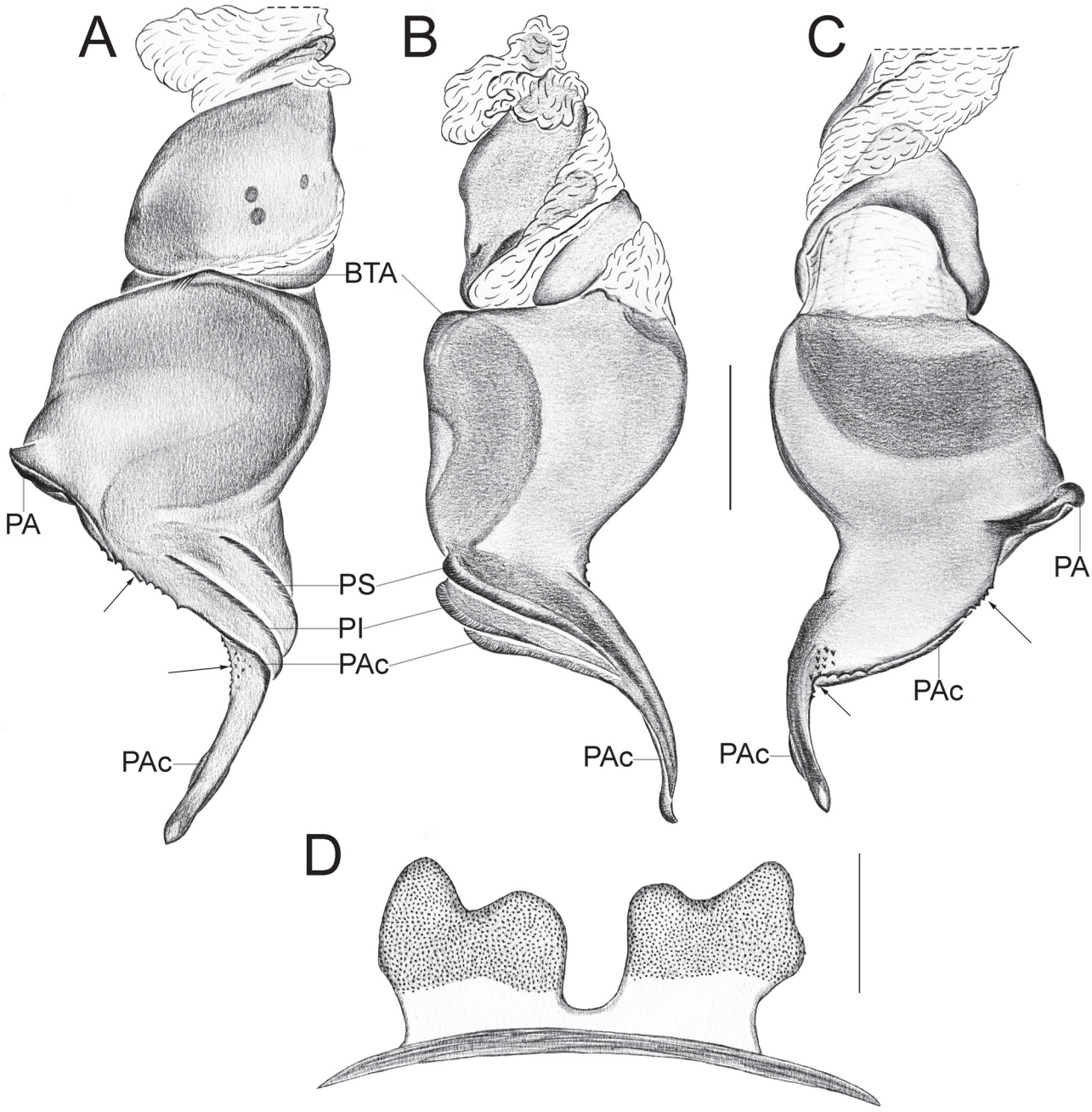


FIGURE 59. *Actinopus paraitinga* sp. nov., male: A–C IBSP 113424: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated area. Paratype, female: D MNRJ 1: D. Spermathecae, dorsal view. Scale line: 0.5 mm.

trochantera, femora, patellae, Tibia, metatarsi, tarsi and palp reddish brown, and abdomen pale gray (Fig. 57 A). 32 labial cuspules, 134 on right maxilla and 147 on left. **Eyes: Diameters:** PME 0.24 PLE 0.4 ALE 0.4, AME 0.16; MOQ: Length 1.32, front width 4.08, back width 3.52; **Interdistances:** PME–PME 2.12, PLE–PME 0.12, AME–AME 0.16, ALE–AME 1.72, ALE–PLE 0.92, AME–PME 0.96. **Ocular area:** OAL 6.5, OAW 4.37, and IF 2.62. **Body:** Clypeus: 0.37; Fovea: 3.87; Labium: long 1.62; wide 1.5; Chelicerae: long 3.25; wide 2.87; Sternum: long 5.37; wide 4.75. Abdomen: long 11.87; wide 9.25. **Leg measurements:** I: Fe 3.5/ Pa 2.75/ Ti 2/ Me 2.62/ Ta 1.25/ total 12.12. II: 3.5/ 3/ 2.12/ 2.87/ 0.87/ 12.37. III: 4.12/ 2.87/ 0.75/ 3/ 1.12/ 11.87. IV: 5/ 3/ 3.12/ 3.25/ 1.25/ 15.62. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0-2-4, r3-11-8; Me v1-1-3, d0, p9-8-7, r6-8-6; ta v0-0-2, d0, p4-3-2, r5-5-6. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-2-0, d0, p0-0-

1, r14-45-27; Me v0-0-1, d0, p5-9-8, r13-11-6; ta v0-1-4, d0, p6-7-3, r7-6-6. III—Fe v0, d0, p0, r0; Pa v0, d0-3-41, p0, r0-1-35; ti v0, d1-0-22, p0-0-4, r2-22-17; Me v0-3-8, d0-0-3, p6-3-4, r5-15-10; ta v23-22-20, d0, p7-8-9, r5-14-9; IV—Fe v0, d0, p0, r0; Pa v0, d29-31-10, p0-1-0, r0; ti v0, d0, p0, r0; Me v0-0-2, d0-0-1, p1-7-7, r0; ta v5-13-9, d0, p3-11-9, r0-0-2. **Spermathecae:** Seminal receptacles slightly asymmetrical, as long as wide, with short ducts. Receptacles bilobed, external lobe subtriangular, bigger than internal one. Pore distribution reaching apical half of each receptacle (Fig. 59 D).

VARIATION

MALES (n=10): **Eyes: Diameters:** PME 0.24–0.32, PLE 0.28–0.40, ALE 0.44–0.60, AME 0.36–0.56; MOQ: Length 1.08–1.25, front width 2.6–3.2, back width 2.44–2.84; **Interdistances:** PME–PME 1.24–1.72, PLE–PME 0.08–0.16, AME–AME 0.16–0.28, ALE–AME 0.48–0.72, ALE–PLE 0.4–0.64, AME–PME 0.32–0.52. **Ocular area:** OAL 3.87–5, OAW 3.37–4.8, and IF 1.55–2.83. **Body:** Total length: 11.37–15.50; Carapace: long 5.5–7.2; wide 5.62–6.87; Clypeus: 0.12–0.37; Fovea: 1.95–2.75; Labium: long 1.05–1.58; wide 1–1.25; Chelicerae: long 1.1–3.08; wide 1.2–2.37; Sternum: long 3.6–4.75; wide 3–4. Abdomen: long 4.9–7.25; wide 3.87–5.87. **Leg measurements:** I: Fe 5.12–8/ Pa 2.37–3.25/ Ti 3.62–5/ Me 4–5.62/ Ta 2.37–3.62/ total 17.75–24.75. II: 5.62–7.75/ 2.5–3.25/ 3.62–9.5/ 4.25–5.87/ 2.75–3.5/ 18,62–28.12. III: 4.37–7.37/ 2.5–3.37/ 2.62–4/ 4.62–8/ 2.75–4.12/ 17–25.12. IV: 6–8.5/ 2.75–3.62/ 5.12–7/ 5–7.25/ 2.75–4.37/ 21.62–30.75. FEMALES (n=2): **Eyes: Diameters:** PME 0.24–0.32, PLE 0.36–0.4, ALE 0.4–0.48, AME 0.16–0.2; MOQ: Length 1.32–1.4, front width 3.6–4.08, back width 3.24–3.52; **Interdistances:** PME–PME 1.88–2.12, PLE–PME 0.12–0.16, AME–AME 0.16–0.4, ALE–AME 1.12–1.72, ALE–PLE 0.8–0.92, AME–PME 0.72–0.96. **Ocular area:** OAL 5.9–6.5, OAW 4.37–4.7, and IF 2.6–2.62. **Body:** Total length: 13.9; Carapace: long 7.37–8.25; wide 7–7.5; Clypeus: 0.37–0.5; Fovea: 3.62–3.87; Labium: long 1.62–1.7; wide 1–1.5; Chelicerae: long 3.25–4.25; wide 2.75–2.87; Sternum: long 5.37–5.4; wide 4.5–4.75. Abdomen: long 11.87; wide 9.25. **Leg measurements:** I: Fe 3.5–4.25/ Pa 2.75–2.87/ Ti 2/ Me 2.5–2.62/ Ta 1.25–1.37/ total 12.12–13. II: 3.5–4.37/ 2.87–3/ 2.12/ 2.75–2.87/ 0.87–1.37/ 12.37–13.5. III: 4–4.12/ 2.87–3.37/ 0.75–1.62/ 3–3.12/ 1.12/ 11.87–13.25. IV: 5–5.5/ 3–3.5/ 3.12/ 3.25–3.62/ 1.25–1.37/ 15.62–17.12. Formula 4123. **Distribution.** BRAZIL: Goiás: Padre Bernardo. São Paulo: São Luiz do Paraitinga. Minas Gerais: Belo Horizonte and Vioçosa. Rio de Janeiro: Macaé, Cachoeiras do Macacu and Pinheiral (Map 4).

Actinopus cornelli sp. nov.

Figs 60–62, Map 4

Type material. Holotype male from [50° 53’ 53” S 30° 08’ 08” W], Águas Claras, Viamão, Rio Grande do Sul, Brazil, 18.iv.1993, F. Rodolpho leg. (MCN 23400).

Etymology. The specific name is a patronym honoring musician Chris Cornell, one of the founders of grunge music.

Diagnosis. The male resembles those of *A. pampulha* (Fig. 49 A–C) and *A. candango* (Fig. 54 A–C) by the wide tegulum and short, flattened embolus. The male differs from those of *A. candango* by the short keels on prolateral tegulum, with PS and PI not reaching the middle of the prolateral tegular surface. It differs from those of all other species of the group *pinhao* by the long PAc, reaching the embolar apex, and median fold of tegular reservoir with wrinkled edges in prolateral view (Fig. 62 A–C).

MALE (MCN 23400): Total length 13.5; Carapace, long 6.25; wide 6.63. Carapace anterior part tapering and posterior part tapering. Anterior eye row slightly procurved, posterior row recurved (Fig. 60 B). With few short bristles between AME-clypeus, between ALE–ALP, between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 60 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines apically (Fig. 60 E–F). Chelicerae with 19 denticles along prolateral row of teeth. Prolateral row with five megateeth. Retrolateral row with six megateeth and five denticles between those megateeth (Fig. 60 D). Patella and tibia III with distal crown of well-developed thorns, on patella III interrupted in middle and on tibia III not interrupted in middle (Fig. 61 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 61 A, C). Tibia IV without spines on dorsal surface (Fig. 61 D). Ventral pseudoscopulae occupying 50% of tarsus I, 70% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; on tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish-dark-brown; abdomen gray, with long bristles covering dorsal surface (Fig. 60 A). **Eyes: Diameters:** PME 0.28, PLE 0.4, ALE 0.60, AME 0.28; MOQ: Length 0.88, front width 3.24, back width 3.08; **Interdistances:** PME–PME 1.56, PLE–PME 0.20, AME–AME 0.32, ALE–AME 0.88, ALE–PLE 1.08, AME–PME 0.48. **Ocular area:** OAL 3.37, OAW 4.75, and IF 3.25. **Body:** Clypeus: 0.37; Fovea: 2.87; Labium: long 1.5; wide 1.37; Chelicerae: long 3.5; wide 2; Sternum: long 4.12; wide 4. Abdomen: long 6.62; wide 5.25. **Leg measurements:** I: Fe 5.87/ Pa 2.5/ Ti 2.75/ Me 4.75/ Ta 5.25/ total 21.12. II: 5.75/ 2.75/ 3.5/ 4.75/ 2.87/ 19.62. III: 5/ 2.75/ 2.62/ 5.5/

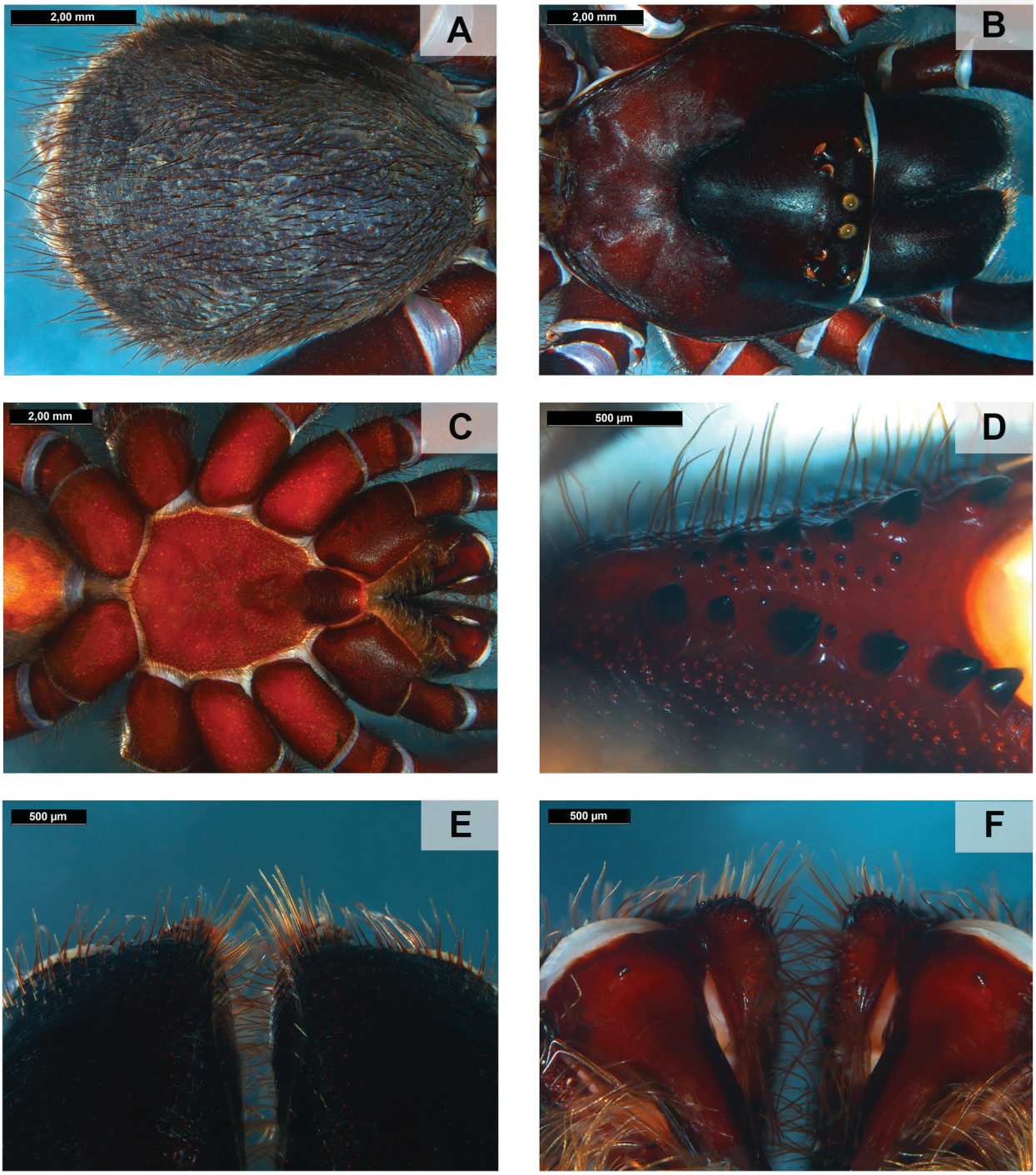


FIGURE 60. *Actinopus cornelli* sp. nov., male: A–F MCN 23400: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

3.25/ 19.12. IV: 6.25/ 3.12/ 4.5/ 5.75/ 3.5/ 23.12. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v1-4-5, d0, p1-2-3, r0-0-3; Me v2-3-4, d0, p0-3-2, r1-2-2; ta v4-4-9, d0, p1-2-5, r2-5-7. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-3-3, d0, p0, r1-2-4; Me v1-2-5, d0, p2-5-8, r0-2-3; ta v1-2-3, d0, p6-9-13, r3-5-8. III—Fe v0, d0, p0, r0; Pa v0-1-4, d4-8-31, p0-0-1, r1-3-4; ti v0-0-4, d1-0-17, p0-0-1, r0-1-4; Me v4-5-4, d1-0-16, p3-5-6, r0-2-4; ta v0, d0, p3-2-7, r0-6-4; IV—Fe v0, d0, p0, r0; Pa v0, d17-20-6, p0, r0; ti v0, d0, p0-0-2, r0; Me v0, d0-0-1, p1-4-5, r0; ta v0, d0, p1-5-6, r0. **Palp:** PA developed, embolus with three keels (PAc, PI and PS). BTA well-developed and placed medially on prolateral tegular surface; serrated area developed, positioned distal to prolateral accessory

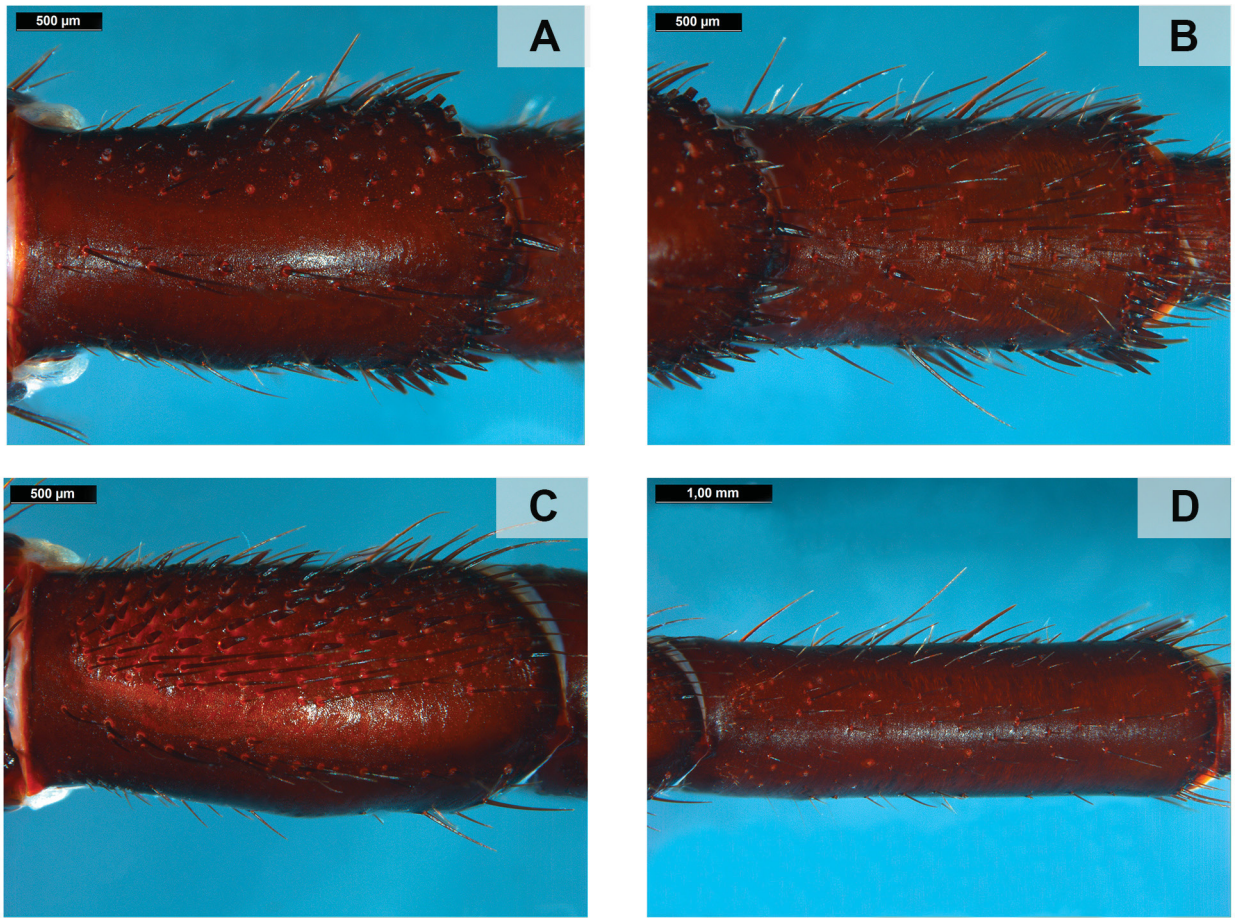


FIGURE 61. *Actinopus cornelli* sp. nov., male: A–D MCN 23400: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

keel and next to base of embolus, represented by many cusps; wide and short tegulum and embolar base flattened. PAc length reaching the embolar apex and median fold of tegular reservoir with wrinkled edges in prolateral view (Fig. 62 A–C).

Distribution. BRAZIL. Rio Grande do Sul: Viamão: Águas Claras (Map 4).

Actinopus insignis (Holmberg, 1881)

Aussereria insignis Holmberg, 1881: 171, pl. 1, fig. 2 (Holotype ♂, Provincia Bonaerensis, Chacabuco, Zárate, Buenos Aires, Argentina, ZMUC, not examined).

Actinopus insignis: Simon, 1892: 80; Ríos-Tamayo & Goloboff, 2018: 45, fig. 21 A–G; World Spider Catalog, 2020.

Diagnosis. Males of *A. insignis* resemble those of most species of the group *pinhao* by PA continuous to Pac and differ from those of *A. pinhao* (Fig. 32 A–C) by the lateral tegular swelling above PA in prolateral view, from *A. paraitinga* (Fig. 59 A–C) by serrated area at embolus base, from *A. hirsutus* (Fig. 38 A–C) and *A. pinhao* by the hirsute legs, and from *A. hirsutus* and *A. cornelli* (Fig. 62 A–C) by the PA continuous to PI. Females differ from those of *A. pampulha* (Fig. 49 D) and *A. candango* (Fig. 54 D) by the pore distribution reaching 75–100% of the receptacle length; and from *A. paraitinga* (Fig. 59 D) by the absence of lateral swellings on the receptacles, which are bilobed, with lateral lobes longer than inner lobes.

Description. See Ríos-Tamayo & Goloboff (2018: 45).

Distribution. ARGENTINA: Buenos Aires, Córdoba, and Isla Martín Garcia. URUGUAY: Maldonado.

Actinopus ramirezi Ríos-Tamayo & Goloboff, 2018

Actinopus ramirezi Ríos-Tamayo & Goloboff, 2018: 63, fig. 32 A–G, 33 A–E, 44 (holotype ♂, [25º 39' S 54º 30' W], entre El Timbó y El Palmital, R. P. 101, Parque Nacional Iguazú, Misiones, Argentina, 13–15.ix.1992, P. Goloboff & C. Szumik leg., MACN-Ar 198206; paratype ♀, same data as holotype, MACN-Ar 19830; not examined); World Spider Catalog, 2020.

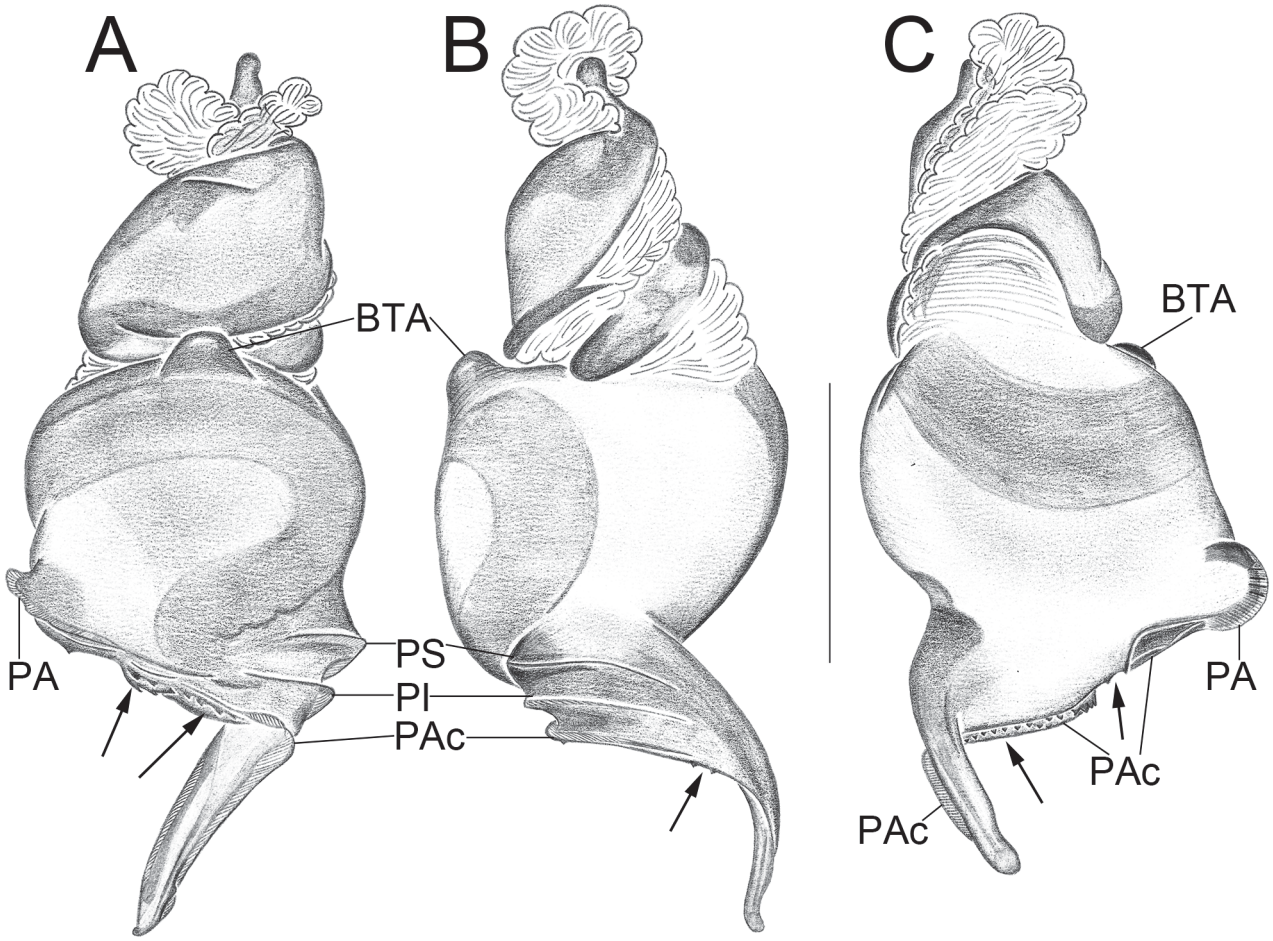


FIGURE 62. *Actinopus cornelli* sp. nov., male: A–C MCN 23400: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated area. Scale line: 1 mm.

Diagnosis. Males of *A. ramirezi* (Ríos-Tamayo & Goloboff, 2018, fig. 32 D–F) differ from those of most species of the *pinhao* group by PA continuous to PI. They resemble those of *A. ducke* (Fig. 35 A–C), *A. hirsutus* (Fig. 38 A–C), *A. cornelli* (Fig. 62 A–C) and *A. insignis* (Ríos-Tamayo & Goloboff, 2018, fig. 45 B–D) by PA continuous to PAc. They differ from those of *A. ducke* (Fig. 35 A–C) and *A. confusus* (Fig. 44 A–C) by BTA placed ventrally on prolateral tegular surface. They resemble those ofs *A. pinhao* (Fig. 32 A–C) and *A. hirsutus* (Fig. 37 A–D) by hirsute legs, differing from *A. pinhao* by the absence of tegular swelling above PA and from *A. hirsutus* by BTA most pronounced, PA less pronounced and a serrated area developed, extending to the base of the embolus and arranged in three rows. Females differ from those of *A. pampulha* (Fig. 49 D) and *A. candango* (Fig. 54 D) by pore distribution reaching only 75% of the receptacles length; and from *A. paraitinga* by the absence of lateral swelling on receptacles.

Description. See Ríos-Tamayo & Goloboff (2018: 63).

Distribution. ARGENTINA: Misiones.

Group *nattereri*

Diagnosis. The species in the group *nattereri* are recognized by the following combination of characters: Medium to large in total length; embolus with three keels; BTA developed; serrated area above PAc in prolateral view reduced. Females are recognized by the spermathecae with two receptacles, without lateral swelling.

Species included. *Actinopus nattereri* (Doleschall, 1871); *Actinopus rufipes* (Lucas, 1834); *Actinopus vilhena* sp. nov.; *Actinopus harveyi* sp. nov.; *Actinopus itapitocai* sp. nov.; *Actinopus ipioca* sp. nov.; *Actinopus itaqui* sp. nov.; *Actinopus xingu* sp. nov.; *Actinopus mesa* sp. nov.; *Actinopus caxiuana* sp. nov.; *Actinopus utinga* sp. nov.;

Actinopus reycali Ríos-Tamayo & Goloboff, 2018; and *Actinopus septemtrionalis* Ríos-Tamayo & Goloboff, 2018.

Actinopus nattereri (Doleschall, 1871)

Figs 63–67, Map 5

Pachyloscelis nattereri Doleschall in Ausserer, 1871: 139 (holotype ♀, Rio Negro, Amazonas, Brazil, NWMW, not located).

Actinopus nattereri: F. O. Pickard-Cambridge, 1896: 730; World Spider Catalog, 2020.

Note. The material examined was attributed to *A. nattereri* by the size and disposition of the eyes and by the congruent geographical distribution. The provenance of the material here studied is coincident with the route traveled by the collector of the type specimen, Johann Natterer (Papavero, 1971).

Diagnosis. Males of *A. nattereri* resemble those of *A. vilhena* (Fig. 73 A), *A. itapitocai* (Fig. 79 A), *A. itaqui* (Fig. 89 A) and *A. caxiuana* (Fig. 98 A) by the bluish-gray coloration of the dorsum of abdomen (Figs 63 A,

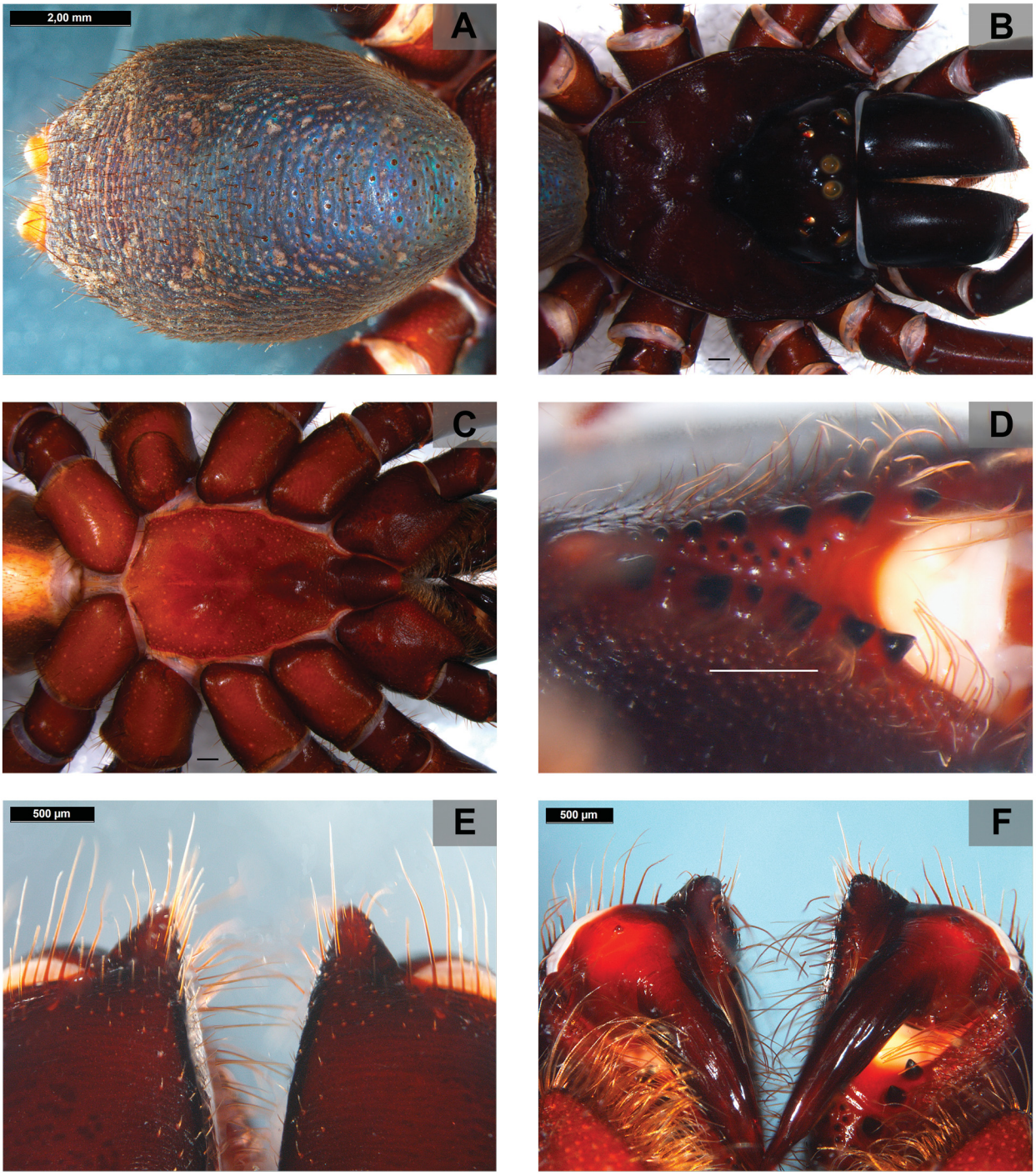


FIGURE 63. *Actinopus nattereri* (Doleschall, 1871), male: A–F INPA 3511: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral. Scales lines B–D: 0.5 mm.

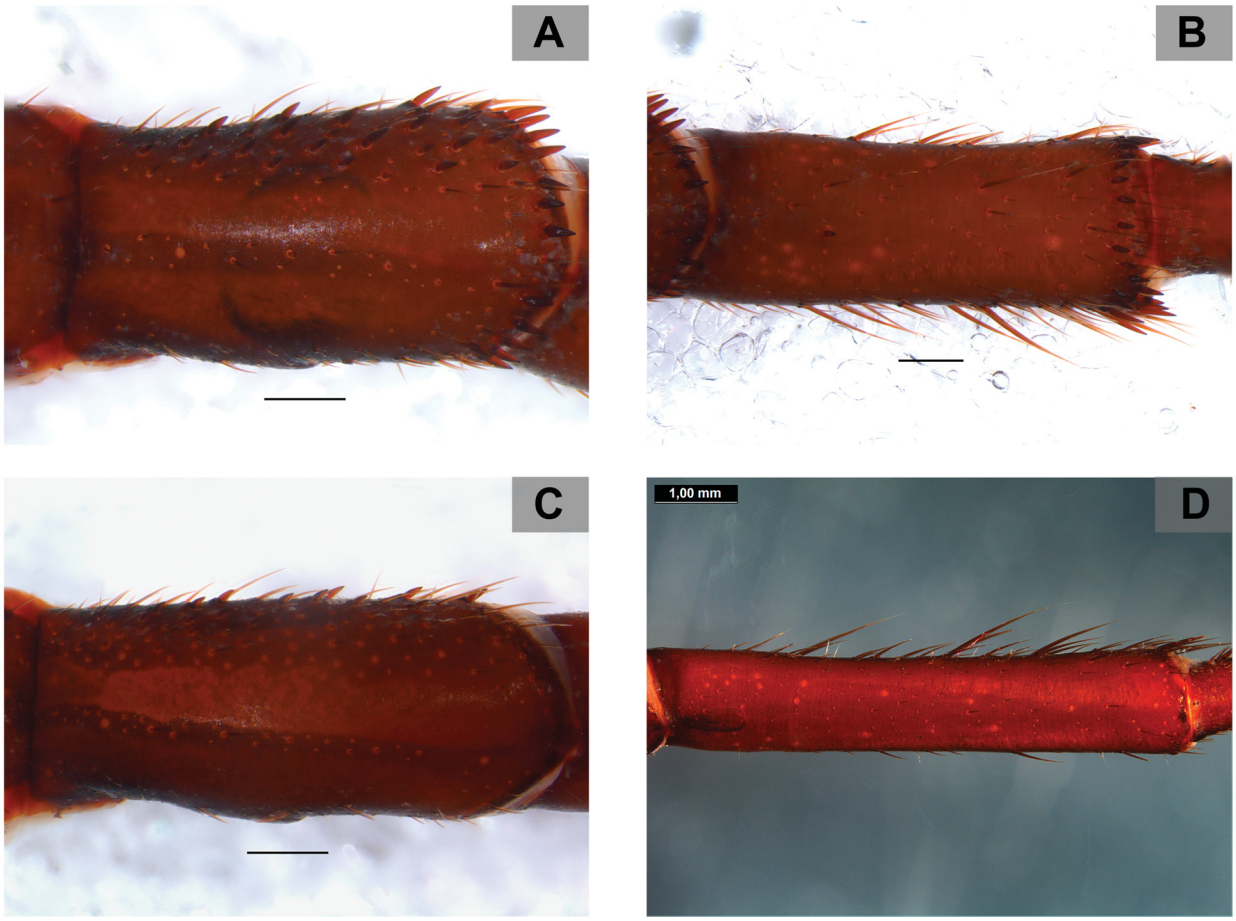


FIGURE 64. *Actinopus nattereri* (Doleschall, 1871), male: A–D INPA 3511: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal. Scales lines A–C: 0.5 mm.

67 E); further resemble those of *A. caxiuana*, *A. ipioca* and *A. itaqui* by the tibia of palp paler than other articles; they resemble those of those of *A. vilhena* (Fig. 75 A–C), *A. harveyi* (Fig. 78 A–C), *A. itapitocai* (Fig. 83 A–C), *A. xingu* (Fig. 94 A–C) and *A. utinga* (Fig. 103 A–C) by BTA displaced dorsally in relation to a middle longitudinal line along prolateral tegular surface (Fig. 67 A); they resemble those of *A. vilhena, A. xingu and A. utinga* by keels, as seen in prolateral view, very closed to each other (Fig. 67 A). They differ from those of all other species of the *nattereri* group by the overlapping keels; tegulum subquadrate; and by a slightly swelling on prolateral PS, visible on dorsal view (Fig. 67 A–C). Females resemble *A. rufipes* by the unilobed receptacles and those of *A. ipioca* by the pore distribution reaching nearly 60% of receptacle surface; they differ from those of all species of the group by the rounded, divergent receptacles (Fig. 67 D).

MALE (INPA 3511): Total length 13.38; Carapace, long 6.64; wide 6.7. Carapace anterior part rounded. Eyes. Anterior row slightly procurved, posterior row recurved (Fig. 63 B). Few short bristles, widespread between posterior eyes, in interdistances ALE–AME and forming row along chilum. Sternum with eight sigilla fused medially, all sigilla very fused to each other (Fig. 63 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines apically (Fig. 63 E–F). Denticles widespread on subunguinal part of chelicera. Prolateral row decreasing on distal-proximal way and with denticles in the middle of retrolateral row (Fig. 63 D). Patella and tibia III with distal crown of well developed thorns, not interrupted in middle (Fig. 64 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 64 A, C). Tibia IV without spines on dorsal surface (Fig. 64 D). Ventral pseudoscopulae occupying 25% of tarsi I, 50% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; In tarsi III and IV, compact. Carapace and chelicerae dark-reddish-brown; sternum reddish-brown; legs reddish-brown; tibia of palp yellowish-brown and other articles of palp brown; And abdomen iridescent blue (R. Saturnino, pers. comm., Fig. 67 E). **Eyes: Diameters:** PME 0.36, PLE 0.39, ALE 0.51, AME 0.5; MOQ: Length 1.37, front width 1.14, back

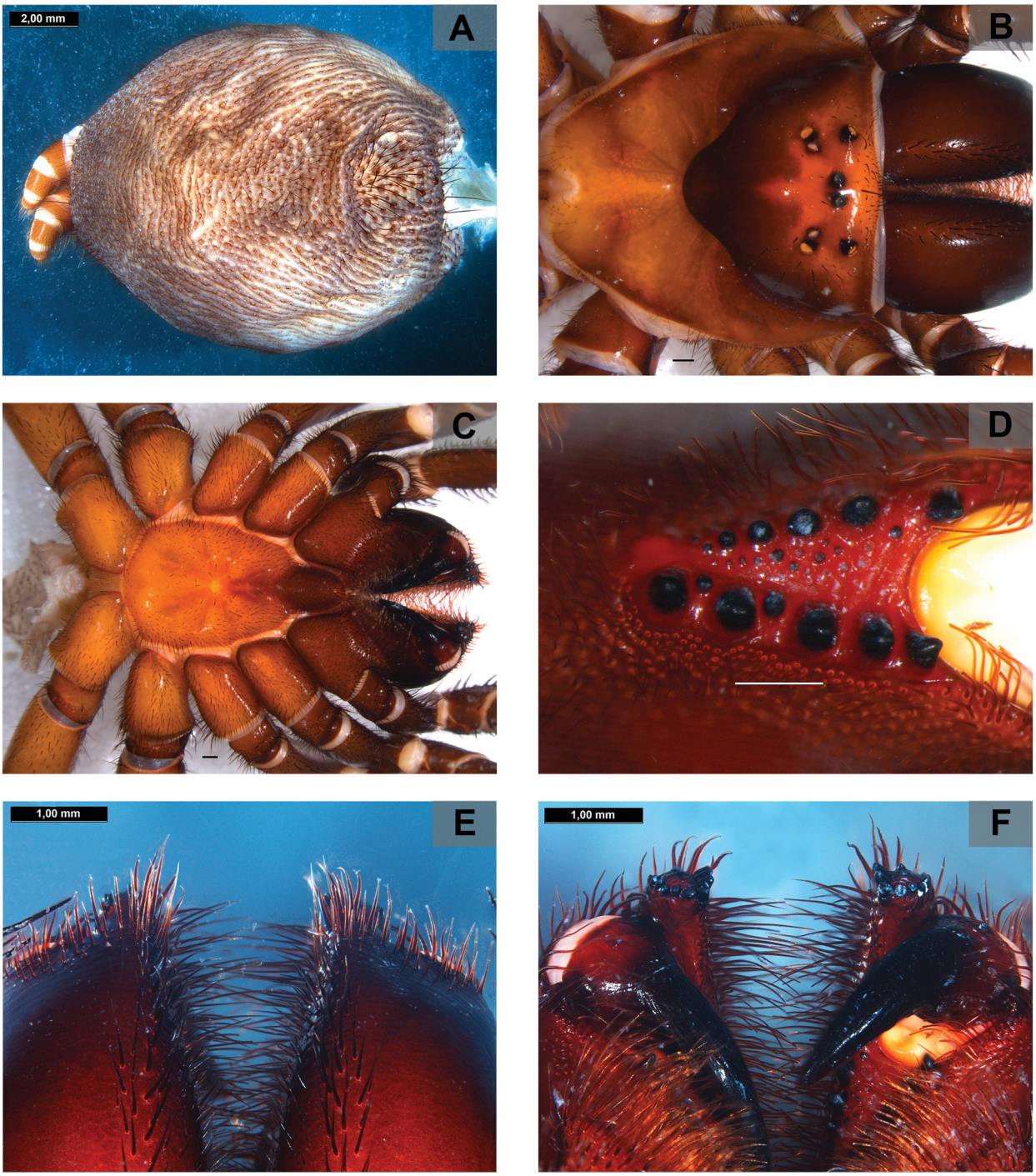


FIGURE 65. *Actinopus nattereri* (Doleschall, 1871), female: A–F IBSP 113544: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral. Scales lines B–C: 0.5 mm; D: 1 mm.

width 2.33; **Interdistances:** PME–PME 1.95, PLE–PME 0.08, AME–AME 0.18, ALE–AME 0.85, ALE–PLE 0.76, AME–PME 0.57. **Ocular area:** OAL 4.64, OAW 3.62, and IF 4.05. **Body:** Clypeus: 0.12; Fovea: 2.72; Labium: long 1.46; wide 1.2; Chelicerae: long 3.92; wide 2.14; Sternum: long 5.05; wide 3.54. Abdomen: long 6.96; wide 6.96. **Leg measurements:** I: Fe 6.84/ Pa 3.26/ Ti 4.37/ Me 4.73/ Ta 3 / total 22.2. II: 6.79/ 3.24/ 4.31/ 4.91/ 3.13/ 22.38. III: 5.38/ 3.23/ 3.19/ 5.65/ 3.26/ 20.71. IV: 7.64/ 3.49/ 6.2/ 6.01/ 3.76/ 27.1. **Spination:** I—Fe v0, d0, p0, r0; Pa v0-0-2, d0, p0, r0; ti v0-2-6, d0, p0, r0-0-1; Me v2-2-4, d0, p2-2-2, r3-4-5; ta v1-1-4, d0, p0-0-2, r0. II—Fe v0, d0, p0, r0; Pa v0-0-1, d0, p0, r0; ti v1-7-8, d0, p0, r3-5-4; Me v2-3-5, d0, p1-2-3, r2-4-4; ta v0-2-4, d0, p1-2-1, r1-3-0. III—Fe v0, d0, p0, r0; Pa v0-0-2, d4-7-17, p1-3-3, r0; ti v5-4-3, d0-1-12, p0-0-2, r0-0-3; Me v5-7-

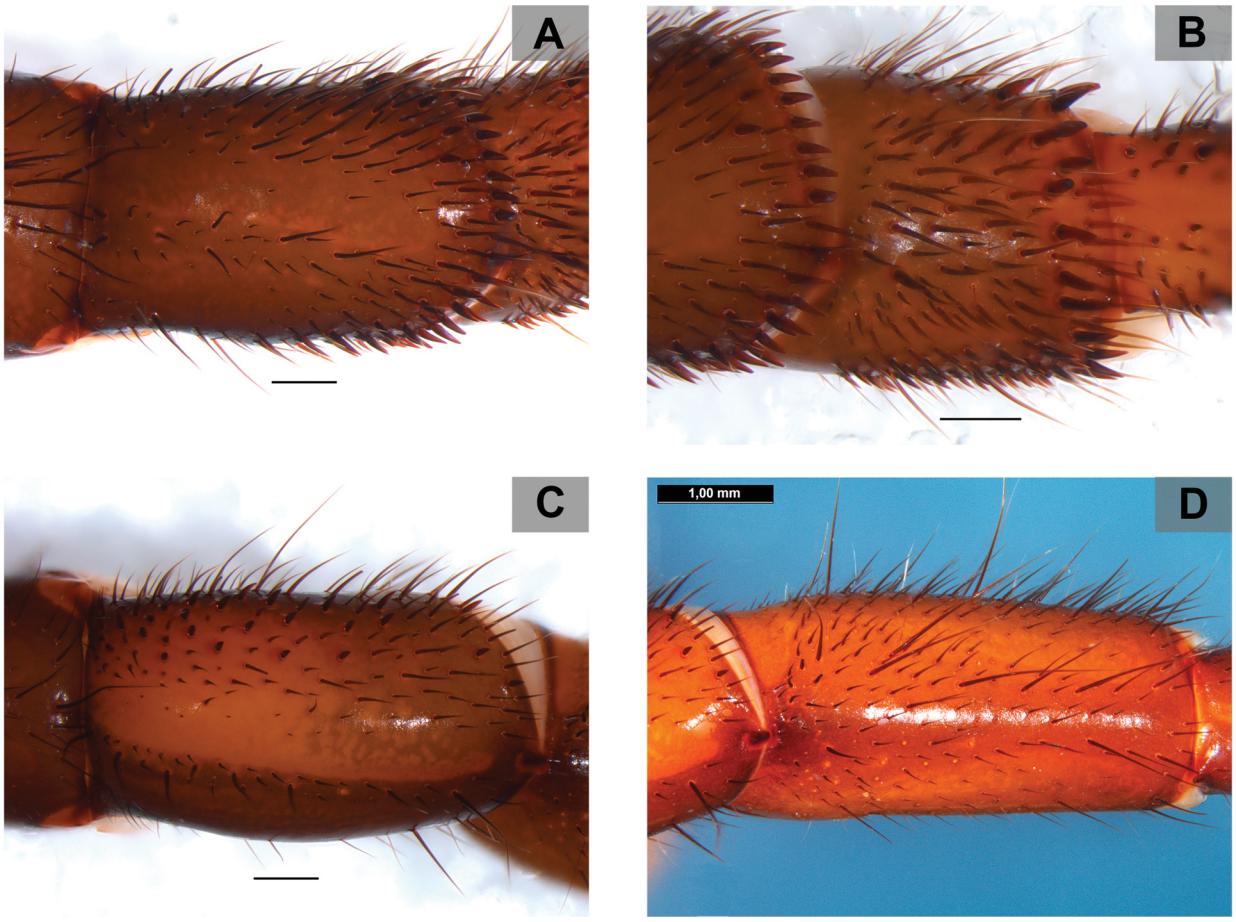


FIGURE 66. *Actinopus nattereri* (Doleschall, 1871), female: A–D IBSP 113544: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal. Scales lines A–C: 0.5 mm.

3, d1-0-0, p0-2-0, r0-0-6; ta v0, d0, p0, r0-2-1; IV—Fe v0, d0, p0, r0; Pa v0-0-3, d8-6-2, p1-6-2, r0; ti v4-6-7, d0, p0, r0; Me v3-6-4, d0, p1-2-3, r0-1-0; ta v0, d0, p0-2-1, r0. **Palp:** BTA poorly developed, displaced dorsally in relation to middle longitudinal line along prolateral tegular surface, embolus with three distal developed and overlapping keels (PAc, PI and PS), demarcated on three views of embolus. Inconspicuous swelling proximal to PS in dorsal view. Robust and subquadrate tegulum, PA long, developed, continuous to PS (Fig. 67 A–C).

FEMALE (IBSP 113544): Total length 22.42; Carapace, long 7.56; wide 7.70. Carapace anterior part rounded. Anterior eye row procurved, posterior row recurved. Short bristles anterior eyes-clypeus in row along chilum edge (Fig. 65 B). Sternum with eight sigilla strongly fused medially, all sigilla very fused to each other (Fig. 65 C). Rastellum protuberant, rectangular, dorsally covered by many strong spines. Prolateral spines stronger than in rest of rastellum (Fig. 65 E–F). Denticles widespread in subunguinal part of chelicera. Prolateral row decreasing in distal-proximal way and with denticles in basis of retrolateral row (Fig. 65 D). Patella and tibia III with distal crown of well developed thorns, not interrupted in middle (Fig. 66 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 66 A, C). Tibia III with recurved crown of spines, strong spines along retrolateral surface of article and one dorsal spine at basal third of article (Fig. 66 B). Patella IV with prolaterodorsal short spines along extension of article (Fig. 66 C). Tibia IV without spines and with many long bristles on prolateral surface (Fig. 66 D). Numerous robust spines on ventral, retrolateral and prolateral surfaces of tarsi III and IV and prolateral and retrolateral surfaces of tarsi and metatarsi I and II. Carapace yellowish-brown, with spot in form of yellow maple leaf and extended to eye area (Fig. 65 B). Sternum yellowish brown; legs brown, with prolaterodorsal half of patella IV yellow (Fig. 66 D). Abdomen pale-brown (Fig. 65 A). 10 labial cuspules, 59 on right maxilla and 67 on left. **Eyes: Diameters:** PME 0.3, PLE 0.33, ALE 0.23, AME 0.35; MOQ: Length 1.28, front width 0.82, back width 2.34; **Interdistances:** PME–PME 1.82, PLE–PME 0.13, AME–AME 0.29, ALE–AME 1.02, ALE–PLE 0.81,

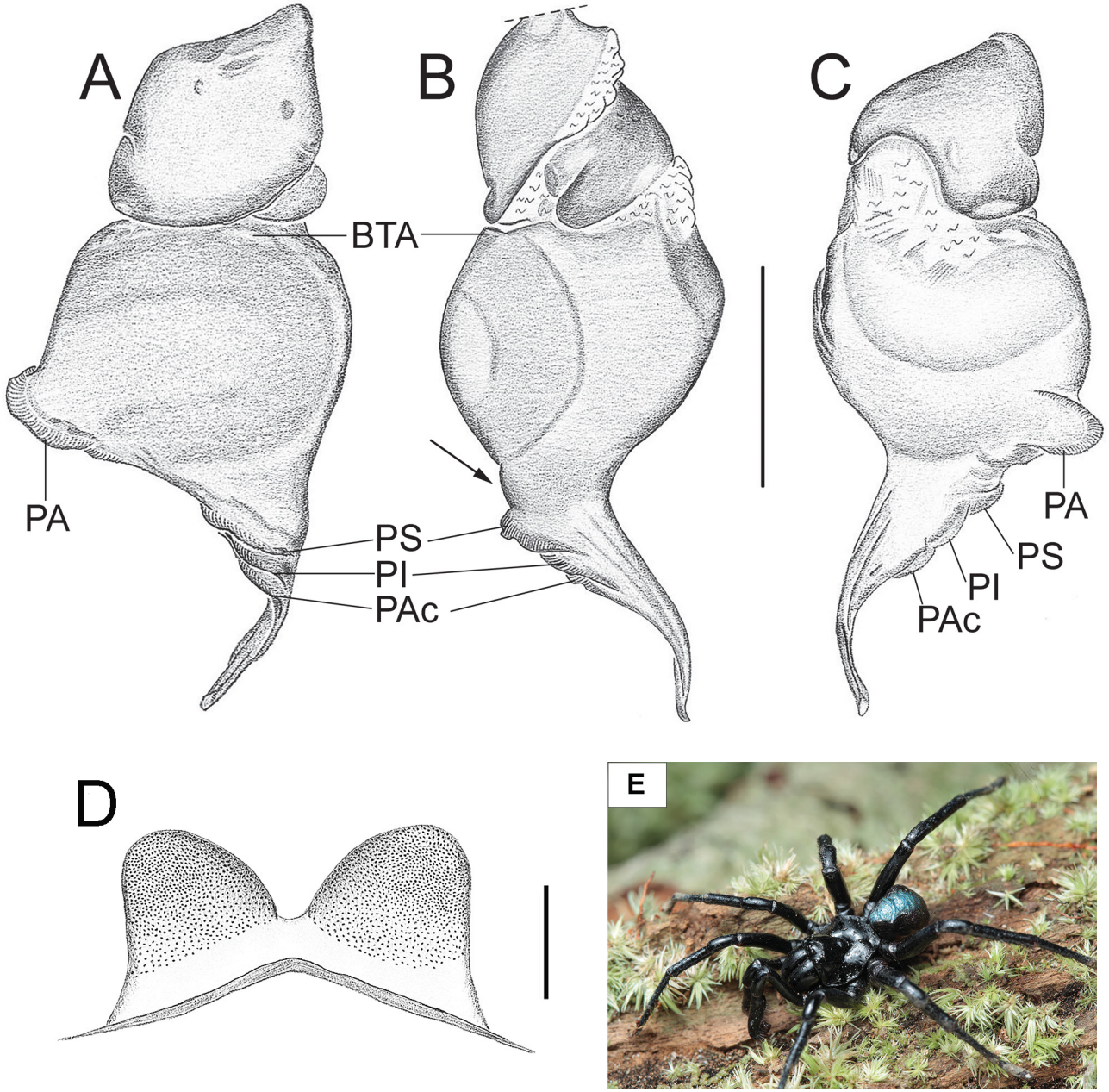


FIGURE 67. *Actinopus nattereri* (Doleschall, 1871), male: A–C INPA 3511: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA**-Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrow: Serrated area. Paratype, female: D IBSP 13544: D. Spermathecae, dorsal view. Scale line: Male: 1 mm, female: 0.5 mm. E INPA: E. Dorsal habitus, alive, with a big blue iridescent spot on dorsal abdomen. Photo: Thiago G. Carvalho.

AME–PME 0.75. **Ocular area:** OAL 5.85, OAW 4.57, and IF 2.94. **Body:** Clypeus: 0.41; Fovea: 3.63; Labium: long 2.14; wide 1.56; Chelicerae: long 4.52; wide 2.78; Sternum: long 5.72; wide 4.19. Abdomen: long 10.94; wide 9.45. **Leg measurements:** I: Fe 4.54/ Pa 2.92/ Ti 1.94/ Me 2.45/ Ta 1.53/ total 13.38. II: 4.62/ 3.08/ 2.02/ 2.51/ 1.64/ 13.87. III: 4.08/ 3.57/ 1.43/ 2.94/ 1.48/ 13.5. IV: 6.04/ 3.6/ 3.22/ 3.26/ 1.53 / 17.65. **Spination:** I—Fe v0, d0, p0, r0; Pa v0-0-1, d0, p0, r0; ti v0-0-2, d0, p0-4-3, r4-15-8; Me v3-3-2, d0, p6-7-5, r7-8-5; ta v1-2-2, d0, p3-5-2, r4-5-1. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v4-6-9, d0, p0, r7-15-19; Me v0-4-4, d0, p6-8-5, r8-12-7; ta v1-2-2, d0, p5-6-3, r7-3-2. III—Fe v0, d0, p0, r0; Pa v0, d0-1-23, p0-0-2, r1-5-4; ti v0, d0-13-21, p0-0-2, r0-0-1; Me v1-3-5, d4-3-6, p0, r4-9-10; ta v13-12-10, d1-3-2, p1-4-3, r2-9-3; IV—Fe v0, d0, p0, r0; Pa v0, d12-11-5, p0, r0; ti v0, d0, p0, r0; Me v0-1-2, d0-1-1, p0-0-4, r0; ta v3-14-10, d0-1-3, p4-12-6, r1-1-3. **Spermathecae:** Unilobed

seminal receptacles, rounded, divergent, as long as wide, with short ducts. Without sclerotized region on basal part of the spermatheca, replaced by a membrane (Fig. 67 D).

VARIATION

MALES (n= 10): **Eyes: Diameters:** PME 0.28–0.41, PLE 0.3–0.71, ALE 0.42–0.74, AME 0.45–0.83; MOQ: Length 1.28–1.87, front width 1.05–1.63, back width 2.18–3.48; Interdistances: PME–PME 1.65–2.81, PLE–PME 0.06–0.27, AME–AME 0.14–0.26, ALE–AME 0.67–1.4, ALE–PLE 0.6–0.95, AME–PME 0.48–1.08. Ocular area: OAL 4.24–5.07, OAW 3.19–4.36, and IF 2.23–4.05. **Body:** Total length: 11.63–16.41; Carapace: Length 6.04–8.05; wide 6.7–8.12; Clypeus: 0.13–0.3; Fovea: 2.54–3.21; Labium: Length 1.46–1.9; wide 1.13–1.4; Chelicerae: Length 2.8–4.5; wide 1.78–2.7; Sternum: Length 4.77–5.67; wide 3.54–4.16. Abdomen: Length 5.02–7.66; wide 4.42–6.17. **Leg measures:** I: Fe 6.57–7.73/ Pa 2.98–3.38/ Ti 3.44–4.66/ Me 4.92–6.1/ Ta 2.9–3.46 / total 22.2–24. II: 6.47–7.38/ 3.02–3.43/ 3.95–5.07/ 4.91–6.04/ 3.1–3.42/ 22.2–24.4. III: 5.36–7.6/ 3.19–3.5/ 3.05–3.67/ 4.79–6.26/ 3.06–4.27/ 20.6–23.9. IV: 7.29–9.19/ 3.34–3.96/ 5.93–6.71/ 5.79–7.12/ 3.22–4.41/ 26–30.1. FEMALES (n=3): **Eyes: Diameters:** PME 0.18–0.3, PLE 0.23–0.33, ALE 0.15–0.23, AME 0.24–0.35; MOQ: Length 0.75–1.28, front width 0.12–0.82, back width 1.38–2.34; Interdistances: PME–PME 1.02–1.82, PLE–PME 0.11–0.13, AME–AME 0.1–0.29, ALE–AME 0.53–1.02, ALE–PLE 0.45–0.81, AME–PME 0.4–0.75. Ocular area: OAL 3.63–5.85, OAW 2.57–4.57, and IF 2.11–2.94. **Body:** Total length: 9.32–22.42; Carapace: Length: 4.31–7.56; wide: 4.2–7.7; Clypeus: 0.16–0.41; Fovea: 1.58–3.63; Labium: Length 1.2–2.14; wide 0.85–1.56; Chelicerae: Length 2.81–4.52; wide 1.65–2.78; Sternum: Length 3.29–5.72; wide 2.51–3.19. Abdomen: Length 4.72–10.94; wide 4.23–9.45. Leg measurements: I: Fe 2.49–4.54/ Pa 1.71–2.92/ Ti 1.15–1.94/ Me 1.55–2.45/ Ta 0.97–1.53/ total 8.08–13.38. II: 2.38–4.62 / 1.8–3.08/ 1.05–2.02/ 1.36–2.51/ 1.12–1.64/ 8.3–13.87. III: 2.49–4.08/ 2.11–3.57/ 0.5–1.43/ 1.2–2.94/ 0.83–1.48/ 7.52–13.5. IV: 3.05–6.04 / 1.88–3.6/ 2.26–3.22/ 1.99–3.26/ 1.18–1.53/ 10.63–17.65.

Distribution. BRAZIL. Amazonas: Manaus (Map 5).

Material examined. BRAZIL. *Amazonas:* Manaus, [03° 06’47.9982” S 60° 1’31.0008” W], 1♂, 01.ix.1984, C. Ruy leg. (INPA 3510); 01.viii.1978 (INPA 3167); Reserva do Km 41, [02º 26’ S 59º 46’ W], 1♀, vii–viii.2006, A. Y. Santo leg. (IBSP 113544); Reserva Florestal Adolpho Ducke, [02° 58’ 5.9952” S 59° 55’ 49.9836” W], 1♂, 28.ix.1983 (INPA 3511); 17–24.viii.1991, A. D. Brescovit leg. (MCN 21484); 1♀, 04.xii.1990, A. P. Apolinário leg. (INPA 3166); 12.xii.1990, F. B. Apolinário leg. (INPA 3165); 3♂, 28.ix.1983 (INPA 3534); 1993, Wollscheid & Curd leg. (MCN 24987); 4♂, viii–ix.1993, Wollscheid & Curd leg. (INPA 3509); 20♂ (INPA 6125); Acampamento Central, 02° 56’ 31.66”S 59° 56’ 39.37”W, 4♂, 24.vii.2008, R. Saturnino and J. ten Caten leg. (INPA 3168); l5–4500 m (T250m), 02° 57’ 25.18”S 59° 55’ 25.63”O, 2♂, 16.viii.2008, J. ten Caten leg. (INPA 3516); l5–2500 m (T30 150–180), 02° 57’ 35.29”S 59° 56’ 29.56”W, 1♂, viii.2008, J. ten Caten leg. (INPA 3515); l5–1500 m (T250m), 02° 57’ 40.34”S 59° 57’ 01.37”W, 1♂, 17.viii.2008, J. ten Caten leg. (INPA 3514); l7–500m (T250m), 02° 58’ 49.32”S 59° 57’ 23.67”W, 1♂, 08.viii.2008, J. ten Caten leg. (INPA 3517); Estrada da Compensa 25, [03º 06’ 07” S 60º 01’ 30” W], Manda Brasa, 6♂, 09.x.2006 (INPA 3164).

Actinopus rufipes (Lucas, 1834)

Figs 1, 68–72, Map 5

Pachyloscelis rufipes Lucas, 1834: 361, pl. 7C, fig. 1 (holotype ♀, Brazil, MNHN, not located).

Cratoscelis rufipes: Lucas, 1834: 362, pl. 7, fig. D2.

Sphodros lucasi Walckenaer, 1837: 251.

Actinopus rufipes: Lucas, 1837: 376; Mello-Leitão, 1923: 27; Bücherl, 1957: 384; World Spider Catalog, 2020.

Note. As the type is lost, the specimens here attributed to *A. rufipes* were so identified based on the known geographic range of the species and in morphological characteristics highlighted in both the original description and in the redescription by Mello-Leitão (1923).

Diagnosis. Males of *A. rufipes* resemble those of *A. ipioca* (Fig. 88 A–C), *A. itaqui* (Fig. 91 A–C), *A. mesa* (Fig. 97 A–C) and *A. caxiuana* (Fig. 100 A–C) by BTA placed medially on prolateral tegular surface, those of *A. nattereri* (Fig. 67 A–C), *A. itaqui*, *A. mesa*, *A. caxiuana* and *A. utinga* (Fig. 103 A–C) by PA developed with a pronounced border in prolateral view; they resemble those of *A. itaqui* by the equidistant keels in prolateral view; and differ from those of *A. nattereri*, *A. vilhena*, *A. harveyi* (Fig. 78 A–C), *A. mesa* and *A. utinga* by the inconspicuous serrated area, represented by few cusps. males differs from those of all species of the group *nattereri* by the large area delimited by keels, reaching nearly 35% of tegulum length in prolateral view; serrated area very inconspicuous, represented by few small cusps on retrolateral surface, below embolar base; embolus wide, flattened (Fig. 72 A–C). Also diagnostic is the palpal patella and tibia, paler than other palpal articles. Females differ from those of other species with non-lobed spermathecae by the triangular receptacle apex (Fig. 72 D); coxae, trochanters, femora of legs and palp, darker than other articles (Fig. 01 A).

MALE (IBSP 161468): Total length 18.62; Carapace, long 8.75; wide 8.25. Carapace anterior part tapering.

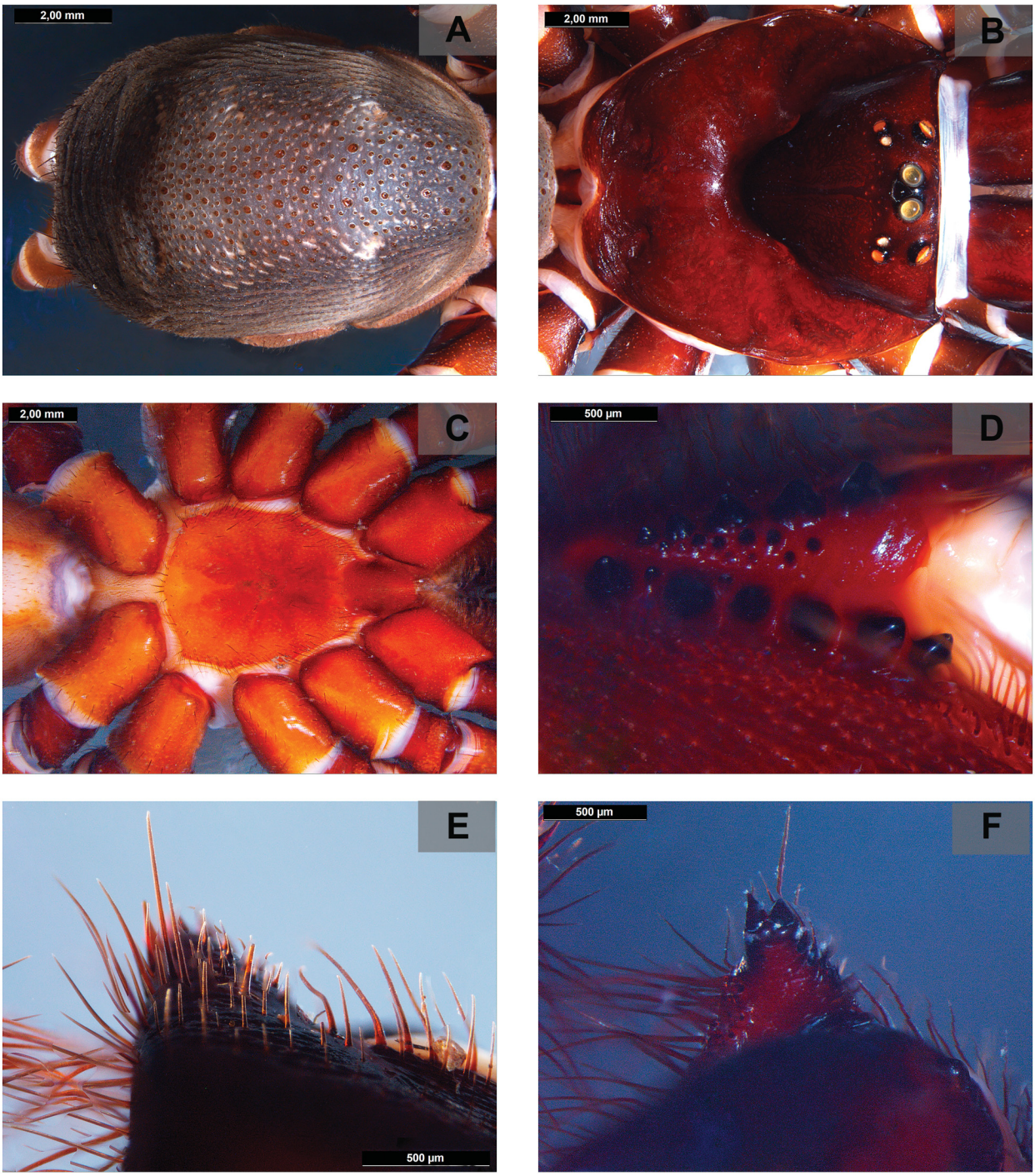


FIGURE 68. *Actinopus rufipes* (Lucas, 1834), male: A–F IBSP 113544: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

Anterior eye row slightly procurved, posterior row recurved (Fig. 68 B). Three bristles between AME-clypeus. Sternum with eight sigilla strongly fused medially, as a single central spot (Fig. 68 C). Rastellum protuberant, inverted V-shaped, hirsute, with two spines apically (Fig. 68 E–F). Chelicerae with denticles along retrolateral row of teeth. Prolateral row with four megateeth and two basal teeth. Retrolateral row with six megateeth and two denticles between row of megateeth (Fig. 68 D). Patella and tibia III with distal crown of developed thorns, not interrupted in middle (Fig. 69 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 69 A, C). Tibia IV without spines on dorsal surface and with two clear rows of trichobothria (Fig. 69 D). Ventral pseudoscopulae occupying 10% of Tarsi I, 30% of II and 100% of III and IV, without pseudoscopula on all metatarsi. Pseudoscopula of

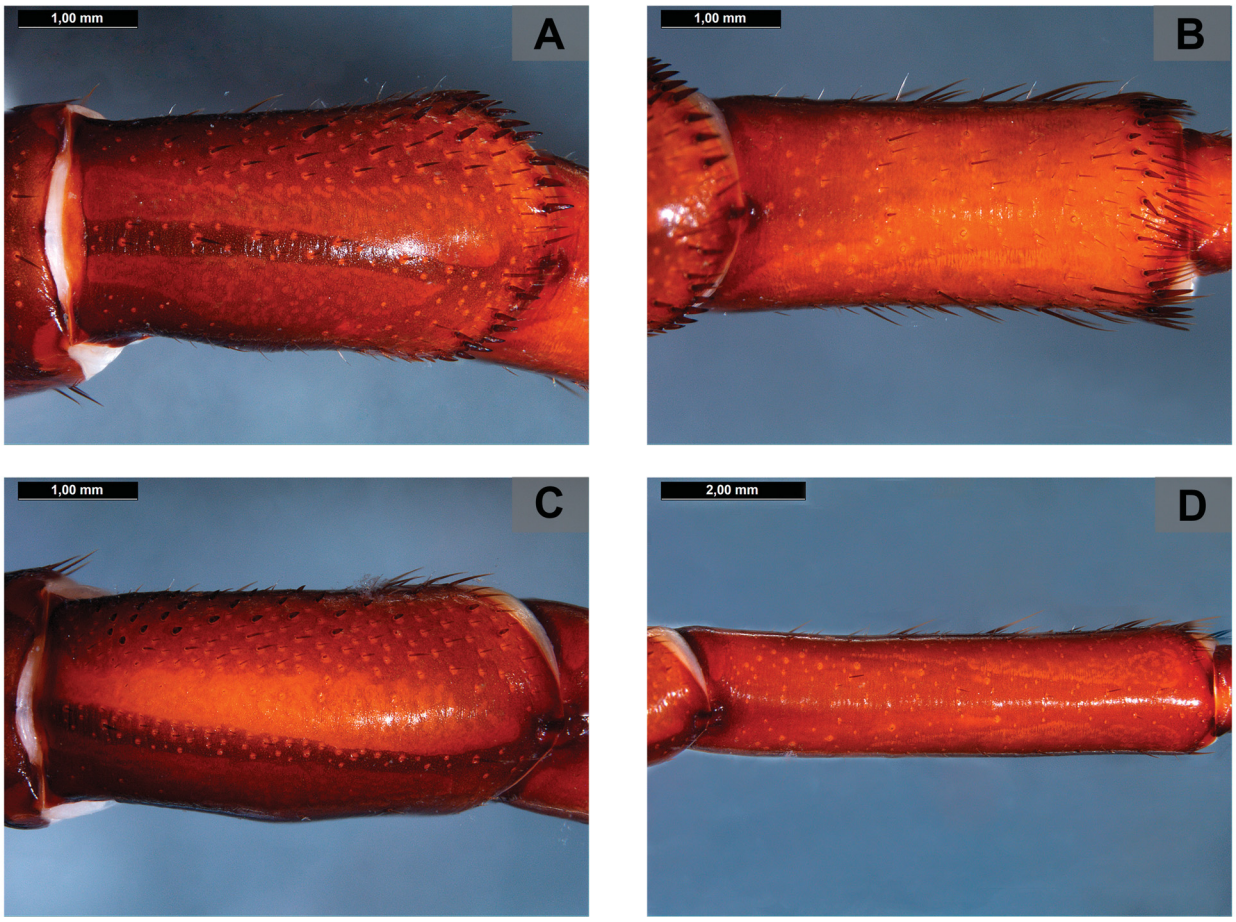
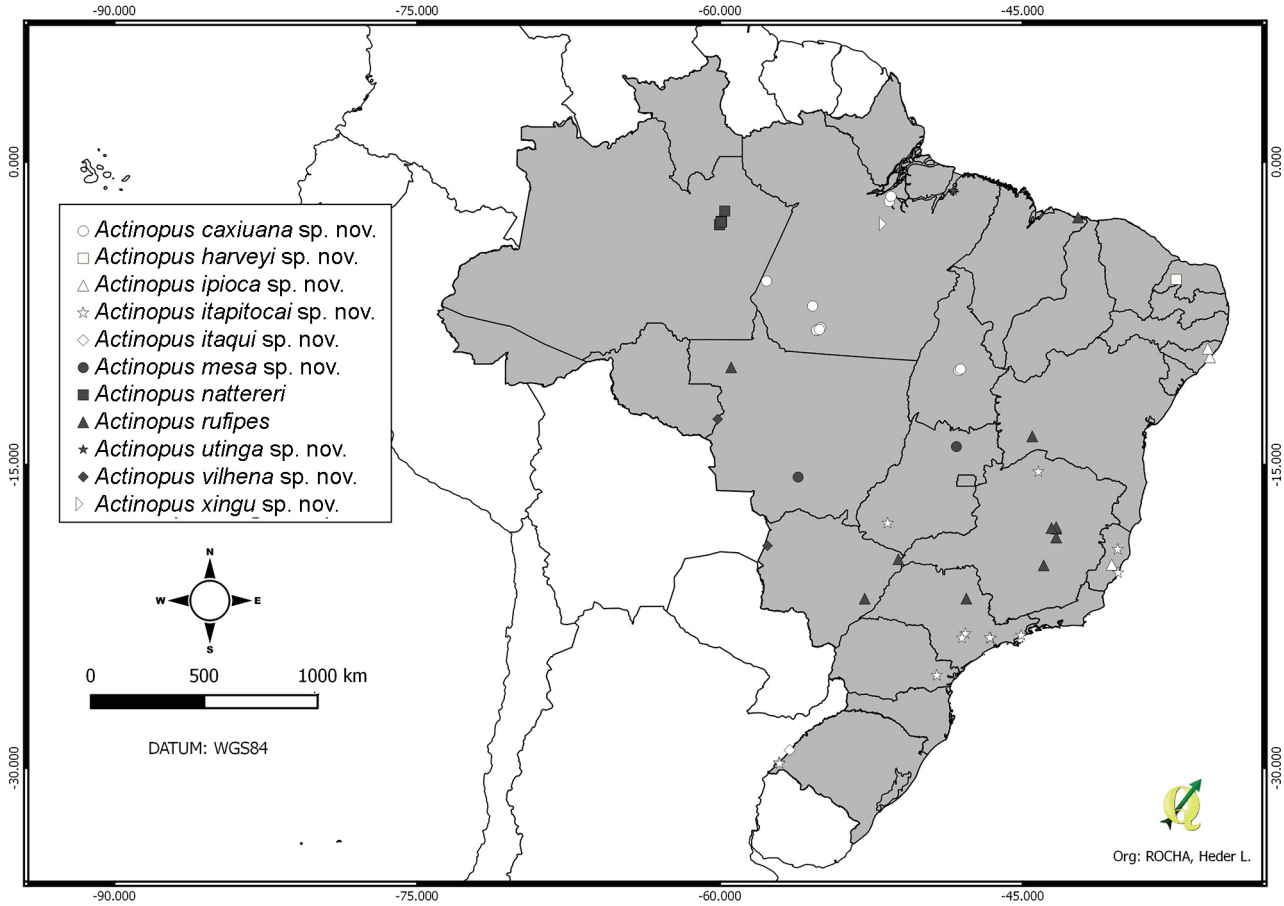


FIGURE 69. *Actinopus rufipes* (Lucas, 1834), male: A–D IBSP 113544: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

tarsi I and II with setae spaced, forming diffuse group of bristles; on tarsi III and IV, compact. Carapace, chelicerae, sternum and distal articles of legs, reddish brown; coxae, trochantera, femora and cymbium of legs brown; patella and tibia of palp pale than other articles; abdomen gray (Fig. 68 A). **Eyes: Diameters:** PME 0.3, PLE 0.4 ALE 0.55, AME 0.45; MOQ: Length 1.5, front width 3.5, back width 3.56; **Interdistances:** PME–PME 2.18, PLE–PME 0.12, AME–AME 0.37, ALE–AME 0.87, ALE–PLE 0.75, AME–PME 0.68. **Ocular area:** OAL 6.25, OAW 4.91, and IF 3.25. **Body:** Clypeus: 0.37; Fovea: 3.5; Labium: long 1.75; wide 1.5; Chelicerae: long 5.12; wide 2.5; Sternum: long 5.37; wide 4.75. Abdomen: long 9.25; wide 5.75. **Leg measurements:** I: Fe 8.12/ Pa 3.75/ Ti 4.75/ Me 5.87/ Ta 3.25/ total 25.75. II: 7.75/ 3.75/ 4/ 5.75/ 3.25/ 24.5. III: 6.5/ 4.12/ 3.62/ 6/ 3.62/ 23.87. IV: 9.12/ 4/ 7/ 6.87/ 3.62/ 30.625. Formula 123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-0-3, d0, p0, r0; Me v2-4-4, d0, p0-1-3, r0-0-5; ta v0-0-1, d0, p1-2-2, r1-5-5. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0, r0-1-5; Me v1-2-5, d0, p0-0-2, r5-3-4; ta v0-0-2, d0, p0-2-3, r1-6-4. III—Fe v0, d0, p0, r0; Pa v0, d3-3-21, p0, r0; ti v0-0-2, d0-1-10, p0-0-5, r0-0-5; Me v1-1-6, d0, p1-2-4, r0-2-4; ta v0, d0, p0-6-0, r0-2-5; IV—Fe v0, d0, p0, r0; Pa v0, d11-15-4, p0, r0; ti v0-0-3, d0, p0, r0; Me v1-1-2, d0, p0, r0-0-5; ta v0-0-3, d0, p1-5-8, r0-0-3. **Palp:** PA developed, embolus robust, with three keels (PAc, PI and PS) equally spaced. Basal surface of tegulum without swelling above PA. PA contiguous to PI in prolateral view. BTA well developed and placed medially on prolateral tegular surface; prolateral tegulum serrated next to base of next to base of embolus; embolar bases thicker (Fig. 72 A–C). FEMALE (CAD 77): Total length 14.75; Carapace, long 8.25; wide 8.50. Carapace anterior part square. Anterior eye row slightly procurved, posterior row recurved. Short bristles forming a row between AME-clypeus, one long bristle between PLE–ALE, short and long bristles between posterior eyes-fovea and short bristles between lateral eyes-edge of carapace (Fig. 70 B). Sternum with eight sigilla strongly fused medially, all sigilla very fused to each other (Fig. 70 C). Rastellum protuberant, subquadrate, hirsute, with row of spines on edge of



MAP 5. Distribution map of *Actinopus vilhena* sp. nov., *Actinopus rufipes* (Lucas, 1834), *Actinopus nattereri* (Doleschall, 1871) sp. nov., *Actinopus utinga* sp. nov., *Actinopus caxiuana* sp. nov., *Actinopus mesa* sp. nov., *Actinopus xingu* sp. nov., *Actinopus itaqui* sp. nov., *Actinopus ipioca* sp. nov., *Actinopus itapitocai* sp. nov. and *Actinopus harveyi* sp. nov.

rastellum and o lot of spines in dorsal part of rastellum between the row placed on the edge (Fig. 70 E–F). Chelicerae with eleven denticles along prolateral row of teeth. Prolateral row with four megateeth and two teeth in basal portion. Retrolateral row with six megateeth and one tooth between five and six basal megateeth (Fig. 70 D). Patella and tibia III with distal developed crowns of thorns, in patella III interrupted (Fig. 71 A–B). Patella IV with prolaterodorsal spines along extension of article and two rows of trichobothria (Fig. 71 C). Tibia IV without spines and with long bristles on prolaterodorsal surface (Fig. 71 D). Carapace, chelicerae, sternum, coxae, trochantera, femora, reddish brown; patellae, tibia, metatarsi, and tarsi yellowish red and abdomen pale brown with many long bristles (Fig. 70 A). 20 labial cuspules, 147 on right maxilla and 142 on left. **Eyes: Diameters:** PME 0.32 PLE 0.48 ALE 0.48, AME 0.36; MOQ: Length 1.52, front width 4, back width 3.84; **Interdistances:** PME–PME 2.24, PLE–PME 0.16, AME–AME 0.44, ALE–AME 1.32, ALE–PLE 0.84, AME–PME 0.84. **Ocular area:** OAL 7.2, OAW 5.1, and IF 3.62. **Body:** Clypeus: 0.62; Fovea: 4; Labium: long 2.75; wide 1.87; Chelicerae: long 4.12; wide 3.37; Sternum: long 5.87; wide 5.25. Abdomen: long 9; wide 6.75. **Leg measurements:** I: Fe 5/ Pa 3.37/ Ti 2.5/ Me 3/ Ta 1.62/ total 15.5. II: 5/ 3.5/ 2.37/ 3/ 1.62/ 15.5. III: 4.37/ 3.87/ 1.75/ 3.25/ 1.12/ 14.37. IV: 6.25/ 4.12/ 4.12/ 4.12/ 1.5/ 20.12. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0-4-3, r9-12-10; Me v0-0-3, d0, p4-6-4, r7-14-15; ta v0-0-3, d0, p2-3-3, r7-6-3. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-0-2, d0, p0-0-1, r11-23-28; Me v0-0-1, d0, p1-6-5, r11-11-6; ta v0-0-2, d0, p2-6-4, r7-8-4. III—Fe v0, d0, p0, r0; Pa v0, d0-3-33, p0-0-3, r0-0-15; ti v0, d1-0-12, p0-0-3, r5-15-10; Me v0-0-3, d0-0-4, p0-2-3, r6-13-10; ta v15-17-12, d0-1-2, p2-5-5, r4-6-5; IV—Fe v0, d0, p0, r0; Pa v0, d10-15-7, p0-1-0, r0; ti v0, d0, p0, r0; Me v0-0-2, d0-0-1, p0-4-4, r0; ta v6-19-20, d0, p3-5-3, r0-0-3. **Spermathecae:** Seminal receptacles slightly asymmetrical, as long as wide, with short ducts. Both receptacles without lobes, with triangular apex. Pore distribution reaching less than apical half of each receptacle (Fig. 72 D).

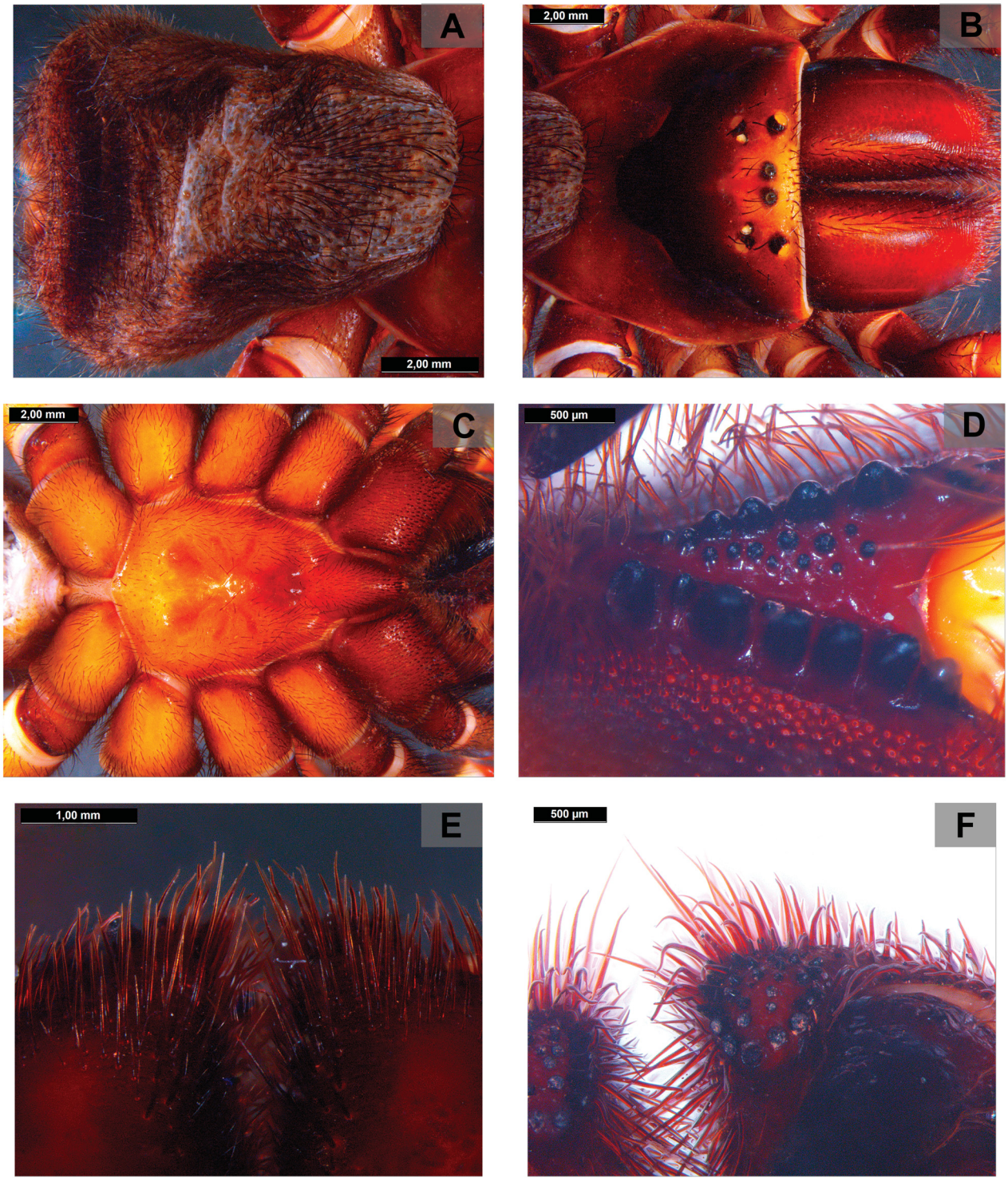


FIGURE 70. *Actinopus rufipes* (Lucas, 1834), female: A–F CAD 77: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

VARIATION

MALES (n=10): **Eyes: Diameters:** PME 0.16–0.32. PLE 0.28–0.4. ALE 0.36–0.60. AME 0.40–0.48; MOQ: Length 1.12–1.50. front width 2.52–3.5. back width 2.44–3.76; **Interdistances:** PME–PME 1.52–2.18. PLE–PME 0.8–0.16. AME–AME 0.16–0.4. ALE–AME 0.56–0.95. ALE–PLE 0.52–0.76. AME–PME 0.44–0.68. **Ocular area:** OAL 2.48–6.25. OAW 2.44–6.12. and IF 2–3.75. **Body:** Total length: 13.75–18.75; Carapace: long 6.62–9; wide 6–8.25; Clypeus: 0.12–0.37; Fovea: 2.62–3.5; Labium: long 1.37–1.87; wide 1.12–1.62; Chelicerae:

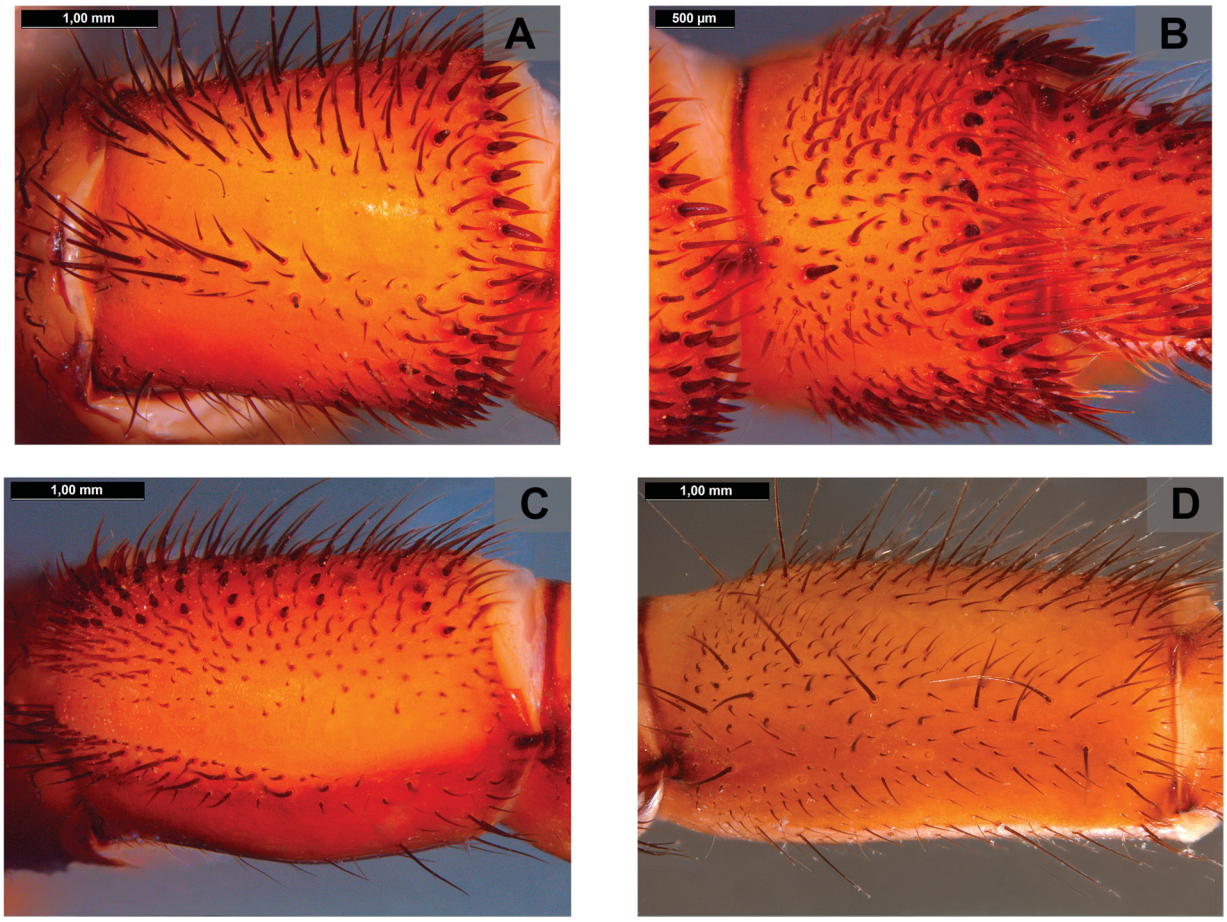


FIGURE 71. *Actinopus rufipes* (Lucas, 1834), female: A–D CAD 77: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

long 2.5–5.12; wide 1.87–2.62; Sternum: long 4.12–5.37; wide 3.62–4.75. Abdomen: long 7–9.25; wide 4.87–7. **Leg measurements:** I: Fe 6.37–8.12/ Pa 2.87–3.75/ Ti 3.62–4.75/ Me 4.25–5.87/ Ta 2.5–3.5/ total 19.62–25.75. II: 6.12–7.75/ 2.62–3.75/ 3.62–4.25/ 3.75–5.75/ 2.62–3.62/ 18.75–24.5. III: 4.75–6.5/ 2.75–4.12/ 2.62–3.62/ 4.37–6/ 2.62–3.62/ 17.12–23.87. IV: 6.5–9.12/ 2.87–4/ 5.25–7/ 5.25–6.87/ 3–3.87/ 23.12–30.62. FEMALES (n=3): **Eyes: Diameters:** PME 0.28–0.4. PLE 0.4–0.48. ALE 0.4–0.52. AME 0.2–0.36; MOQ: Length 1. 2–1.52. front width 3. 82–4. back width 3.08–3.84; **Interdistances:** PME–PME 1.76–2.24. PLE–PME 0.8–0.16. AME–AME 0.24–0.44. ALE–AME 0.96–1.32. ALE–PLE 0.48–0.84. AME–PME 0.64–0.84. **Ocular area:** OAL 5. 8–7.2. OAW 4.66–5.1. and IF 2.3–3.62. **Body:** Total length: 14.75–17.16; Carapace: long 7.3–8,25; wide 7.08–8.5; Clypeus: 0.5–0.7; Fovea: 3.33–4; Labium: long 2–2.75; wide 1.5–1.87; Chelicerae: long 3.75–4.12; wide 2.75–3.37; Sternum: long 4.66–5.87; wide 4.25–5.25. Abdomen: long 9–9.12; wide 6.37–6.75. **Leg measurements:** I: Fe 3.37–5/ Pa 2.87–3.35/ Ti 1.87–2.5/ Me 2.25–3/ Ta 1.5–1.62/ total 12.5–15.5. II: 4–5/ 2.87–3.5/ 2–2.37/ 2.37–3/ 1–1.62/ 12.37–15.5. III: 3.87–4.37/ 3–3.87/ 1.12–1.75/ 2.75–3.25/ 1.12–1.25/ 12–14.37. IV: 5.37–6.25/ 3.12–4.12/ 3.12–4.12/ 3.12–4.12/ 1.37–1.5/ 16.25–20.12. Formula 4123.

Distribution. BRAZIL. Maranhão: Tutóia. Bahia: Jaborandi. Mato Grosso: Aripuanã. Mato Grosso do Sul: Paranaíba, and Três Lagoas. São Paulo: Luiz Antônio. Minas Gerais: Belo Horizonte, and São Gonçalo do Rio Preto (Map 5).

Material examined: BRAZIL. Maranhão: Tutóia, [2° 45' S 42° 16' W], 1♂ 2♀, xi.1936, A. Silvio leg. (IBSP 103432). Bahia: Jaborandi, [13° 35' S 44° 32' W], Veredas do Oeste Bahiano, Refúgio da Vida Silvestre, 1♂, 13.xi.2007, R. Recorder leg. (IBSP 114491). Mato Grosso: Aripuanã, Chapada Darnadelos, 10º 10' S 59º 27' O, 2♂, 02–13.xi.1996, G. Skuk leg. (MZSP 15428). Mato Grosso do Sul: Paranaíba, [19° 40' S 51° 10' W], 1♂, 03.xi.1983, R. R. da Silva leg. (IBSP 110502); três Lagoas, [21° 37' S 52° 50' W], Fazenda Canãa, 1♂, F. Lane leg. (MZSP 5348). Minas Gerais: Diamantina, Parque Estadual do Biribiri, [18º 07' 13.19"S 43º 34' 47.69"W], 1♂, A. H.

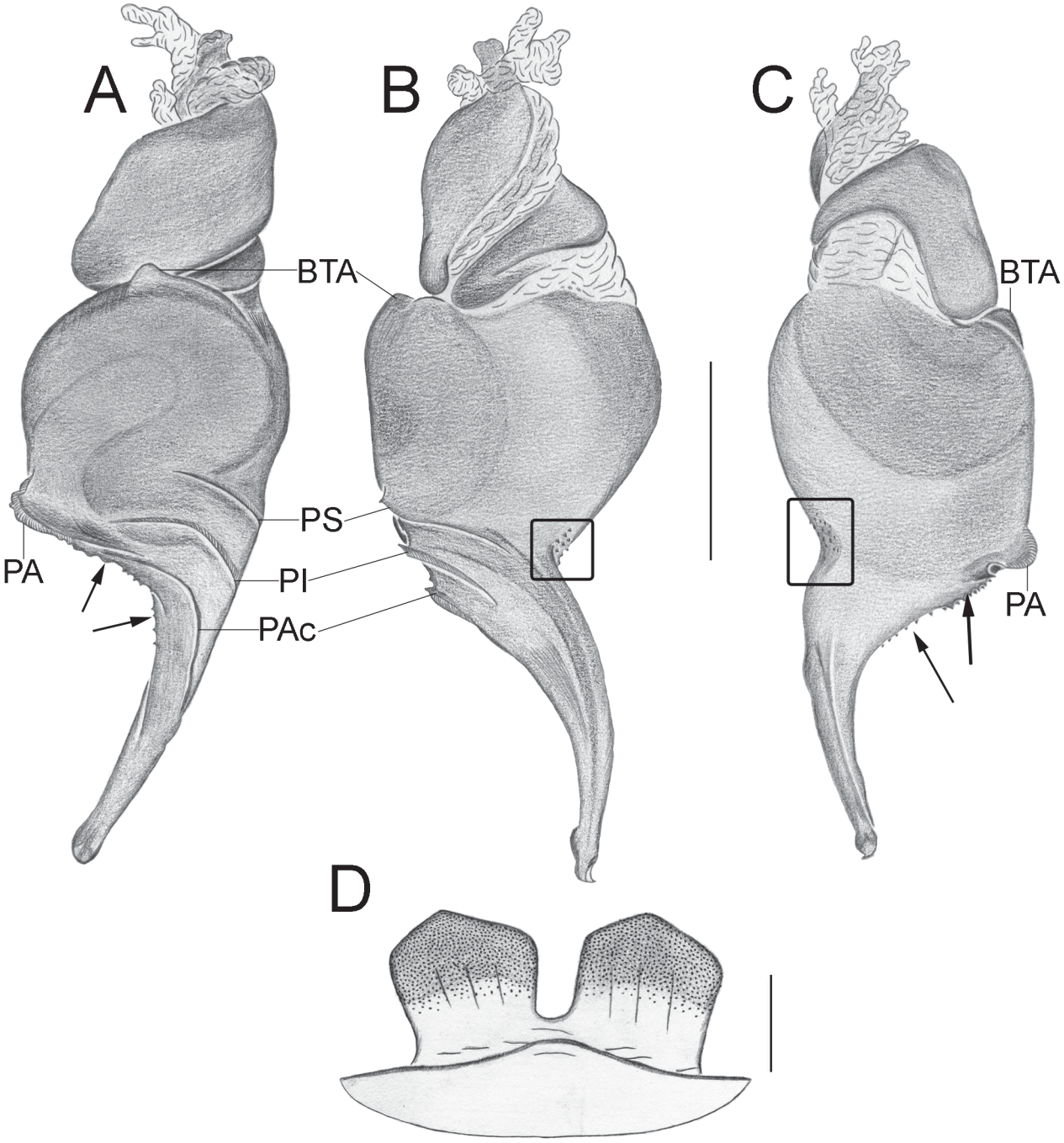


FIGURE 72. *Actinopus rufipes* (Lucas, 1834), male: A–C IBSP 161468: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated area; Rectangles: Cusps on retrolateropical embolus. Paratype, female: D CAD 77: D. Spermathecae, dorsal view. Scale line: Male: 1 mm, female: 0.5 mm.

Apolinario & J. P. L. Guadanucci leg. (CAD 615), 1♀, 05–10.xi.2012, A. H. Apolinario & J. P. L. Guadanucci leg. (CAD 614); São Gonçalo do Rio Preto, Parque Estadual do Rio Preto (PERP), [18° 9' 15" S 43° 20' 50" W], 1♀, 16.iii.2010, Aleatório (CAD 77); 2♂, 20–25.x.2010, G. Monteiro, F. Sá, W. F. Silva & J. P. L. Guadanucci leg. (CAD 264); Belo Horizonte, Estação Ecológica da Universidade Federal de Minas Gerais (UFMG), 19° 58' S 43° 58' W, Creche, 1♂, 14.ix.1999 (UFMG 589); v.1999, E. S. S. Álvares leg. (UFMG 583). São Paulo, Luiz Antônio, Estação Ecológica de Jataí (EEJ), [21º 36' 54" S 47º 48' 02" W], 1♂, 6–12.xi.2009, A. G. Cristovão leg. (IBSP 161461, 161462, 161463, 161464, 161465, 161466, 161468, 161469, 161470, 161471, 161472,

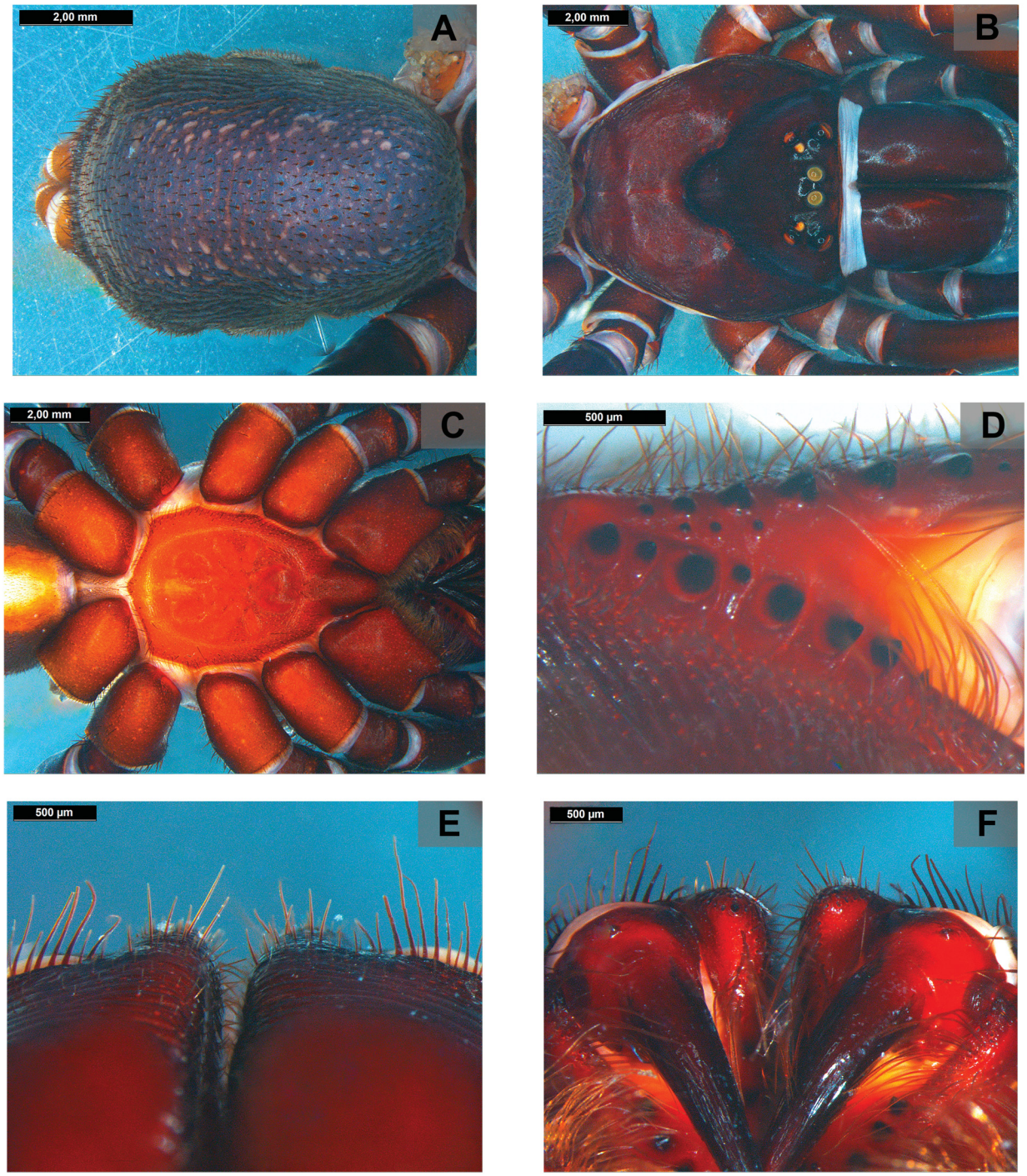


FIGURE 73. *Actinopus vilhena* sp. nov., male: A–F IBSP 114440: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

161473, 161474, 161475, 161476, 161477); 2♂ (IBSP 161479); 3♂ (IBSP 161467, one removed for SEM).

***Actinopus vilhena* sp. nov.**

Figs 73–75, Map 5

Type material. Holotype male from [12° 44' S 60° 07' W], Vilhena, Rondônia, Brazil, ix.1999, M. Carvalho leg. (IBSP 114440). **Paratype:** BRAZIL. Mato Grosso do Sul: Corumbá, [19° 00' S 57° 39' W], 1♂ (IBSP 110559).

Etymology. The specific name is a noun in apposition from the type locality name., Vilhena, Rondônia.

Diagnosis. Male resemble those of *A. nattereri* (Figs 63 A, 67 E), *A. itapitocai* (Fig. 79 A), *A. itaqui* (Fig. 89 A) and *A. caxiuana* (Fig. 98 A) by the bluish-gray coloration

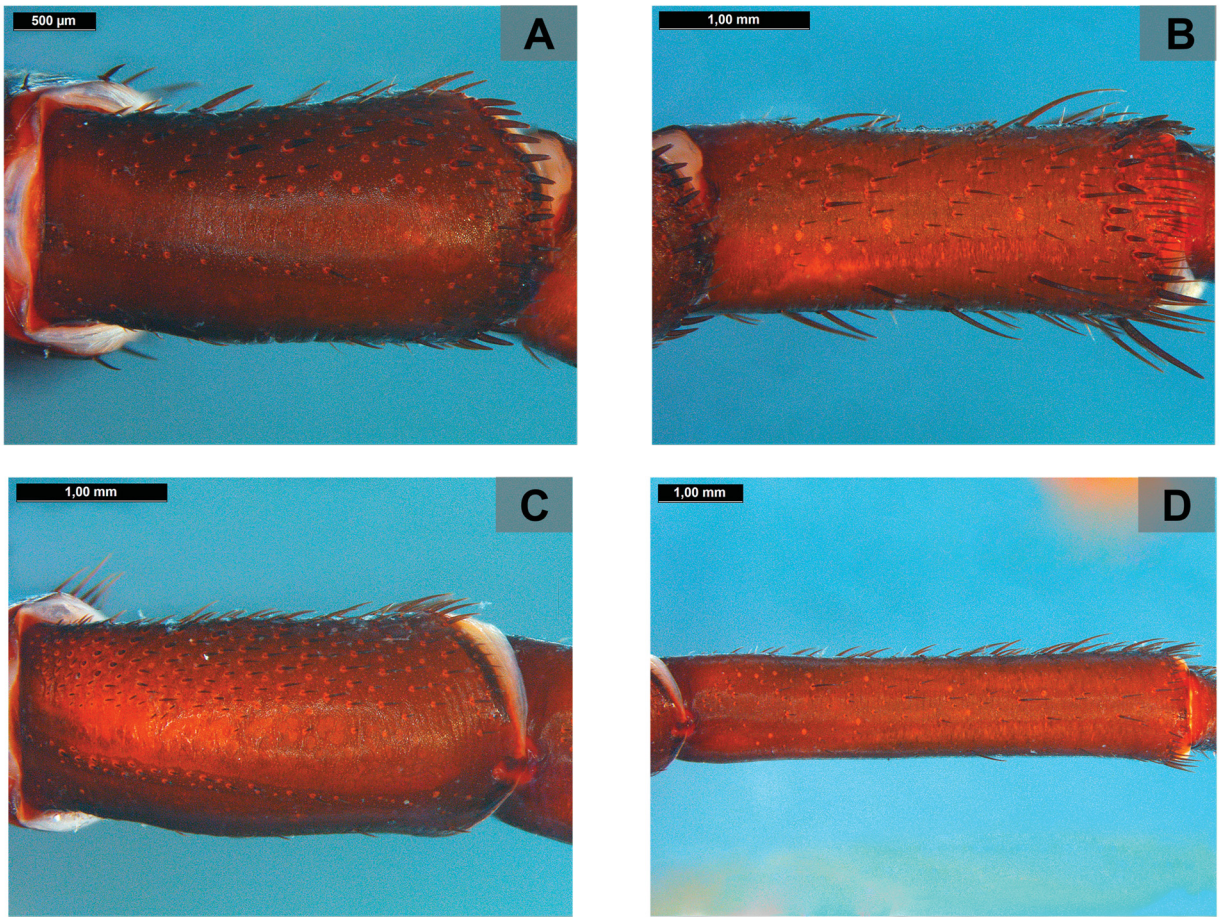


FIGURE 74. *Actinopus vilhena* sp. nov., male: A–D IBSP 114440: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

on the dorsal abdomen (Fig. 73 A); it resembles those of *A. nattereri* (Fig. 37 A–D), *A. harveyi* (Fig. 78 A–C), *A. itapitocai* (Fig. 83 A–C), *A. xingu* (Fig. 94 A–C) and *A. utinga* (Fig. 103 A–C) by BTA displaced dorsally in relation to a middle longitudinal line along the prolateral tegular surface (Fig. 75 A); they resemble those of *A. nattereri, A. xingu and A. utinga* by the keels contiguous, close to each other, as seen in prolateral view (Fig. 75 A). The male resembles those of *A. harveyi*, *A. itapitocai*, *A. itaqui* (Fig. 91 A–C), *A. xingu* and *A. utinga* by PA continuous to PI (Fig. 75 A) and differ from those of all other species of the group nattereri by the non-overlapping keels and by the elongated, thin tegulum (Fig. 75 A–C).

MALE (IBSP 114440): Total length 17.38; Carapace, long 6.12; wide 5.62. Carapace anterior part tapering, posterior part rounded. Anterior eye row slightly procurved, posterior row recurved (Fig. 73 B). Without bristles between AME-clypeus, between ALE–ALP, and wih short bristles between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 73 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines apically (Fig. 73 E–F). Chelicerae with 4–9 denticles along prolateral row of teeth. Prolateral row five megateeth. Retrolateral row with five megateeth and two denticles between three distal and two basal megateeth (Fig. 73 D). Patella and tibia III with distal crown of well-developed thorns, not interrupted in middle (Fig. 74 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 74 A, C). Tibia IV without spines on dorsal surface (Fig. 74 D). Ventral pseudoscopulae occupying 30% of tarsus I, 50% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi dark brown; abdomen gray, hirsute (Fig. 73 A). **Eyes: Diameters:** PME 0.24, PLE 0.44, ALE 0.56, AME 0.36; MOQ: Length 1.24, front width 3.32, back width 2.92; **Interdistances:** PME–PME 1.76, PLE–PME 0.28, AME–AME 0.24, ALE–AME 0.92, ALE–PLE 1.24, AME–PME 0.52. **Ocular area:** OAL 6.25, OAW 4.37, and IF 4. **Body:** Clypeus: 0.37; Fovea:

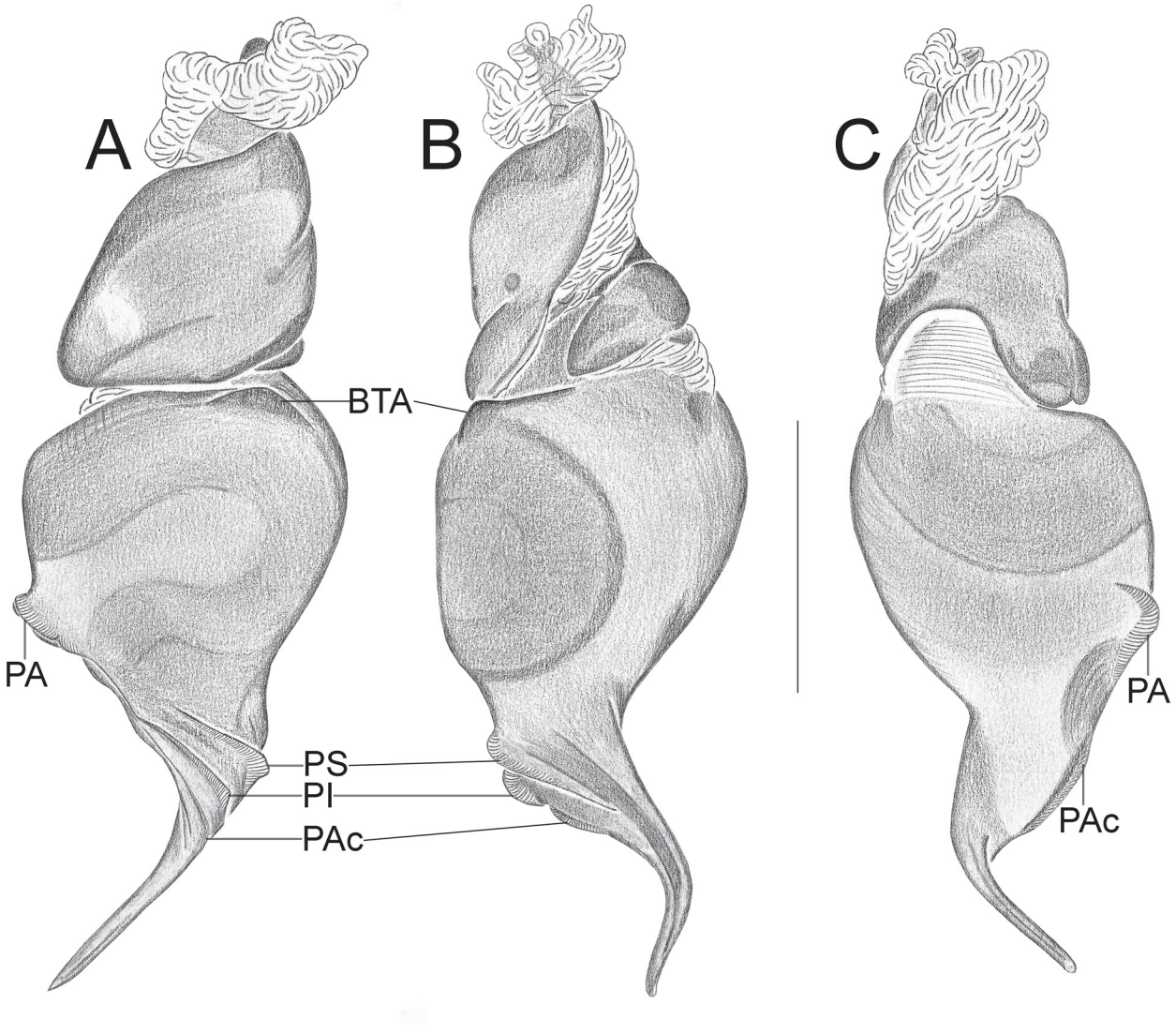


FIGURE 75. *Actinopus vilhena* sp. nov., male: A–C IBSP 114440: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel. Scale line: 1 mm.

2.62; Labium: long 1.25; wide 1.25; Chelicerae: long 3.5; wide 2.12; Sternum: long 6.37; wide 4.5. Abdomen: long 7.5; wide 5. **Leg measurements:** I: Fe 7/ Pa 2.87/ Ti 3.87/ Me 5/ Ta 2.5/ total 21.25. II: 6.5/ 3.12/ 3.75/ 5/ 2.75/ 21.12. III: 5.25/ 3/ 2.87/ 5.12/ 2.87/ 19.12. IV: 7.12/ 3.25/ 5.87/ 6.12/ 3/ 25.37. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v1-1-1, d0, p0, r0; Me v1-1-3, d0, p0, r3-6-2; ta v0-6-2 d0, p0-0-2, r0. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0, r0; Me v2-1-3, d0, p5-5-0, r0-1-3; ta v1-2-3, d0, p3-4-6, r1-3-6. III—Fe v0, d0, p0, r0; Pa v0-0-1, d3-4-18, p2-0-4, r0-0-2; ti v0-0-5, d1-0-13, p0-0-4, r0-5-3; Me v1-1-5, d2-0-0, p2-0-0, r0-1-3; ta v0, d0, p0-3-3, r0-2-2; IV—Fe v0, d0, p0, r0; Pa v0-1-2, d13-6-0, p2-1-0, r0; ti v0-0-3, d0, p0, r0; Me v2-2-3, d0, p0, r0; ta v0, d0, p0-1-9, r0-3-2. **Palp:** PA developed; thin, flattened embolus with three keels (PAc, PI and PS), equally spaced, without overlapping. serrated area. PA contiguous to PI in prolateral view. BTA well developed, displaced dorsally in relation to middle longitudinal line along prolateral tegular surface (Fig. 75 A–C).

Distribution. BRAZIL. Rondônia: Vilhena. Mato Grosso do Sul: Corumbá (Map 5).

Actinopus harveyi sp. nov.

Figs 76–78, Map 5

Type material. Holotype male from [05° 49’ S 37° 24’ W], Aldeia Yanomami, Alto Alegre, Rio Grande do Norte, Brazil, 20–30.iv.2005, C. Kirsch leg. (IBSP 111837).

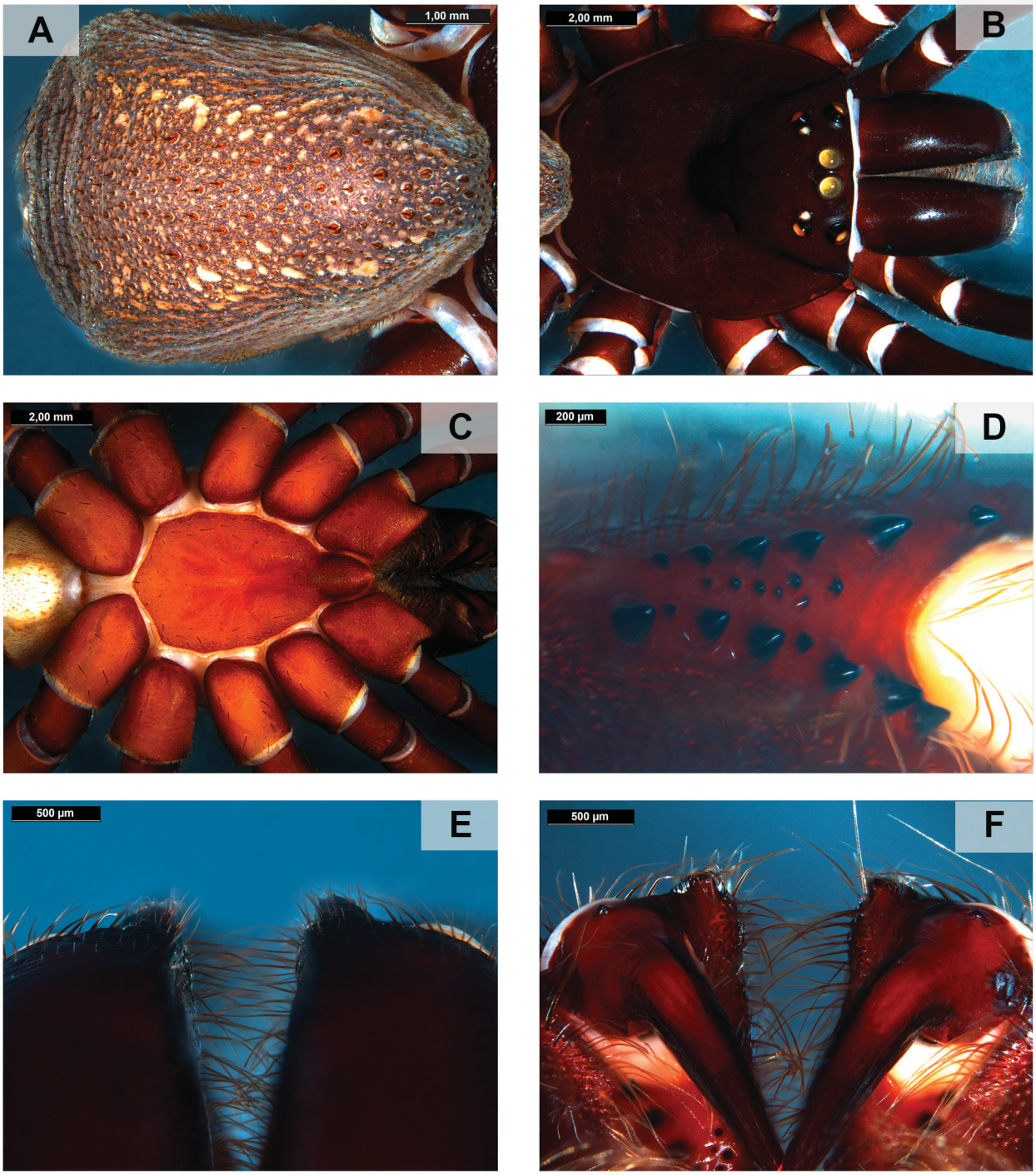


FIGURE 76. *Actinopus harveyi* sp. nov., male: A–F IBSP 111837: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

Etymology. The specific name is a patronym in honor of Australian arachnologist Mark S. Harvey, who kindly received the first author at the Western Australian Museum, Perth.

Diagnosis. The male of *A. harveyi* resembles those of *A. nattereri* (Fig. 67 A–C), *A. vilhena* (Fig. 75 A–C), *A. itapitocai* (Fig. 83 A–C), *A. xingu* (Fig. 94 A–C) and *A. utinga* (Fig. 103 A–C) by BTA displaced dorsally in relation to a middle longitudinal line along the prolateral tegular surface (Fig. 78 A); it differs from those of *A. nattereri, A. vilhena*, *A. xingu and A. utinga* by keels not overlapping in prolateral view (Fig. 78 A) and from all other species of the group *nattereri* by the short, inconspicuous PA and PAc reaching only 10% of PI, as seen on dorsal view (Fig. 78 A–C).

MALE (IBSP 111837): Total length 12.25; Carapace,

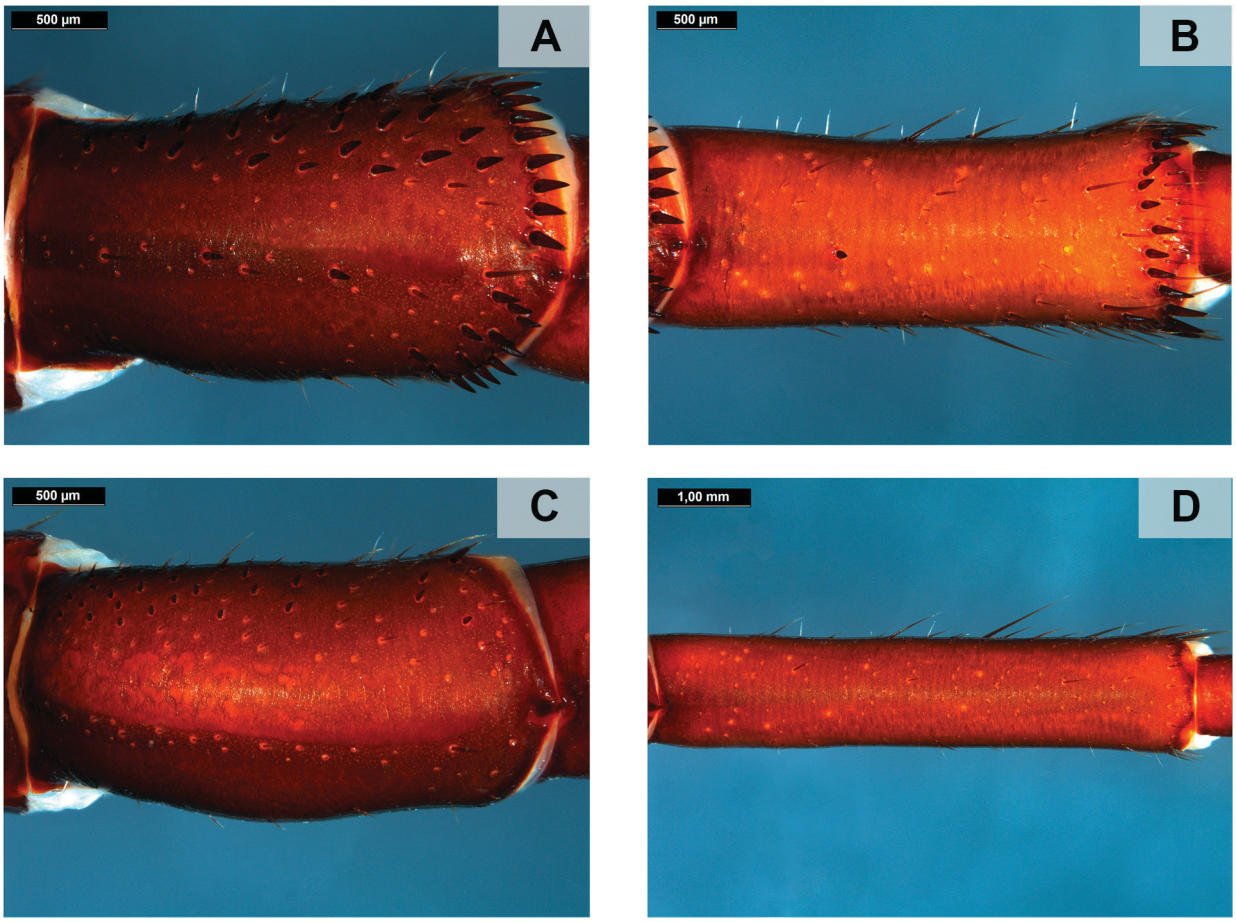


FIGURE 77. *Actinopus harveyi* sp. nov., male: A–D IBSP 111837: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

long 6.75; wide 6.25. Carapace rounded. Anterior eye row slightly procurved, posterior row recurved (Fig. 76 B). With few short bristles between AME-clypeus, between ALE–ALP, between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 76 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines apically (Fig. 76 E–F). Chelicerae with seven denticles along prolateral row of teeth. Prolateral row with six megateeth. Retrolateral row with six megateeth and two denticles between two medial teeth and two basal megateeth (Fig. 76 D). Patella and tibia III with distal crown of well-developed thorns, not interrupted in middle (Fig. 77 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 77 A, C). Tibia IV without spines on dorsal surface (Fig. 77 D). Ventral pseudoscopulae occupying 30% of tarsus I, 50% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; on tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish brown; Abdomen pale brown (Fig. 76 A). **Eyes: Diameters:** PME 0.28, PLE 0.4, ALE 0.44, AME 0.44; MOQ: Length 1.24, front width 3.16, back width 2.92; **Interdistances:** PME–PME 1.68, PLE–PME 0.12, AME–AME 0.2, ALE–AME 0.84, ALE–PLE 0.64, AME–PME 0.52. **Ocular area:** OAL 4.37, OAW 3.75, and IF 2.12. **Body:** Clypeus: 0.25; Fovea: 2.25; Labium: long 1.37; wide 1.12; Chelicerae: long 3.25; wide 1.75; Sternum: long 4.5; wide 3.5. Abdomen: long 5.87; wide 4.25. **Leg measurements:** I: Fe 6.12/ Pa 2.87/ Ti 3.87/ Me 4.87/ Ta 3/ total 20.75. II: 5.87/ 2.87/ 4/ 5.12/ 2.87/ 20.75. III: 5/ 3.12/ 2.75/ 5/ 2.87/ 18.75. IV: 6.25/ 3.37/ 5.5/ 5.62/ 3.25/ 24. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-3-8, d0, p0, r0-0-3; Me v4-8-6, d0, p0-0-3, r0-5-3; ta v1-3-3, d0, p1-3-2, r4-4-5. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v1-1-5, d0, p0, r0-0-5; Me v6-8-10, d0, p1-2-2, r0-2-3; ta v1-3-3, d0, p1-3-5, r1-6-6. III—Fe v0, d0, p0, r0; Pa v0, d4-13-25, p0-0-3, r0; ti v0, d1-0-15, p0-0-3, r0-0-3; Me v2-4-5, d2-2-3, p0-0-1, r0-2-4; ta v0, d0, p3-6-6, r3-8-3; IV—Fe v0, d0, p0, r0; Pa v0, d14-8-4, p1-0-1, r0; ti v0-0-2, d0-0-2, p0, r0; Me v1-1-4, d0, p0-

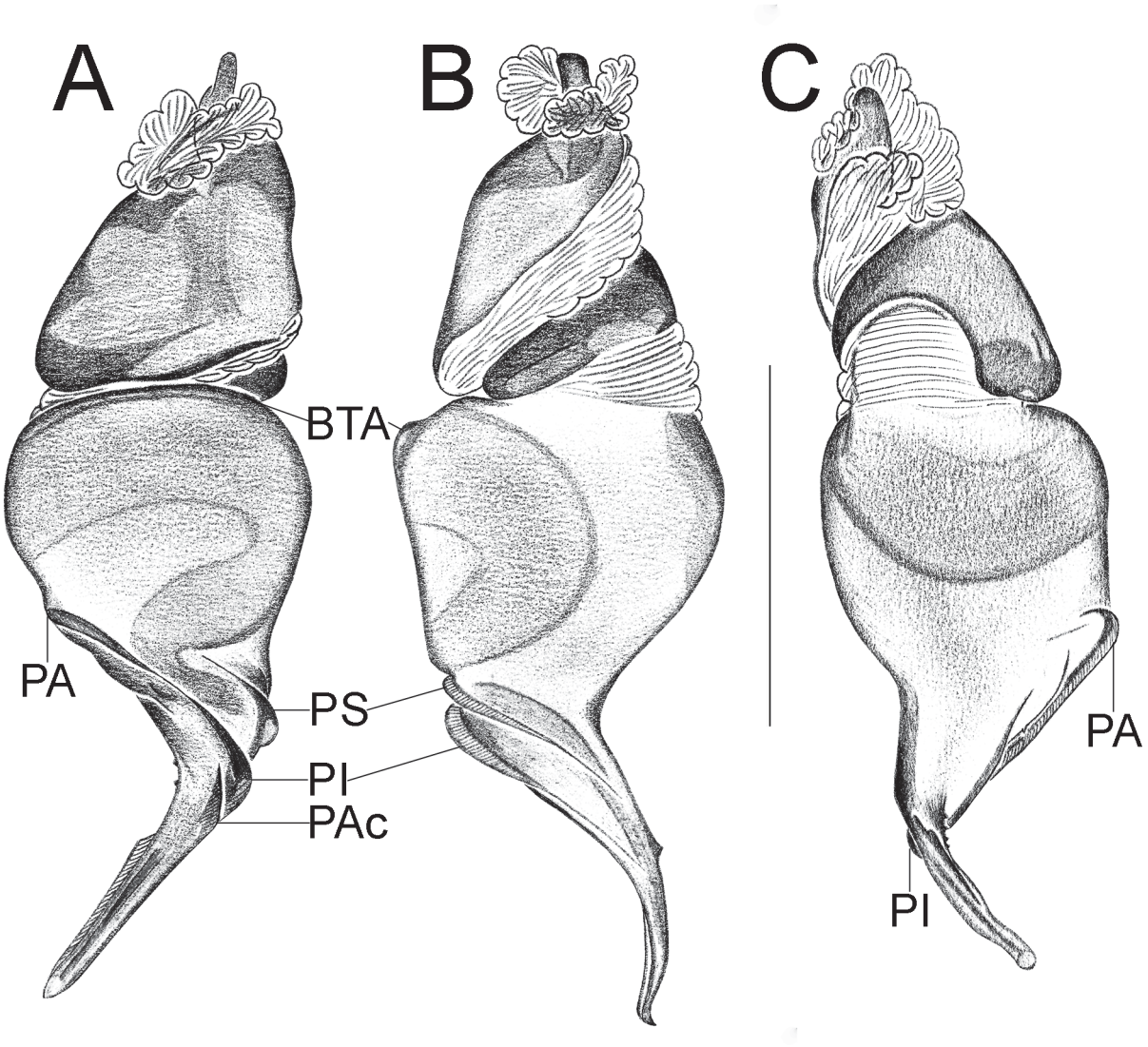


FIGURE 78. *Actinopus harveyi* sp. nov., male: A–C IBSP 111837: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel. Scale line: 1 mm.

1-2, r0-0-2; ta v0, d0, p1-7-4, r1-5-3. **Palp:** PA short and inconspicuous, embolus thin, flattened, with three keels (PAc, PI and PS). Serrated area absent. PA contiguous to PI in prolateral view. BTA well developed, displaced dorsally in relation to a middle longitudinal line along prolateral tegular surface (Fig. 78 A–C).

Distribution. BRAZIL. Rio Grande do Norte: Alto Alegre (Map 5).

Actinopus itapitocai sp. nov.

Figs 79–83, Map 5

Type material. Holotype male from [29° 44' S 57° 05' W], Uruguaiana, Rio Grande do Sul, Brazil, 15.ii.1973, E. Huber leg. (MCN 3112). **Paratypes:** BRAZIL. Goiás: Jataí, [17° 53' S 51° 42' W], Fazenda Aceiro, 1♀, Equipe DZ leg. (MZSP 22122). Espírito Santo: [19° 11' S 40° 18' W], 2♀ 1J, 19.vi.1920, E. Garle leg. (MZSP 10870); Vila Velha, [20° 20' S 40° 17' W], 4♀, 17.viii.1947, K. Imagnine leg. (MZSP 22114); 6♀, 17.viii.1947, K. Imagnine leg. (MZSP 22113, 1♀ removed for SEM). São Paulo: Tatuí, [23° 21' S 47° 51' W], 1♂, ix.1982, J. L. Gomes Protta (IBSP 104405); Ubatuba, [23° 26' S 45° 05' W], 11♀ 1J, 02.xii.1968, Spreket K. Ramos leg. (MZSP 22111); São Paulo, [23° 32' 56" S 46° 38' 20" W], 1♀, ix.1945 (MZSP 7513); Ipiranga, [23° 35' S 46° 36' W], 1♀, i.1926, Spitz leg. (MZSP 10869); 19.iv.1942, J. Barroso [MZSP 22121]; Horto, 1♀, viii.1925, Hnedeirvalbt leg.

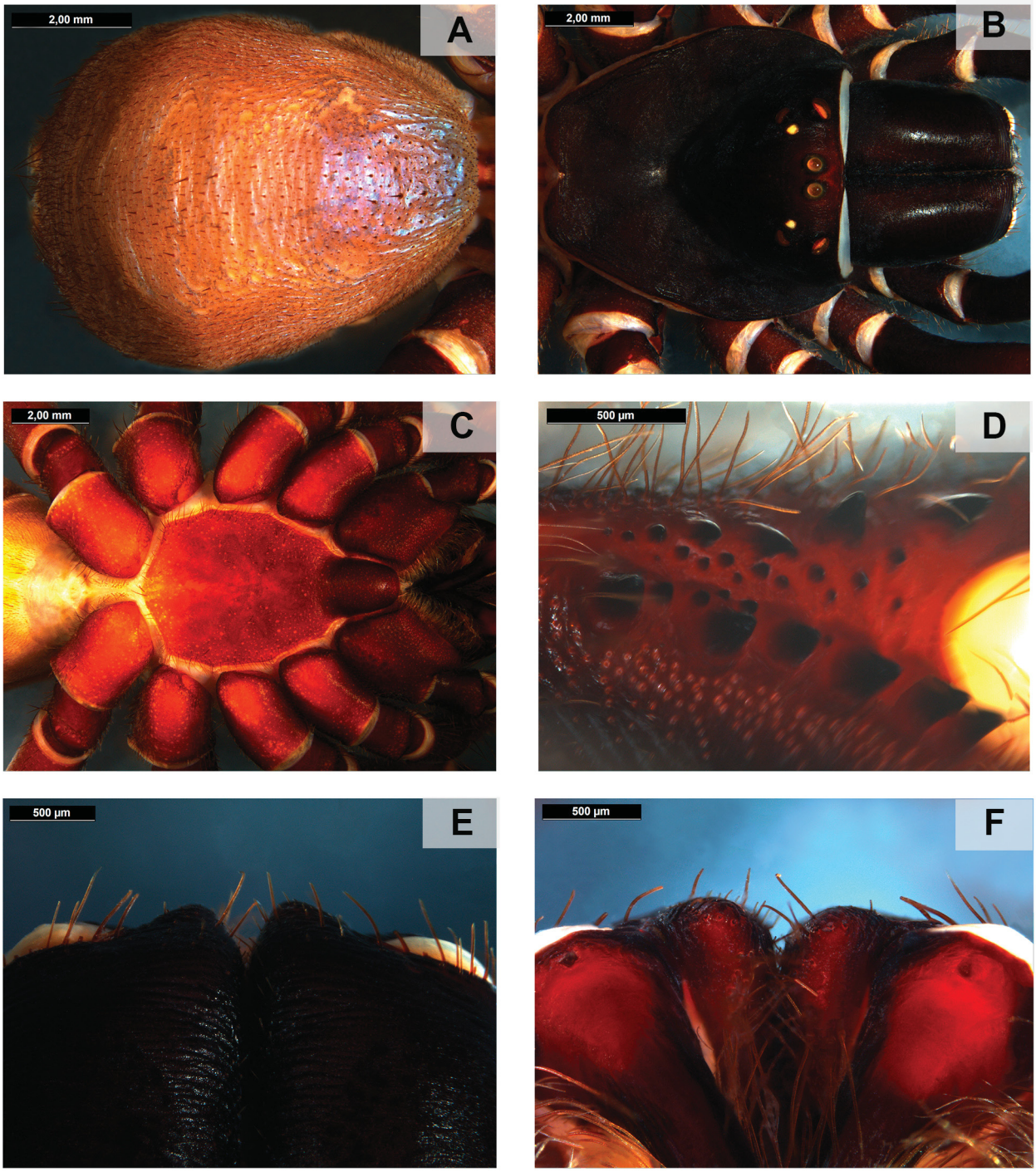


FIGURE 79. *Actinopus itapitocai* sp. nov., male: A–F MCN 3112: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

(MZSP 5788); Itapetininga, [23° 34' S 48° 01' W], 1♀, E. Rabello leg. (MZSP 22115). Paraná: Curitiba, [25° 25' S 49° 16' W], 9♀, ix.1946, Goffergé leg. (MZSP 22112). Rio Grande do Sul: Uruguaiana, Itapitocaí, [29° 47' S 57° 03' W], 1♂ 2♀, A. Dutra leg. (IBSP 103433).

Etymology. The specific name is a noun in apposition from the provenance of one of the paratypes, from the type locality, Uruguaiana, State of Rio Grande do Sul, Brazil.

Diagnosis. Males of *A. itapitocai* resemble those of *A. vilhena* (Fig. 73 A), *A. nattereri* (Fig. 63 A), *A. itaqui* (Fig. 89 A) and *A. caxiuana* (Fig. 98 A) by the bluish-gray color on the dorsal abdomen. Males differ from those species by this pattern been reduced to a spot on anterior third (Fig. 79 A); they resemble those of *A. vilhena* (Fig. 75 A–C), *A. harveyi* (Fig. 78 A–C), *A. nattereri* (Fig. 67 A–C), *A. xingu* (Fig. 94 A–C) and *A. utinga* (Fig. 103

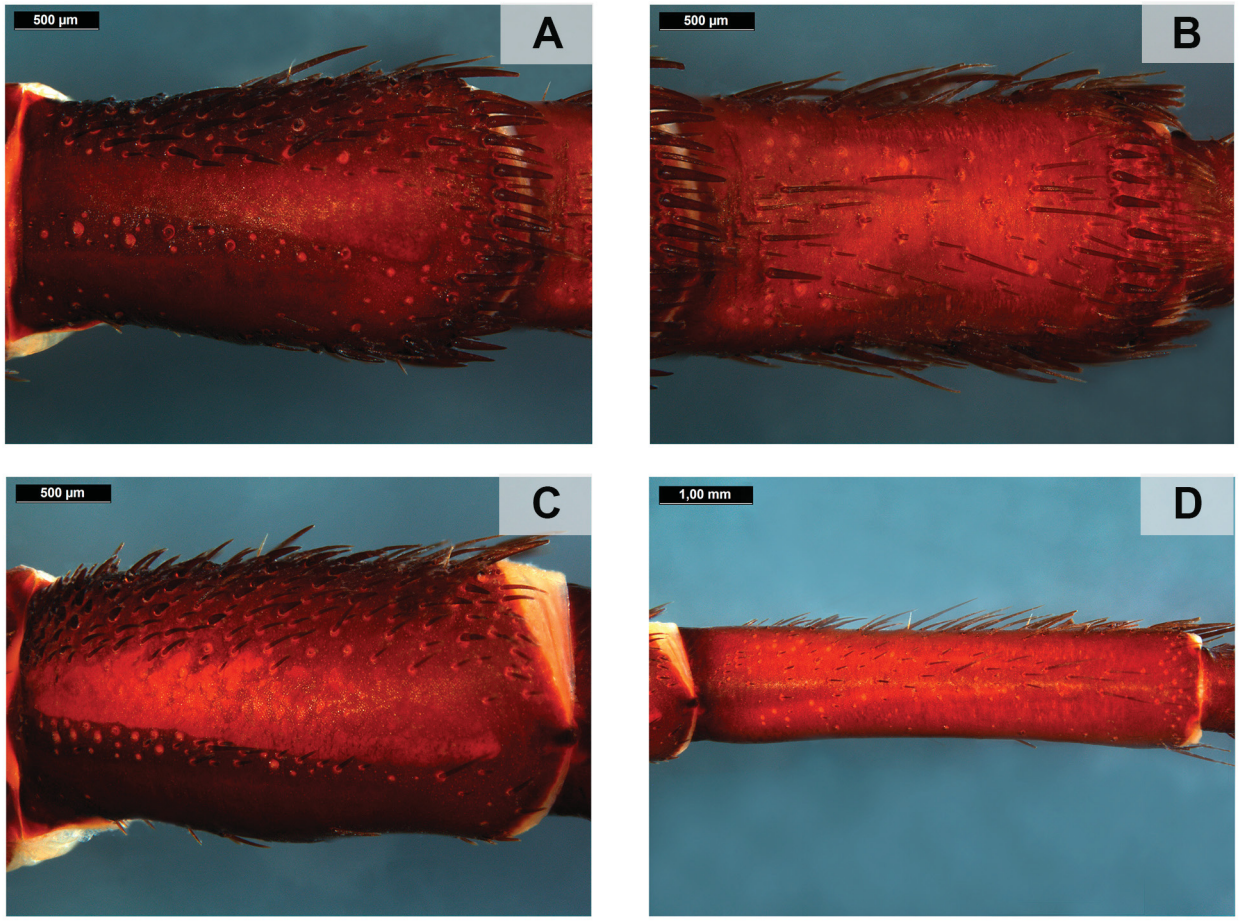


FIGURE 80. *Actinopus itapitocai* sp. nov., male: A–D MCN 3112: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

A–C) by the BTA being displaced dorsally in relation to a middle longitudinal line along the prolateral tegular surface (Fig. 83 A–B); they resemble those of *A. harveyi*, *A. vilhena*, *A. itaqui* (Fig. 91 A–C), *A. xingu* and *A. utinga* by PA contiguous to PI in prolateral view. They differ from those of all other species included in the group *nattereri* by PS and PI reaching only 30–35% of embolus, as seen on dorsal view; PAc totally covered by PI on dorsal view; and tegulum with a depression on retrolateral surface (Fig. 83 A–C). Females resemble those of *A. ipioca* (Fig. 88 D) by the bilobed receptacles, with the outer lobe being higher than the inner lobe and differs from those *A. ipioca* by the pore distribution reaching the border between the basal membrane and receptaces, and by the subquadrate receptacles (Fig. 83 D)

MALE (MCN 3112): Total length 15.25; Carapace, 6.87; wide 6.75. Carapace anterior part tapering. Anterior eye row slightly procurved, posterior row recurved (Fig. 79 B). With few, short and sparse bristles between AME-clypeus, between ALE–ALP, between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 79 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines apically (Fig. 79 E–F). Chelicerae with 16 denticles along prolateral row of teeth. Prolateral row with six megateeth. Retrolateral row with six megateeth and three denticles, one the medial teeth and two between the two basal megateeth (Fig. 79 D). Patella and tibia III with distal crown of well-developed thorns, not interrupted in middle (Fig. 80 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 80 A, B). Tibia IV without spines on dorsal surface (Fig. 80 D). Ventral pseudoscopulae occupying 40% of tarsus I, 70% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish-dark-brown; Abdomen pale brown with an anterior bluish abdomen dorsally (Fig. 79 A). **Eyes: Diameters:** PME 0.24, PLE 0.44, ALE 0.52, AME 0.32; MOQ: Length 1.24, front width 3.56, back width 3.12; **Interdistances:** PME–PME 1.92, PLE–PME 0.12, AME–AME 0.24, ALE–AME 1.04, ALE–PLE 0.56, AME–PME 0.72. **Ocular area:** OAL 5.25, OAW 4, and

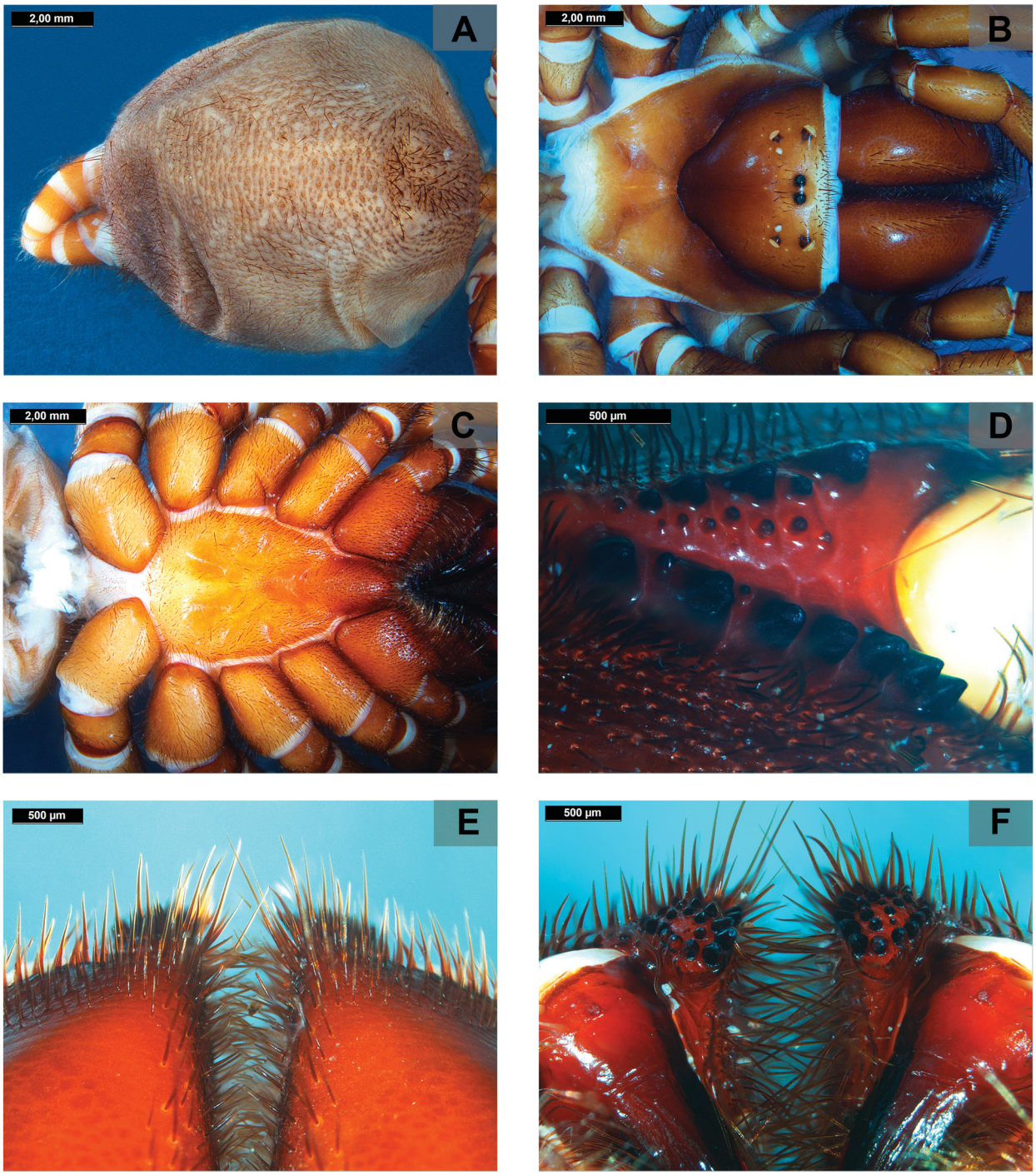


FIGURE 81. *Actinopus itapitocai* sp. nov., female: A–F MZSP 22113: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

IF 2.62. **Body:** Clypeus: 0.37; Fovea: 3; Labium: long 1.75; wide 1.5; Chelicerae: long 3.75; wide 2; Sternum: long 4.75; wide 4.12. Abdomen: long 7.75; wide 6.12. **Leg measurements:** I: Fe 6.12/ Pa 3/ Ti 3.62/ Me 4.25/ Ta 2.5/ total 19.5. II: 5.75/ 3/ 3.25/ 4.62/ 2.75/ 19.37. III: 4.87/ 3/ 2.25/ 4.75/ 3/ 17.87. IV: 6.75/ 3.25/ 5.37/ 6.37/ 3.5/ 25.25. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0, r0; Me v0-0-4, d0, p0-0-4, r0; ta v0, d0, p0-0-4, r0-0-4. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0, r0; Me v0, d0, p0, r1-3-3; ta v0, d0, p0-2-2, r0-3-6. III—Fe v0, d0, p0, r0; Pa v0, d10-15-23, p0-0-1, r0-0-2; ti v0-0-3, d1-0-13, p0-0-2, r0-1-4; Me v0-1-4, d1-2-4, p0, r1-2-3; ta v0, d0, p0-2-3, r0-3-8; IV—Fe v0, d0, p0, r0; Pa v0, d18-12-6, p1-1-3, r0; ti v0-0-1, d0, p0, r0; Me v0-1-5, d0, p2-4-3, r0; ta v0, d0, p1-8-7, r1-3-0. **Palp:** PA developed; embolus

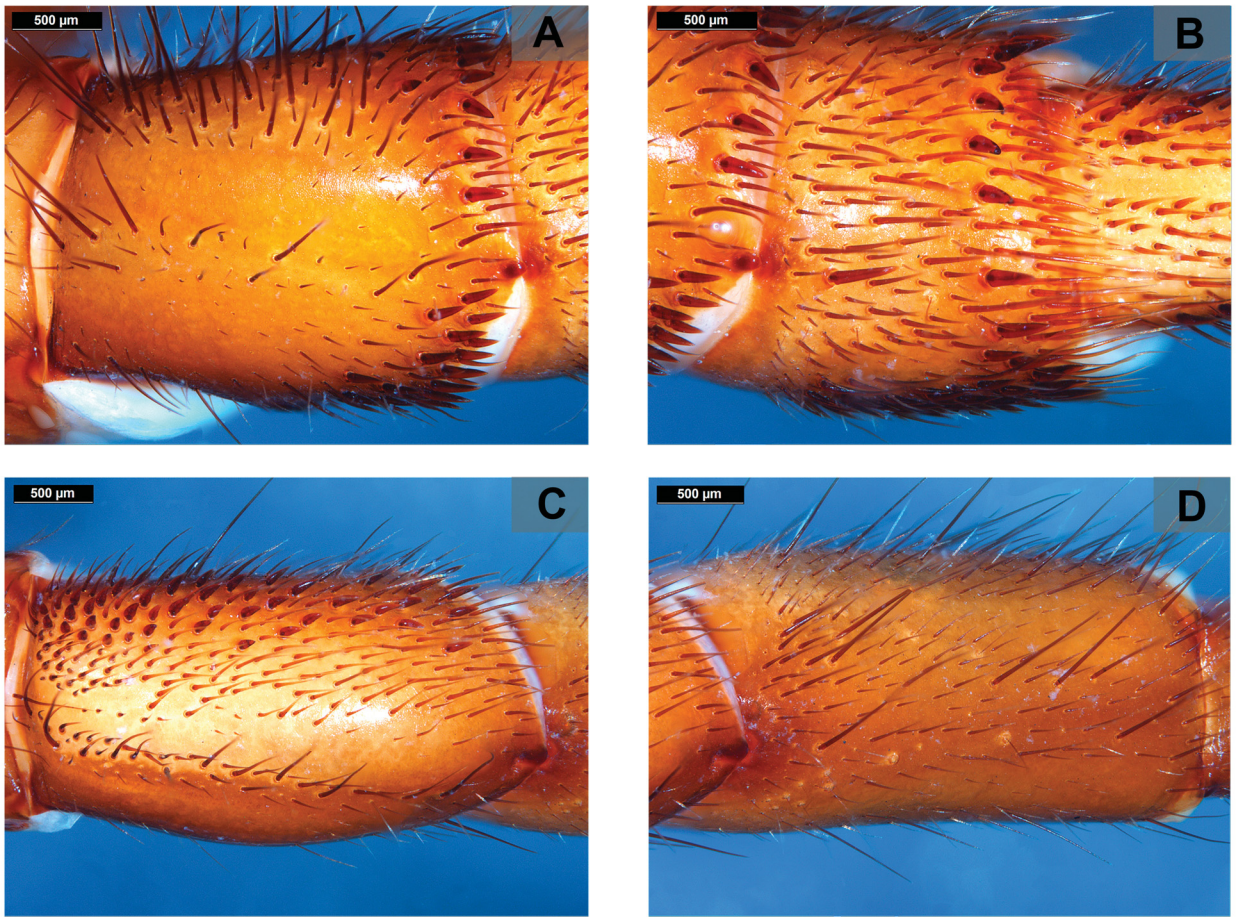


FIGURE 82. *Actinopus itapitocai* sp. nov., female: A–D MZSP 22113: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

thin, flattened, with three keels (PAc, PI and PS) equally spaced and without overlapping. serrated area absent. PA contiguous to PI in prolateral view. BTA well developed, displaced dorsally in relation to middle longitudinal line along prolateral tegular surface (Fig. 83 A–C).

FEMALE (MZSP 22113): Total length 21.62; Carapace, long 8; wide 7.87. Carapace anterior part square and posterior part triangular. Anterior eye row procurved, posterior row slightly recurved (Fig. 81 B). Many short and long bristles between AME-clypeus, one long bristle between PLE–ALE, short and long bristles between posterior eyes-fovea and short bristles between lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, all sigilla very fused to each other (Fig. 81 C). Rastellum protuberant, subquadrate, hirsute, with a row of short spines on the edge of rastellum and many short spines over dorsal rastellum (Fig. 81 E–F). Chelicerae with 8 denticles along prolateral row of teeth. Prolateral row with five megateeth and one tooth, basal to megateeth. Retrolateral row with seven megateeth and two teeth between three basal megateeth (Fig. 81 D). Patella III with distal interrupted crown of thorns and tibiae III with distal developed crown of thorns (Fig. 82 A–B). Patella IV with prolaterodorsal short spines along extension of article (Fig. 82 C). Tibia IV without spines and with long bristles along prolaterodorsal surface (Fig. 82 D). Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi, tarsi and palp reddish brown; Abdomen pale brown with big basal spot of long bristles dorsally (Fig. 81 A). 29 labial cuspules, 166 on right maxilla and 189 on left. **Eyes: Diameters:** PME 0.28, PLE 0.4, ALE 0.32, AME 0.16; MOQ: Length 1.16, front width 3.84, back width 3.48; **Interdistances:** PME–PME 1.88, PLE–PME 0.2, AME–AME 0.16, ALE–AME 1.4, ALE–PLE 0.68, AME–PME 0.8. **Ocular area:** OAL 6.5, OAW 4.87, and IF 2.75. **Body:** Clypeus: 0.37; Fovea: 3.87; Labium: long 1.87; wide 1.75; Chelicerae: long 3.12; wide 2.75; Sternum: long 5.62; wide 5. Abdomen: long 12.12; wide 9.25. **Leg measurements:** I: Fe 3.62/ Pa 2.5/ Ti 2/ Me 2.5/ Ta 1.5/ total 12.12. II: 2.62/ 3/ 1.75/ 2.5/ 1.12/ 11. III: 4.12/ 3.37/ 1.5/ 2.75/ 1.12/ 12.87. IV: 5.25/ 3.62/ 3.25/ 2.5/ 0.87/ 15.5. Formula 4123. **Spination:** I—

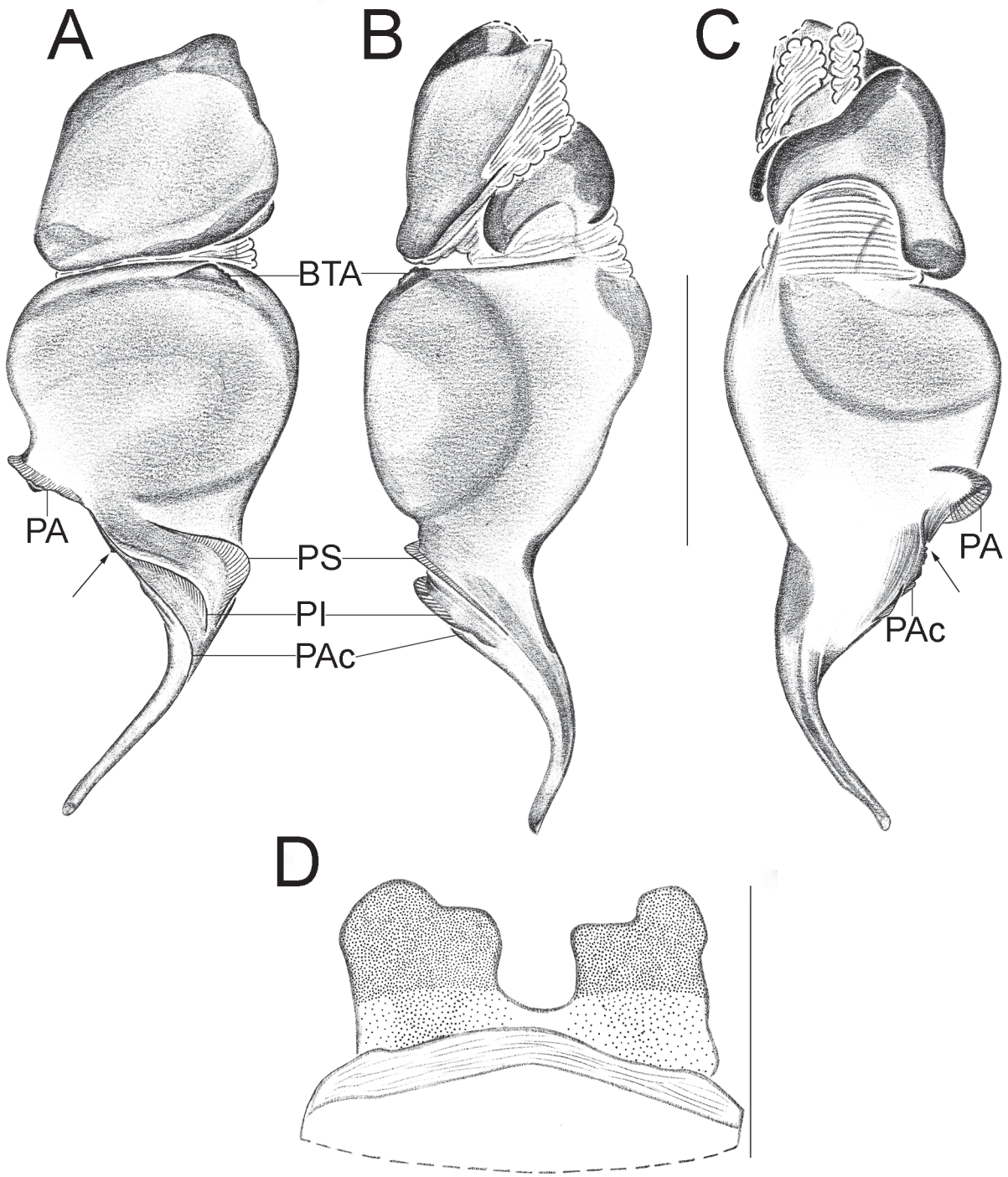


FIGURE 83. *Actinopus itapitocai* sp. nov., male: A–C MCN 3112: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated area. Paratype, female: D MZSP 22113: D. Spermathecae, dorsal view. Scales lines: 1 mm.

Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-0-1, d0, p0-5-4, r10-13-7; Me v0-1-2, d0, p9-10-10, r12-9-7; ta v1-2-2, d0, p4-6-3, r7-6-7. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0, r29-28-18; Me v0, d0, p4-5-4, r14-12-3; ta v0-0-3, d0, p3-4-4, r3-2-4. III—Fe v0, d0, p0, r0; Pa v0, d0-6-48, p0-0-4, r0-2-15; ti v0, d1-0-19, p4-0-4, r10-7-15; Me v0-0-3, d10-7-3, p4-3-3, r9-10-13; ta v20-25-12, d0-0-4, p0-2-5, r5-12-6; IV—Fe v0, d0, p0, r0; Pa v0, d24-19-8,

p0, r0; ti v0, d0, p0, r0; Me v0-0-3, d0-0-1, p0-1-6, r0; ta v13-16-18, d0, p3-10-5, r0-0-6. **Spermathecae:** Seminal receptacles slightly asymmetrical, as long as wide, with short ducts. Both receptacles bilobed, with outer lobe higher than inner lobe. Pore distribution reaching border between basal membrane and receptacles (Fig. 83 D).

Distribution. BRAZIL. Espírito Santo: Vila Velha. Minas Gerais: Januária. Goiás: Jataí. São Paulo: Tatuí, Ubatuba, São Paulo, and Itapetininga. Rio Grande do Sul: Uruguaiana. Paraná: Curitiba (Map 5).

Material examined (burned in fire). Minas Gerais: Januária, [15° 20' S 44° 14' W], Riacho da Cruz, 1♂ 1♀ 1J, José Blaser leg. (IBSP 103434).

***Actinopus ipioca* sp. nov.**

Figs 84–88, Map 5

Type material. Holotype male from [09° 39' 57" S 35° 44' 06" W], Serra da Saudinha, Ipióca, Maceió, Alagoas, Brazil, ii.2005, G. Q. C. Correia leg. (IBSP 112593). **Paratypes:** BRAZIL. Alagoas: Maceió, Serra da Saudinha,

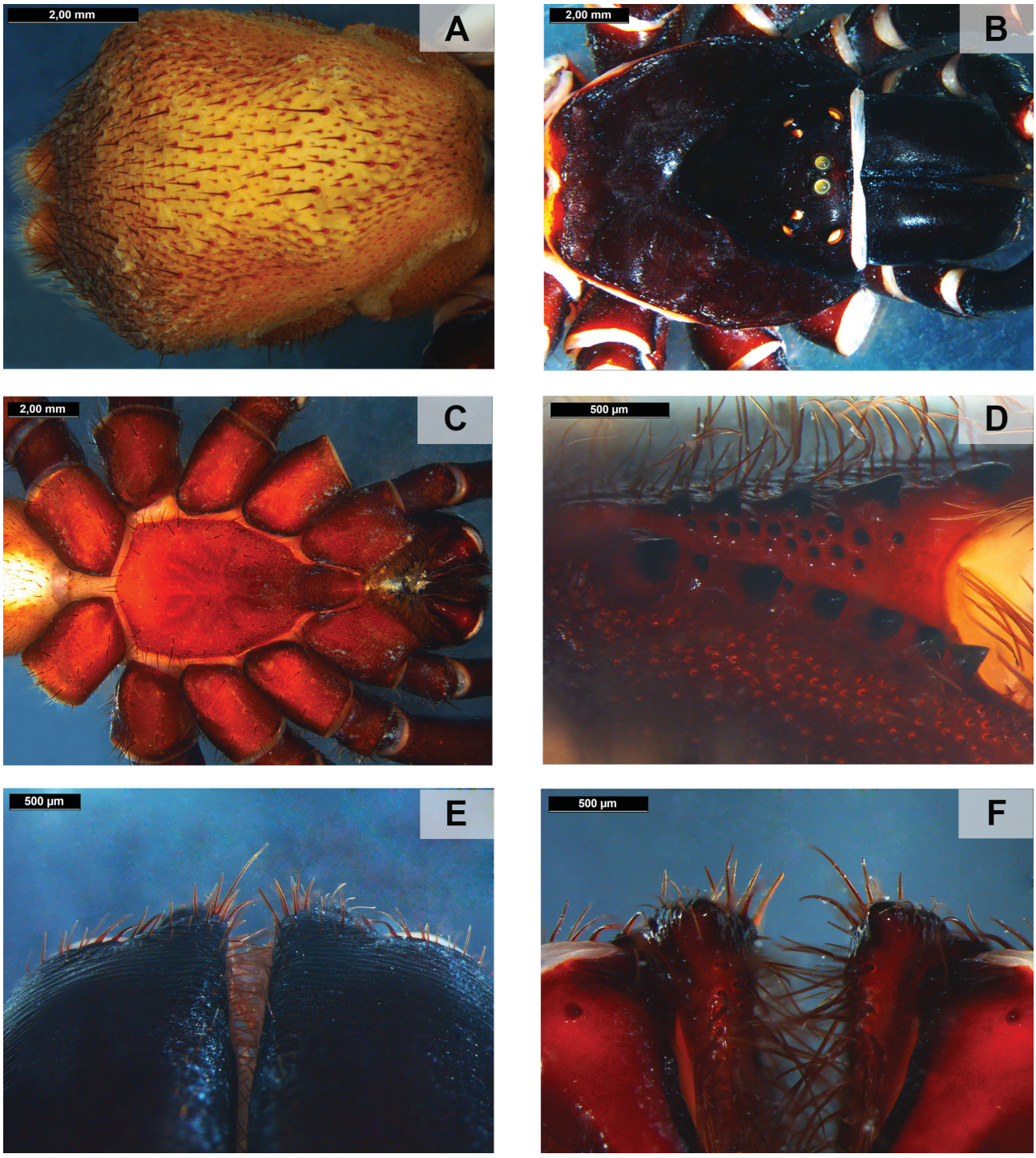


FIGURE 84. *Actinopus ipioca* sp. nov., male: A–F IBSP 112593: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

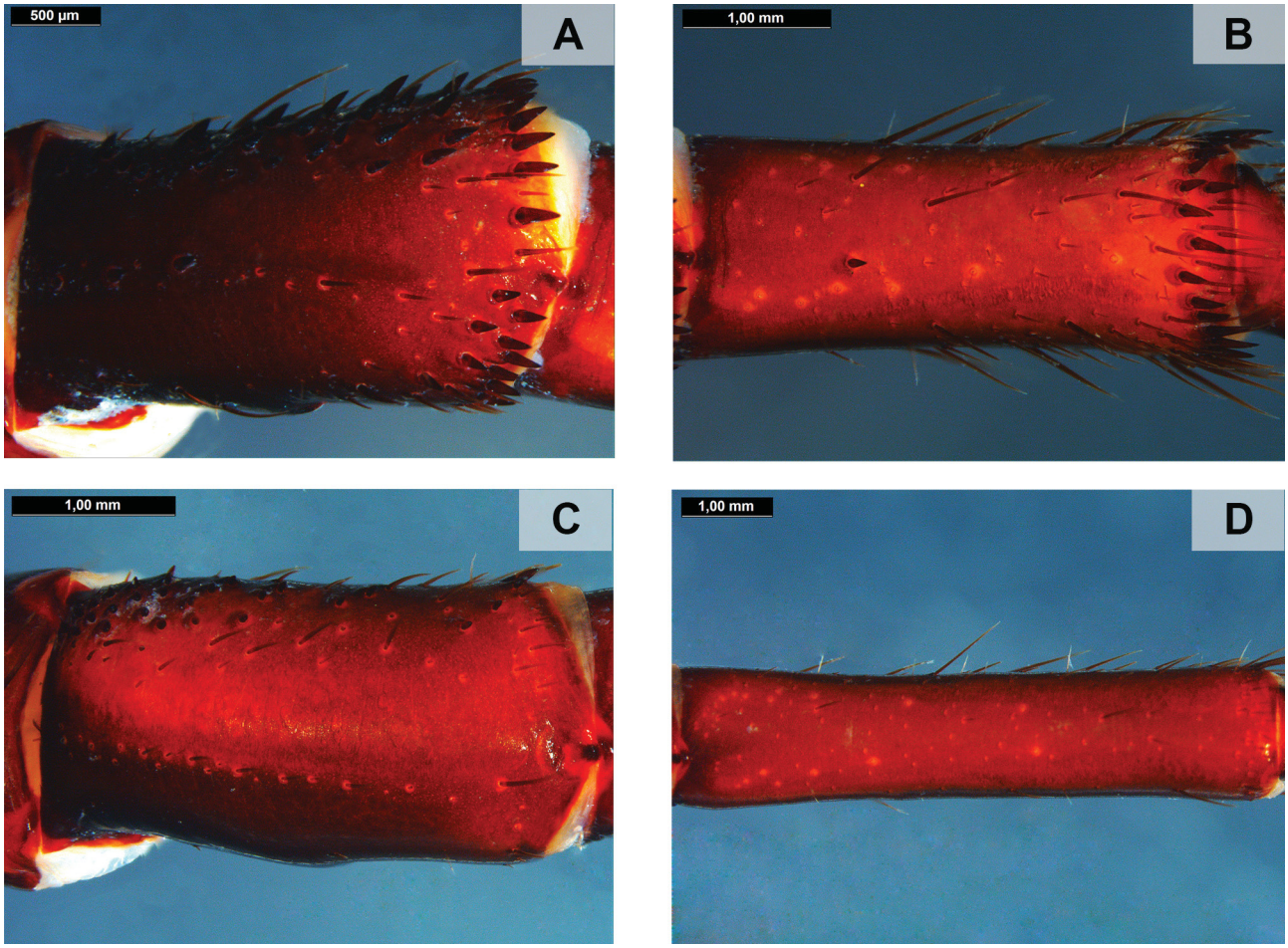


FIGURE 85. *Actinopus ipioca* sp. nov., male: A–D IBSP 112595: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

Ipióca, [09° 39' 57" S 35° 44' 06" W], 1♂, ii.2005, G. Q. C. Correia leg. (IBSP 112584, 112597); Murici, Estação Ecológica de Murici, Universidade Federal de Alagoas (UFAL), Barranco, [9° 14' 17.3" S 35° 50' 16.1" W], 1♀, 16.viii.2006, R. Bertani, D. Ortega & R. H. Nagahama leg. (IBSP); 17.viii.2006, R. Bertani, D. Ortega & R. H. Nagahama leg. (IBSP). Espírito Santo: Santa Teresa, [19º 56' 12" S 40º 35' 53" W], 1♂ (MNRJ 6792).

Etymology. The specific name is a noun in apposition from the type locality name, Ipióca, Maceió and a famous strong drink called "ypióca" from the same region of Brazil.

Diagnosis: Males of *A. ipioca* resemble those of *A. caxiuana*, *A. nattereri* and *A. itaqui* by the palpal tibia being paler than other articles and those of *A. rufipes* (Fig. 72 A–C), *A. itaqui* (Fig. 91 A–C), *A. mesa* (Fig. 97 A–C) and *A. caxiuana* (Fig. 100 A–C) by the BTA placed medially on prolateral tegular surface; and those of *A. rufipes*, *A. mesa* and *A. caxiuana* by the developed PA, contiguous to PAc in prolateral view; they resemble those of *A. nattereri* (Fig. 67 A–C), *A. rufipes*, *A. itaqui*, *A. caxiuana* and *A. utinga* (Fig. 103 A–C) by the palpal tibia being paler than other articles; and differ from those of *A. nattereri*, *A. vilhena*, *A. harveyi* (Fig. 78 A–C), *A. mesa* and *A. utinga* by the inconspicuous serrated area, represented by few cusps, and from all species of the group by the rounded tegulum, as seen on dorsal view; PI sinuous in prolateral view; tegulum with a swelling above PA, visible on prolateral and retrolateral views; and surface of embolus lowest than surface of tegulum on retrolateral view (Fig. 88 A–C). Females resemble those of *A. itapitocai* (Fig. 83 D) by the bilobed receptacles, with outer lobe higher than inner lobe, but males differ from those of the pore distribution reaching 75% of each receptacle apices, and by the bulbous receptacles (Fig. 88 D)

MALE (IBSP 112593): Total length 15.5; Carapace, long 8; wide 7.75. Carapace anterior part tapering. Anterior eye row slightly procurved, posterior row recurved (Fig. 84 B). With one bristle between AME-clypeus and one long bristle between ALE–ALP. Many short and weak bristles between posterior eyes-fovea and lateral eyes-edge of

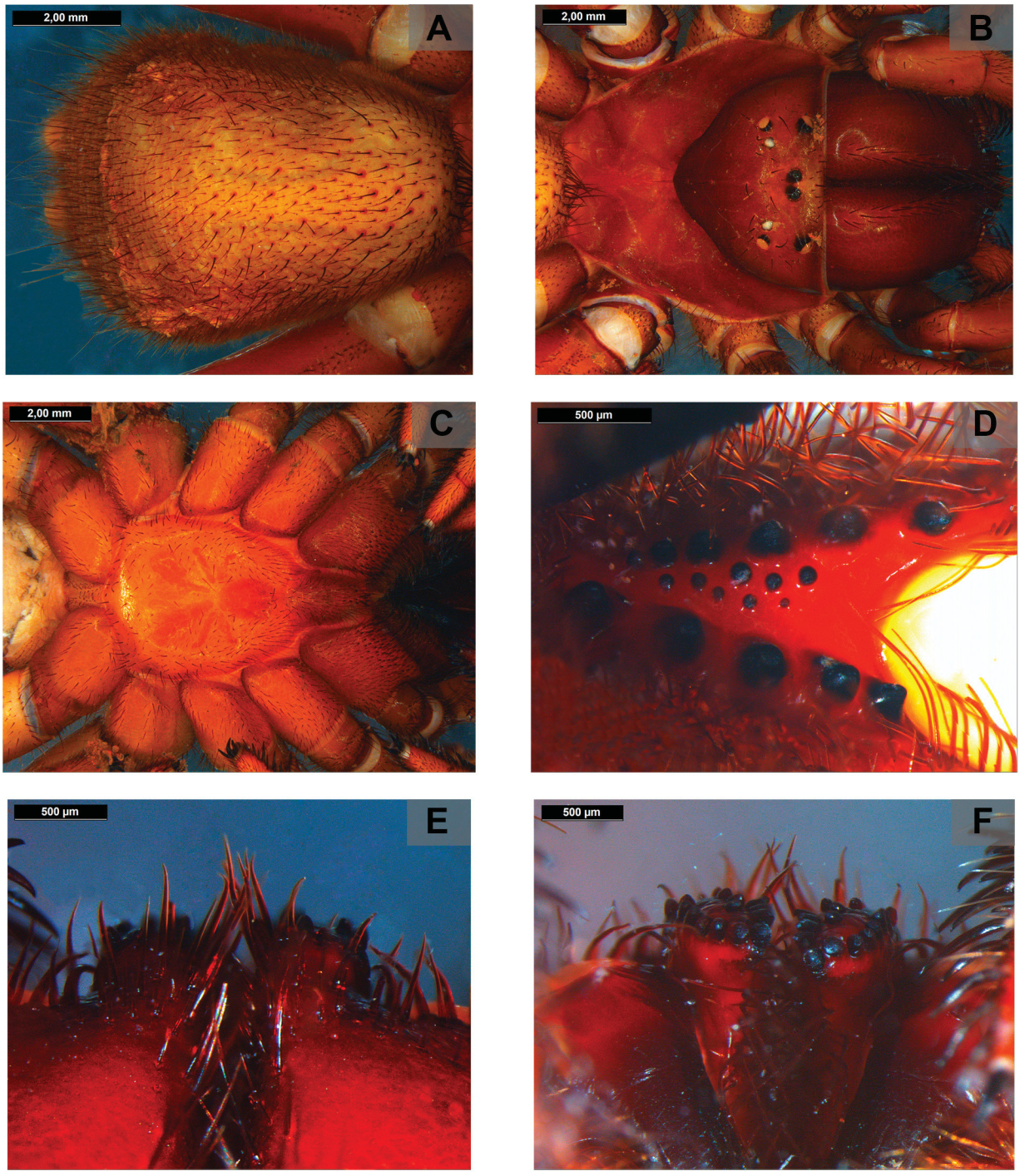


FIGURE 86. *Actinopus ipioca* sp. nov., female: A–F IBSP: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 84 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines apically (Fig. 84 E–F). Chelicerae with 16 denticles along prolateral row of teeth. Prolateral row with five megateeth. Retrolateral row with six megateeth and two denticle between the three basal megateeth (Fig. 84 D). Patella and tibia III with distal crown of well-developed thorns, on patella III interrupted in middle and on tibia III not interrupted in middle (Fig. 85 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 85 A, C). Tibia IV without spines on dorsal surface (Fig. 85 D). Ventral pseudoscopulae occupying 40% of tarsus I, 75% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles;-On tarsi III and IV, compact. Carapace, chelicerae, sternum,

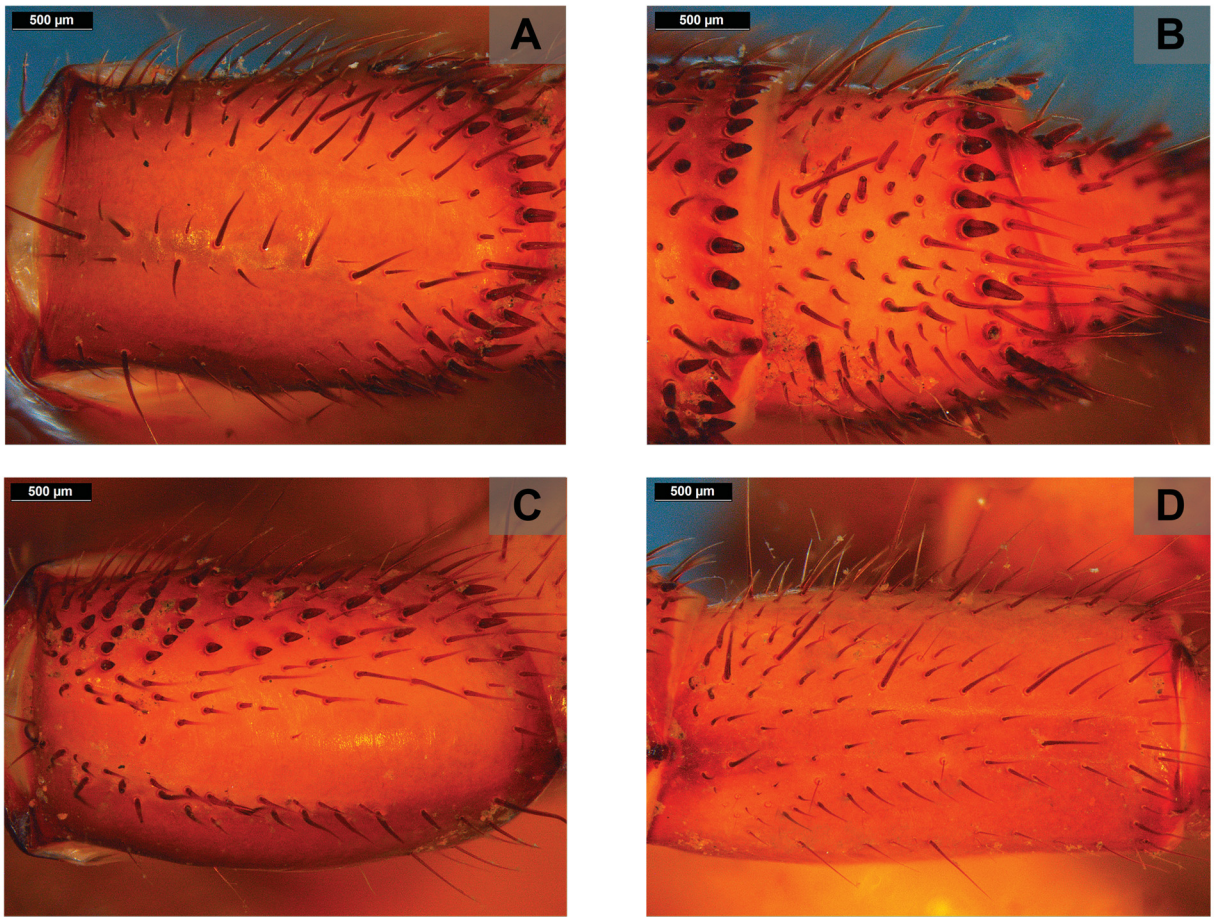


FIGURE 87. *Actinopus ipioca* sp. nov., female: A–D IBSP: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish brown; tibia of palp yellowish-brown, paler than other articles. Abdomen pale brown (Fig. 84 A). **Eyes: Diameters:** PME 0.28, PLE 0.4, ALE 0.56, AME 0.4; MOQ: Length 1.6, front width 3.68, back width 3.12; **Interdistances:** PME–PME 1.92, PLE–PME 0.24, AME–AME 0.28, ALE–AME 1.08, ALE–PLE 0.88, AME–PME 0.72. **Ocular area:** OAL 5.5, OAW 4.62, and IF 2.25. **Body:** Clypeus: 0.37; Fovea: 3.37; Labium: long 1.62; wide 1.25; Chelicerae: long 3.5; wide 2.25; Sternum: long 5.12; wide 4.12. Abdomen: long 7; wide 5.5. **Leg measurements:** I: Fe 7.75/ Pa 3.5/ Ti 4.62/ Me 5.5/ Ta 3.12/ total 24.5. II: 5.37/ 2.75/ 4.75/ 5.75/ 3.25/ 21.87. III: 5.37/ 3.5/ 3.5/ 5/ 3.5/ 20.87. IV: 8.5/ 3.25/ 6.25/ 6.5/ 3.5/ 28. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-1-4, d0, p0-0-1, r0-0-2; Me v3-4-4, d0, p1-2-1, r0-1-2; ta v0, d0, p0-2-1, r0-4-3. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-0-3, d0, p0, r0-0-2; Me v3-3-3, d0, p0-2-2, r1-3-4; ta v0, d0, p1-3-2, r0-5-5. III—Fe v0, d0, p0, r0; Pa v0, d6-14-23, p0-0-2, r0-0-5; ti v0-0-2, d1-0-15, p0-1-3, r0-0-3; Me v3-1-5, d2-0-2, p0-1-2, r1-2-3; ta v0, d0, p1-4-5, r0-4-6; IV—Fe v0, d0, p0, r0; Pa v0, d16-6-4, p0, r0; ti v0, d0, p0, r0; Me v4-4-3, d0, p0-0-2, r0-0-1; ta v0, d0, p0-2-9, r0-1-3. **Palp:** PA developed, embolus thin, flattened, with three keels (PAc, PI and PS). PI sinuous in prolateral view. Serrated area restricted to few small cusps on ventral surface of embolar base (Fig. 88 A). PA contiguous to PAc. BTA developed and placed medially on prolateral tegular surface (Fig. 88 A–C).

VARIATION

MALE (MNRJ 6792): **Palp:** BTA, PS, PI and PAc less pronounced than in holotype. PA more pronounced than holotype, above to PA with a little swelling. PI continuous, without a little interruption on the middle of the keel.

FEMALE (IBSP): Total length 17; Carapace, long 7.50; wide 7.38. Carapace anterior part square and posterior part triangular. Anterior eye row procurved, posterior row slightly recurved (Fig. 86 B). Many short and long bristles between AME-clypeus, one long and three short

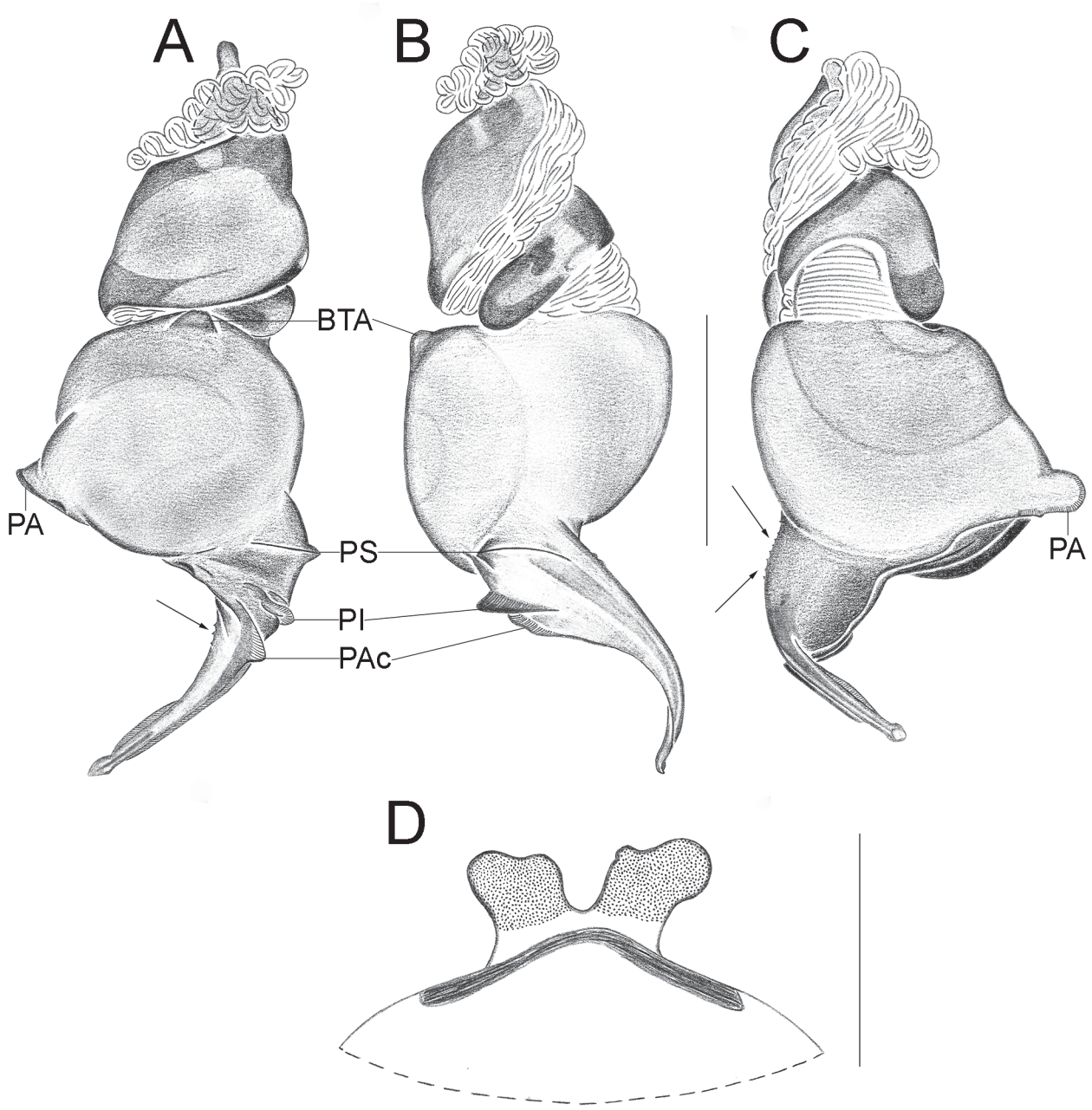


FIGURE 88. *Actinopus ipioca* sp. nov., male: A–C IBSP 112597: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated area. Paratype, female: D IBSP: D. Spermathecae, dorsal view. Scales lines: 1 mm.

bristles between PLE–ALE, short and long bristles between posterior eyes-fovea and short bristles between lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, all sigilla very fused to each other (Fig. 86 C). Rastellum protuberant, subquadrate, hirsute, with a row of short spines on the edge of rastellum and o lot of short spines covering the dorsal rastellum (Fig. 86 E–F). Chelicerae with eight denticles along prolateral row of teeth. Prolateral row with six megateeth. Retrolateral row with five megateeth (Fig. 86 D). Patella III with distal interrupted crown of thorns and tibiae III with distal developed crown of thorns (Fig. 87 A–B). Patella IV with prolaterodorsal short spines along extension of article (Fig. 87 C). Tibia IV without spines with long bristles on prolaterodorsal surface (Fig. 87 D). Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi, tarsi and palp yellowish brown; Abdomen pale brown (Fig. 86 A). 22 labial cuspules, 123 on right

maxilla and 140 on left. **Eyes: Diameters:** PME 0.32, PLE 0.4, ALE 0.4, AME 0.2; MOQ: Length 1.52, front width 3.76, back width 3.6; **Interdistances:** PME–PME 2.12, PLE–PME 0.28, AME–AME 0.36, ALE–AME 1.24, ALE–PLE 0.8, AME–PME 0.84. **Ocular area:** OAL 5.37, OAW 4.5, and IF 3.75. **Body:** Clypeus: 0.5; Fovea: 3.75; Labium: long 1.5; wide 1.37; Chelicerae: long 4; wide 2.75; Sternum: long 5.37; wide 4.37. Abdomen: long 10.37; wide 8.87. **Leg measurements:** I: Fe 3.25/ Pa 2.87/ Ti 1.87/ Me 2.25/ Ta 1.12/ total 11.37. II: 3.87/ 2.87/ 1.87/ 2.5/ 1.5/ 12.62. III: 4/ 3.5/ 1.37/ 2.87/ 1.25/ 13. IV: 5.5/ 3.5/ 3.25/ 3.62/ 1.5/ 17.37. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p4-12-7, r6-9-12; Me v0-0-1, d0, p8-8-10, r10-10-4; ta v0-0-3, d0, p3-3-4, r7-4-3. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0, r34-32-25; Me v0-0-2, d0, p4-5-4, r3-6-9; ta v0-0-3, d0, p3-4-4, r5-4-3. III—Fe v0, d0, p0, r0; Pa v0, d0-0-32, p3-0-2, r0-3-16; ti v0, d1-0-24, p0-0-3, r0; Me v0-0-2, d15-4-7, p3-0-2, r0-3-3; ta v12-6-16, d0-0-5, p0-1-4, r0-5-7; IV—Fe v0, d0, p0, r0; Pa v0, d12-9-4, p0-0-8, r0; ti v0, d0, p0-0-4, r0; Me v0-0-2, d0-0-1, p0-0-2, r0; ta v2-4-8, d0, p2-4-11, r0-0-5. **Spermathecae:** Seminal

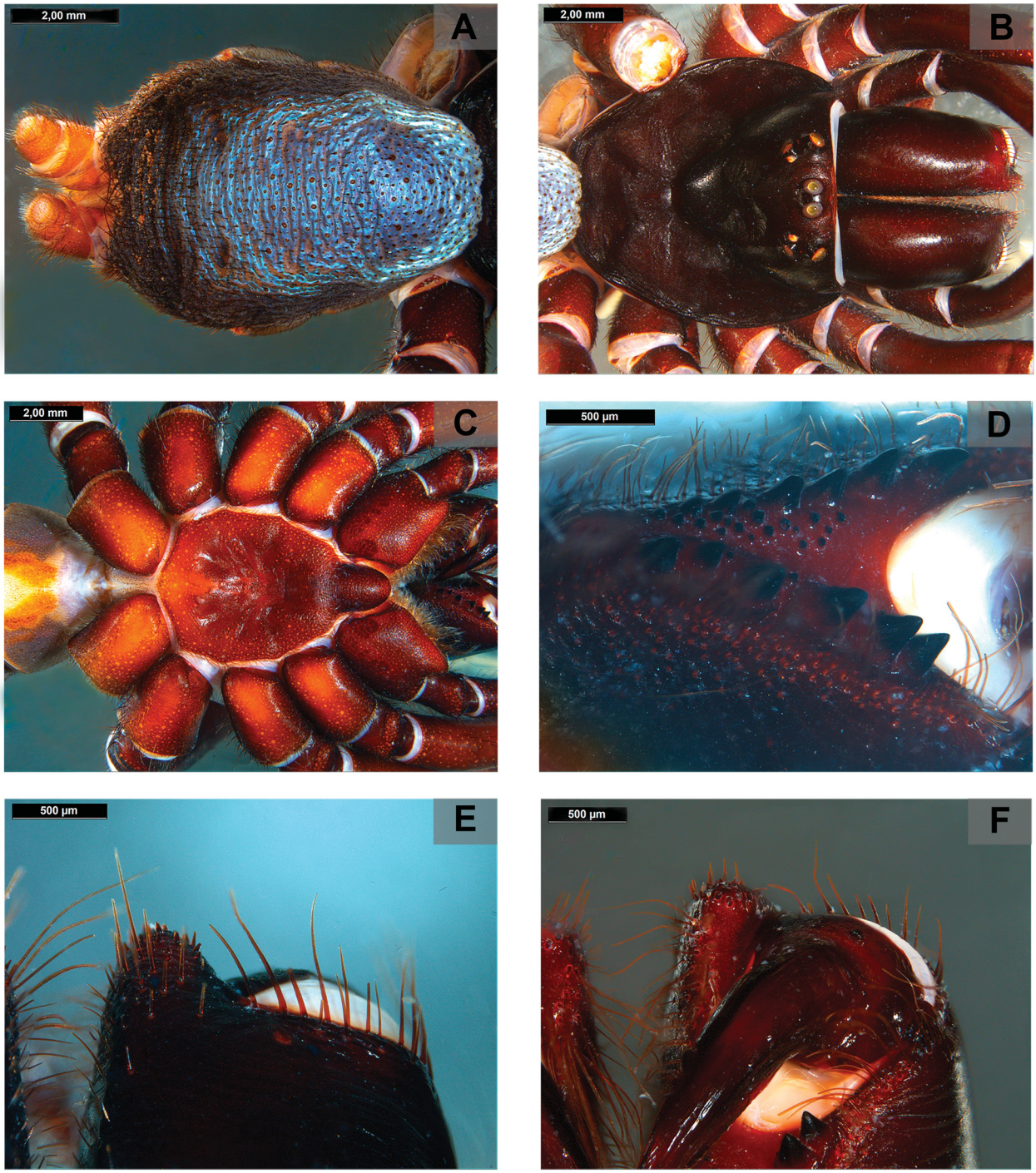


FIGURE 89. *Actinopus itaqui* sp. nov., male: A–F MCN 26526: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

receptacles slightly asymmetrical, longer than wide, with short ducts. Both receptacles bilobed, with outer lobe higher than inner lobe. Pore distribution reaching about 75% of receptacle apices (Fig. 88 D).

Distribution. BRAZIL. Alagoas: Murici and Maceió (Map 5).

Actinopus itaqui sp. nov.

Figs 89–91, Map 5

Type material. Holotype male from [29° 07' S 56° 33' W], Itaquí, Rio Grande do Sul, Brasil, 24.i.1995, M. C. de Paula leg. (MCN 26526).

Etymology. The specific name is a noun in apposition from the type locality name, Itaquí, Rio Grande do Sul.

Diagnosis. The male resembles those of *A. caxiuana*, *A. ipioca* and *A. nattereri* by the palpal tibia paler than other articles and differ from those of all other species, except *A. nattereri* (Fig. 67 A–C), *A. rufipes* (Fig. 72 A–C), *A. vilhena* (Fig. 37 A–D), *A. harveyi* (Fig. 75 A–C), *A. itapitocai* (Fig. 37 A–D), *A. xingu* (Fig. 94 A–C), *A. mesa* (Fig. 97 A–C) and *A. caxiuana* (Fig. 100 A–C), by the combined presence of three keels, small-serrated area along the inferior keel and robust body. Males resemble those of *A. harveyi* and *A. xingu* by PA connected to PAc and *A. nattereri* by bluish spot over the entire dorsal abdomen and differ from those of *A. nattereri* and *A. harveyi* by the larger PA; from *A. mesa* by the absence of swelling above PA and by the triangular tegulum; from *A. nattereri*, *A. rufipes*, *A. vilhena*, *A. itapitocai*, *A. mesa* and *A. caxiuana* by PA continuous to PI. It resembles those of *A. caxiuana* by PS in a horizontal line along prolateral tegular surface, with a larger spacing between PS-PI and differ by the more developed PI.

MALE (MCN 26526): Total length 13.75; Carapace, long 7.5; wide 6.88. Carapace anterior part tapering. Anterior eye row slightly procurved, posterior row recurved (Fig. 89 B). Without bristles between AME-clypeus and one bristle ALE–PLE. Sternum with eight sigilla fused medially, all sigilla very fused to each other (Fig. 89 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines in apex (Fig. 89 E, F). Chelicerae with many denticles along prolateral row and some denticles between basal teeth on retrolateral row (Fig. 89 D). Patella and tibia III with distal crown of well developed thorns (Fig. 90 A, B). Patellae III and IV with spines on prolaterodorsal face (Fig. 90 A, C). Tibia IV without spines on dorsal surface and with two visible rows of trichobothria (Fig. 90 D). Without ventral pseudoscopulae in tarsi I, ventral pseudoscopulae occupying 30% of II

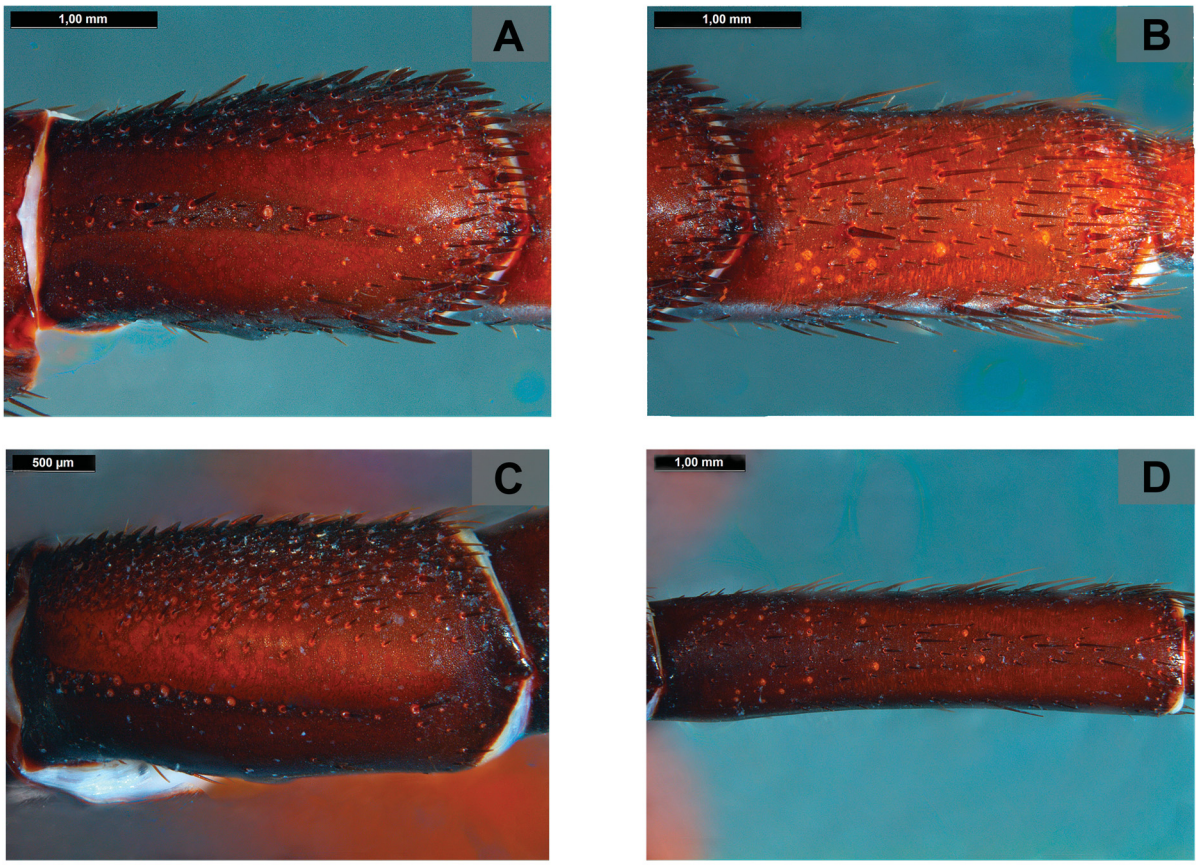


FIGURE 90. *Actinopus itaqui* sp. nov., male: A–D MCN 26526: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

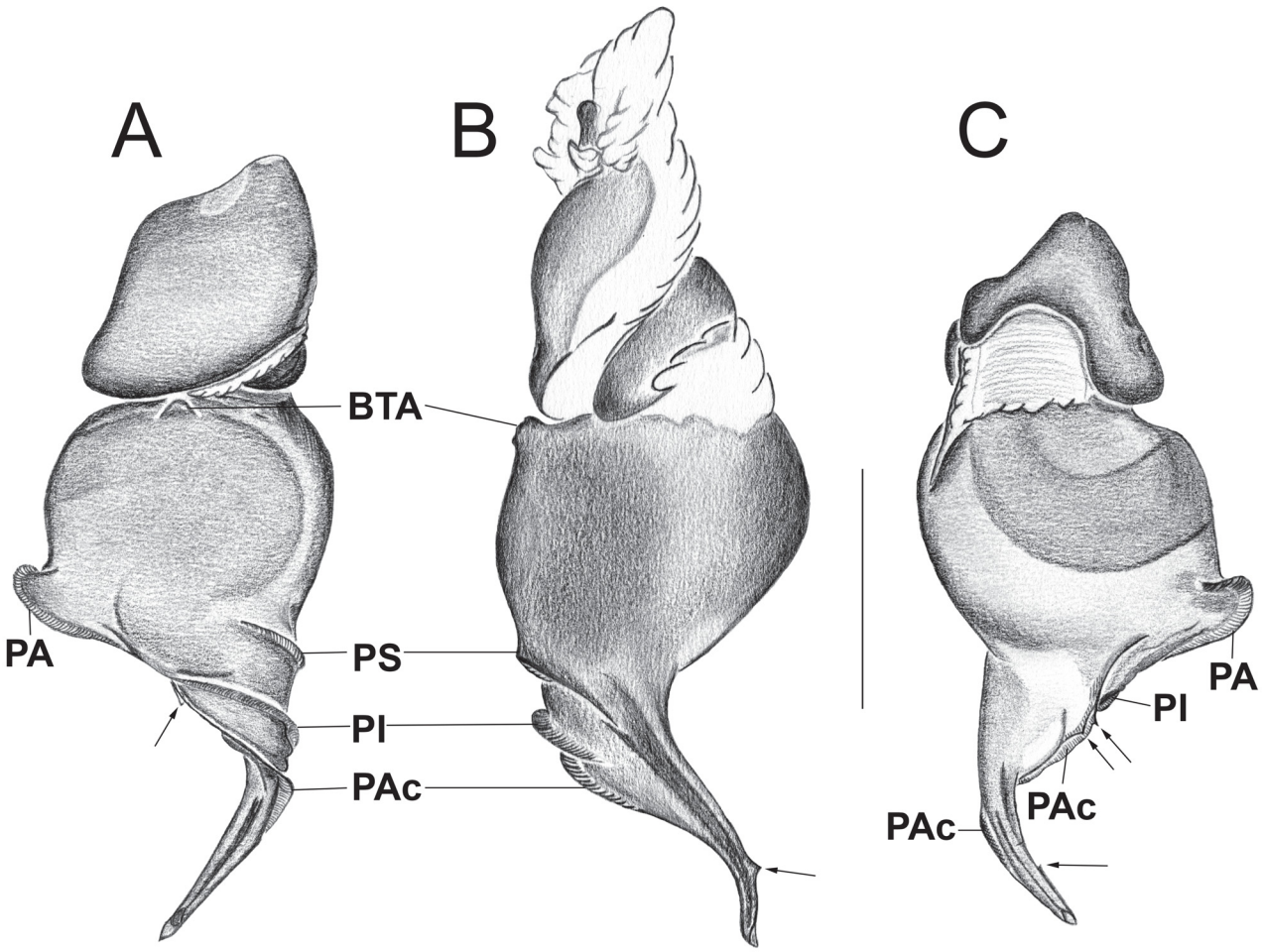


FIGURE 91. *Actinopus itaqui* sp. nov., male: A–C MPEG 26526: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated area. Scale line: 1 mm.

and 100% of III and IV. Pseudoscopula of tarsi II with setae widely spaced, forming diffuse group of bristles, on tarsi III and IV, compact. Carapace and chelicerae brown, sternum reddish brown, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi of legs reddish brown; tibia of palp pale reddish brown, clearer than other articles; Abdomen gray with big metalic blue spot in dorsal view (Fig. 89 A). **Eyes: Diameters:** PME 0.28 PLE 0.4 ALE 0.44, AME 0.44; MOQ: Length 1.16, front width 3.32, back width 2.96; **Interdistances:** PME–PME 1.84, PLE–PME 0.2, AME–AME 0.2, ALE–AME 0.8, ALE–PLE 0.52, AME–PME 0.6. **Ocular area:** OAL 5.12, OAW 4.37, and IF 2.25. **Body:** Clypeus: 0.25; Fovea: 3; Labium: long 1.5; wide 1.25; Chelicerae: long 3; wide 2.25; Sternum: long 4.87; wide 4.25. Abdomen: long 6.87; wide 5.25. **Leg measurements:** I: Fe 6.62/ Pa 3.12/ Ti 2.87/ Me 4.62/ Ta 2.37/ total 19.62. II: 6.25/ 3.12/ 3.37/ 4.75/ 2.5/ 20. III: 5.125/ 3.25/ 2.62/ 5.5/ 3/ 19.5. IV: 7/ 3.5/ 5.5/ 6.25/ 2.87/ 25.12. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0-0-1, d0, p0, r0; ti v0, d0, p0, r0; Me v0-3-3, d0, p3-3-3, r0-3-2; ta v0, d0, 2-4-4, r1-5-7. II—Fe v0-0-1, d0, p0, r0; Pa v0-0-2, d0, p0, r0-6-5; ti v1-0-4, d0, p0-2-3, r1-2-2; Me v0-1-3, d0, p1-2-2, r0-2-5; ta v0-2-2, d0, p3-4-3, r0-6-6. III—Fe v0, d0, p0, r0; Pa v0, d9-23-34, p1-2-3, r0-0-2; ti v0-0-2, d1-0-12, p0-0-1, r0-1-3; Me v0-0-4, d2-3-3, pv1-3-4, r0-2-6; ta v0, d0, p0-7-5, r0-5-4; IV—Fe v0, d0, p0, r0; Pa v0, d14-12-4, p0-11-6, r2-0-0; ti v0-0-2, d0, p0-1-2, r0; Me v0-2-3, d0, p1-6-7, r0; ta v0, d0, p3-8-11, r0-1-5. **Palp:** PA well-developed continuous of PAc. Embolus with three keels (PAc, PI and PS). BTA developed, placed medially on prolateral tegular surface; inferior surface of tegulum below PI with two denticles in area of serrated area; embolar base thin (Fig. 91 A–C).

Distribution. BRAZIL. Rio Grande do Sul: Itaquí (Map 5).

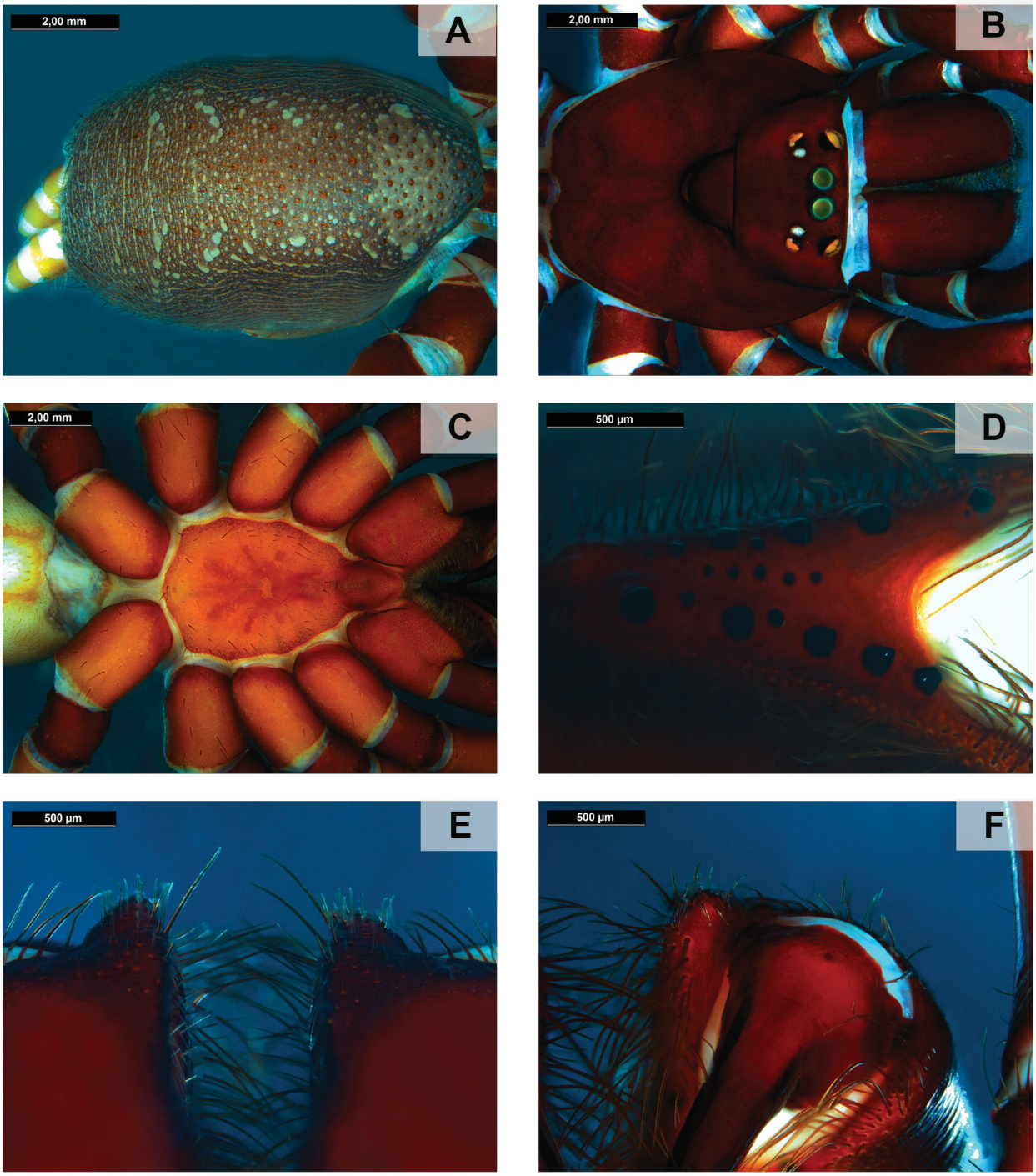


FIGURE 92. *Actinopus xingu* sp. nov., male: A–F MPEG 239: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

***Actinopus xingu* sp. nov.**
Figs 92–94, Map 5

Type material. Holotype male from 03º 04' S 51º 46' W, Margem Direita do Rio Xingu, Senador José Porfírio, Pará, Brazil, 24.ii.2001 (MPEG 239). **Paratypes:** BRAZIL. Pará: Senador José Porfírio, Margem Direita do Rio Xingu, 03º 04' S 51º 46' W, 1♂, 25.ii.2001 (MPEG 240, 244); 1♂, 02.iii.2001 (MPEG 242); 1♂, 04.iii.2001 (MPEG 243); 3♂, 03.iii.2001 (MPEG 245); trilha do Censo, 1♂, 23.ii.2002 (MPEG 238).

Etymology. The specific name is a noun in apposition from the type locality name, Rio Xingu.

Diagnosis. Males of *A. xingu* resemble those of *A. vilhena* (Fig. 75 A–C), *A. harveyi* (Fig. 78 A–C), *A. itapitocai* (Fig. 83 A–C), *A. nattereri* (Fig. 67 A–C) and

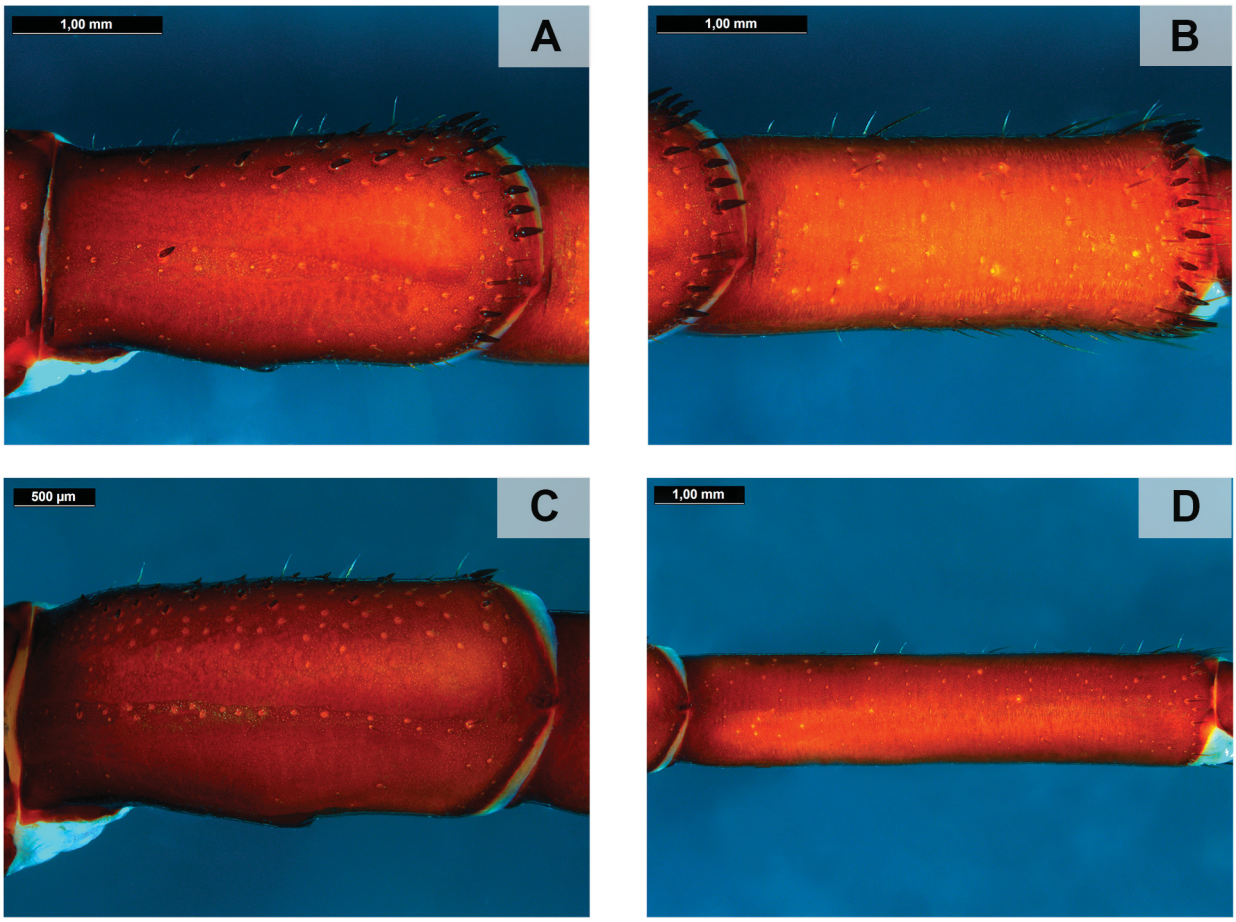


FIGURE 93. *Actinopus xingu* sp. nov., male: A–D MPEG 239: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

A. utinga (Fig. 103 A–C) by the BTA displaced dorsally in relation to a middle longitudinal line along prolateral tegular surface (Fig. 94 A). They r Resemble those of *A. vilhena, A. nattereri and A. utinga* by the keels being very close to each other, as seen in prolateral view (Fig. 94 A, B) and those of *A. vilhena*, *A. harveyi*, *A. itapitocai*, *A. itaqui* (Fig. 91 A–C) and *A. utinga* by PA continuous to PI. They differ from those of all other species of the group *nattereri* by a prolateral tegular depression above PA on prolateral tegular margin as seen in dorsal view and distal third of reservoir corrugated (Fig. 94 A).

MALE (MPEG 239): Total length 16.38; Carapace, long 7.00; wide 6.25. Carapace rounded. Anterior eye row slightly procurved, posterior row recurved (Fig. 92 B). With one short bristle between AME-clypeus. With one long bristle between ALE–ALP and few short and weak bristles between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla strongly fused medially (Fig. 92 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines apically (Fig. 92 E, F). Chelicerae with seven denticles along prolateral row of teeth. Prolateral row with five megateeth and one tooth on basal part. Retrolateral row with five megateeth and two denticles between three basal megateeth (Fig. 92 D). Patella and tibia III with distal crown of well-developed thorns, not interrupted in middle (Fig. 93 A, B). Patellae III and IV with spines on prolaterodorsal face (Fig. 93 A, C). Tibia IV without spines on dorsal surface (Fig. 93 D). Ventral pseudoscopulae occupying 50% of tarsus I, 70% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; on tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish brown; abdomen pale gray with dorsal scutum occupying 1/3 of anterior abdomen (Fig. 92 A). **Eyes: Diameters:** PME 0.36, PLE 0.4, ALE 0.56, AME 0.48; MOQ: Length 1.32, front width 2.96, back width 2.8; **Interdistances:** PME–PME 1.56, PLE–PME 0.12, AME–AME 0.2, ALE–AME 0.56, ALE–PLE 0.6, AME–PME 0.4. **Ocular area:** OAL 4.5, OAW 3.75, and IF 2. **Body:** Clypeus: 0.25; Fovea: 2.62; Labium: long 1.37; wide 1.12; Chelicerae: long 3.5; wide 1.87; Sternum:

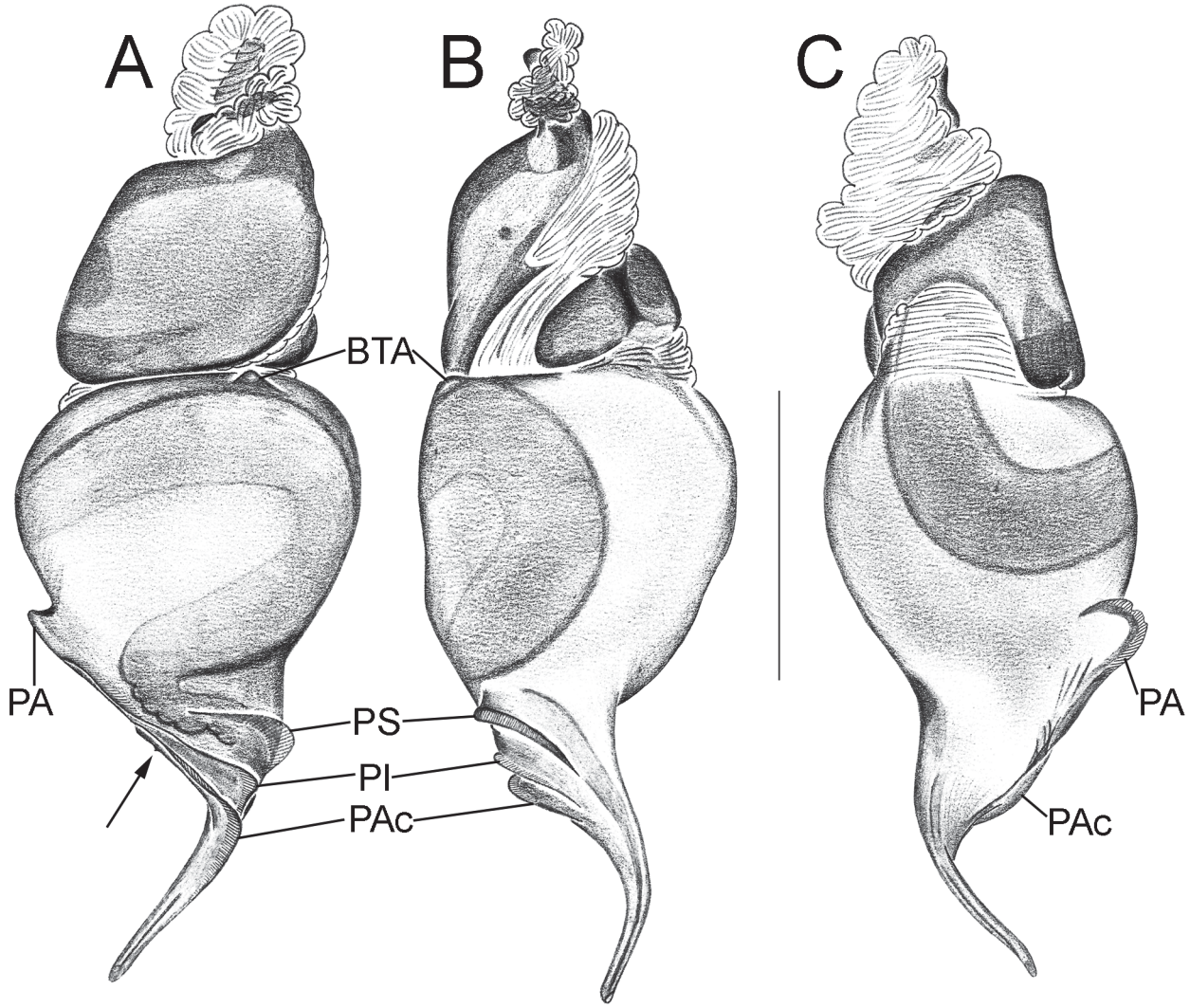


FIGURE 94. *Actinopus xingu* sp. nov., male: A–C MPEG 239: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA-**Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrow: Serrated area. Scale line: 1 mm.

long 4.37; wide 3.5. Abdomen: long 7.87; wide 5. **Leg measurements:** I: Fe 6.62/ Pa 3/ Ti 4.25/ Me 4.75/ Ta 2.87/ total 21.5. II: 6.25/ 3/ 3.75/ 5/ 2.87/ 20.87. III: 5.25/ 3.12/ 2.87/ 5.12/ 2.75/ 19.12. IV: 7.25/ 3.25/ 5.75/ 6/ 3.37/ 25.62. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-0-3, d0, p0, r0; Me v3-3-5, d0, p1-0-1, r2-6-6; ta v0, d0, p0-3-2, r1-6-4. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-2-1, d0, p0, r0-0-2; Me v2-4-2, d0, p0-0-2, r0-4-5; ta v0-0-2, d0, p1-2-4, r1-4-6. III—Fe v0, d0, p0, r0; Pa v0, d3-6-16, p0-0-2, r0; ti v0, d0-0-12, p0-0-2, r0-0-1; Me v1-0-2, d1-1-2, p1-0-2, r0-2-3; ta v0, d0, p1-3-4, r0-7-4; IV—Fe v0, d0, p0, r0; Pa v0, d11-11-4, p0-0-1, r0; ti v0-0-2, d0, p0, r0; Me v0-1-1, d0, p1-1-3, r0; ta v0, d0, p0-6-9, r0-3-9. **Palp:** PA well-developed, continuous to PI. Embolus with three keels (PAc, PI and PS). BTA developed, displaced dorsally in relation to middle longitudinal line along prolateral tegular surface; serrated area below PAc with one denticle; embolar base thin and elongated (Fig. 94 A–C).

Distribution. BRAZIL. Pará: Senador José Porfírio (Map 5).

Actinopus mesa sp. nov.

Figs 95–97, Map 5

Type material. Holotype male from [48° 17’ 23” S 14° 05’ 42” W], Usina Hidroelétrica Serra da Mesa, Minaçu, Goiás, Brazil, 18–30.xi.1996, A. B. Bonaldo & L. Moura leg. (MCN 28054). **Paratype:** BRAZIL. Mato Grosso:

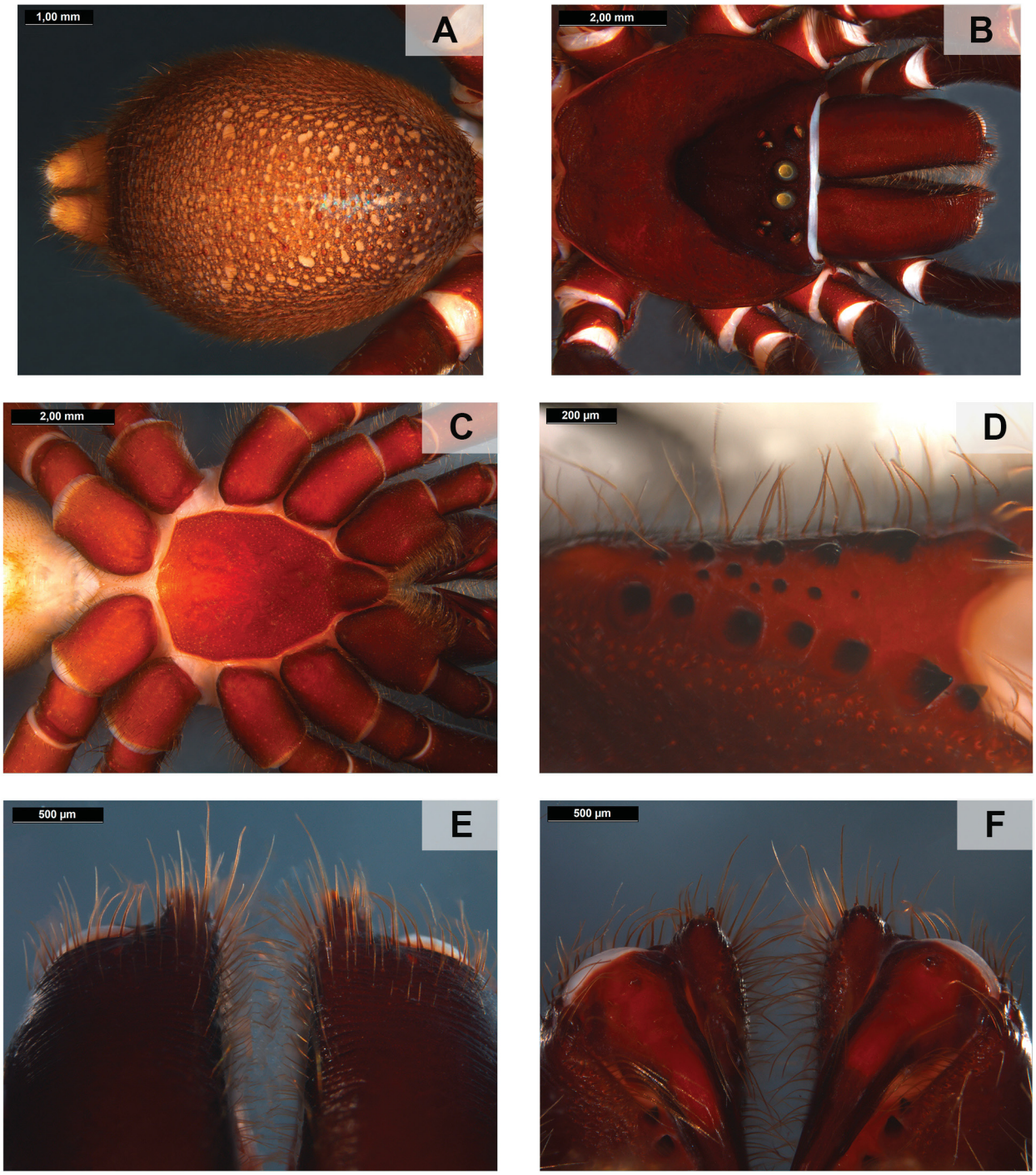


FIGURE 95. *Actinopus mesa* sp. nov., male: A–F MCN 28054: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

Santa Isabel, [56° 08' S 15° 36' W], 1♂, 8.i.1961, B. Malkin leg. (AMNH).

Etymology. The specific name is a noun in apposition from the type locality name, Serra da Mesa.

Diagnosis. Males of *A. mesa* resemble those of *A. ipioca* (Fig. 88 A–C), *A. itaqui* (Fig. 91 A–C), *A. rufipes* (Fig. 72 A–C) and *A. caxiuana* (Fig. 100 A–C) by the BTA placed medially on prolateral tegular surface (Fig. 97 A); they resemble those of *A. nattereri* (Fig. 67 A–C), *A. vilhena* (Fig. 75 A–C), *A. harveyi* (Fig. 78 A–C) and *A. caxiuana* by the absence of an embolar serrated area. They resemble those of *A. nattereri, A. rufipes, A. itaqui, A. utinga* (Fig. 103 A–C) and *A. caxiuana* by the well-developed and bordered PA and differ from those of all other species of the group *nattereri* by PA placed in a triangular area and by the hirsute legs and body.

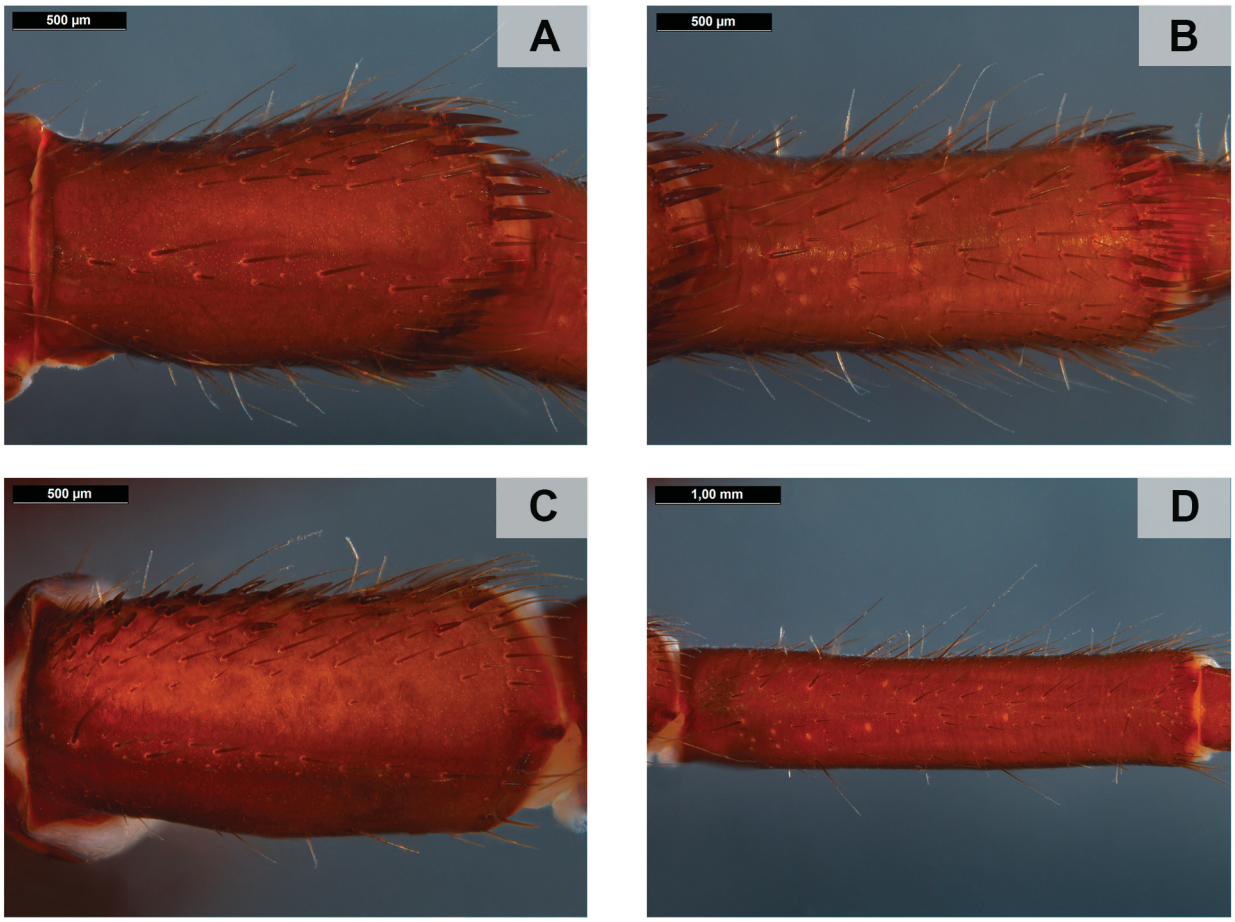


FIGURE 96. *Actinopus mesa* sp. nov., male: A–D MCN 28054: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

MALE (MCN 28054): Total length 10.87; Carapace, long 5.00; wide 5.00. Carapace anterior part tapering. Anterior eye row slightly procurved, posterior row recurved (Fig. 95 B). Without bristles between AME-clypeus. With one long bristle between ALE–ALP and many short and weak bristles between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 95 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines apically (Fig. 95 E, F). Chelicerae with six denticles along prolateral row of teeth. Prolateral row with six megateeth. Retrolateral row with seven megateeth (Fig. 95 D). Patella and tibia III with distal crown of well-developed thorns, on patella III interrupted in middle and on tibia III not interrupted in middle (Fig. 96 A, B). Patellae III and IV with spines on prolaterodorsal face (Fig. 96 A, C). Tibia IV without spines on dorsal surface (Fig. 96 D). Ventral pseudoscopulae occupying 40% of tarsus I, 60% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish brown; Abdomen pale brown with small bluish spot on anterior dorsal surface (Fig. 95 A). **Eyes: Diameters:** PME 0.2, PLE 0.24, ALE 0.24, AME 0.28; MOQ: Length 0.84, front width 2.24, back width 2; **Interdistances:** PME–PME 1.36, PLE–PME 0.08, AME–AME 0.24, ALE–AME 0.6, ALE–PLE 0.44, AME–PME 0.36. **Ocular area:** OAL 3.62, OAW 2.75, and IF 1.75. **Body:** Clypeus: 0.25; Fovea: 2.12; Labium: long 1; wide 0.75; Chelicerae: long 2.87; wide 1.5; Sternum: long 3.25; wide 2.75. Abdomen: long 5.5; wide 4.25; 6.25. **Leg measurements:** I: Fe 5/ Pa 2/ Ti 3.12/ Me 3.87/ Ta 2.37/ total 16.37. II: 5/ 2/ 3.12/ 4/ 2.5/ 16.62. III: 4/ 2.12/ 2.12/ 4.25/ 2.75/ 15.25. IV: 3.87/ 2.25/ 3.75/ 4.75/ 2.62/ 17.25. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-1-7, d0, p0, r0; Me v3-3-2, d0, p0-0-1, r1-2-2; ta v1-1-2, d0, p0, r0-1-2. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-0-3, d0, p0, r0; Me v4-5-7, d0, p0-0-1, r0-3-4; ta v1-6-1, d0, p0-3-2, r0-2-2. III—Fe v0, d0, p0, r0; Pa v0, d1-4-13, p0-0-2, r0-0-2; ti v0-0-2, d1-0-8, p0-0-2, r0-0-3; Me v0-0-2, d1-2-1,

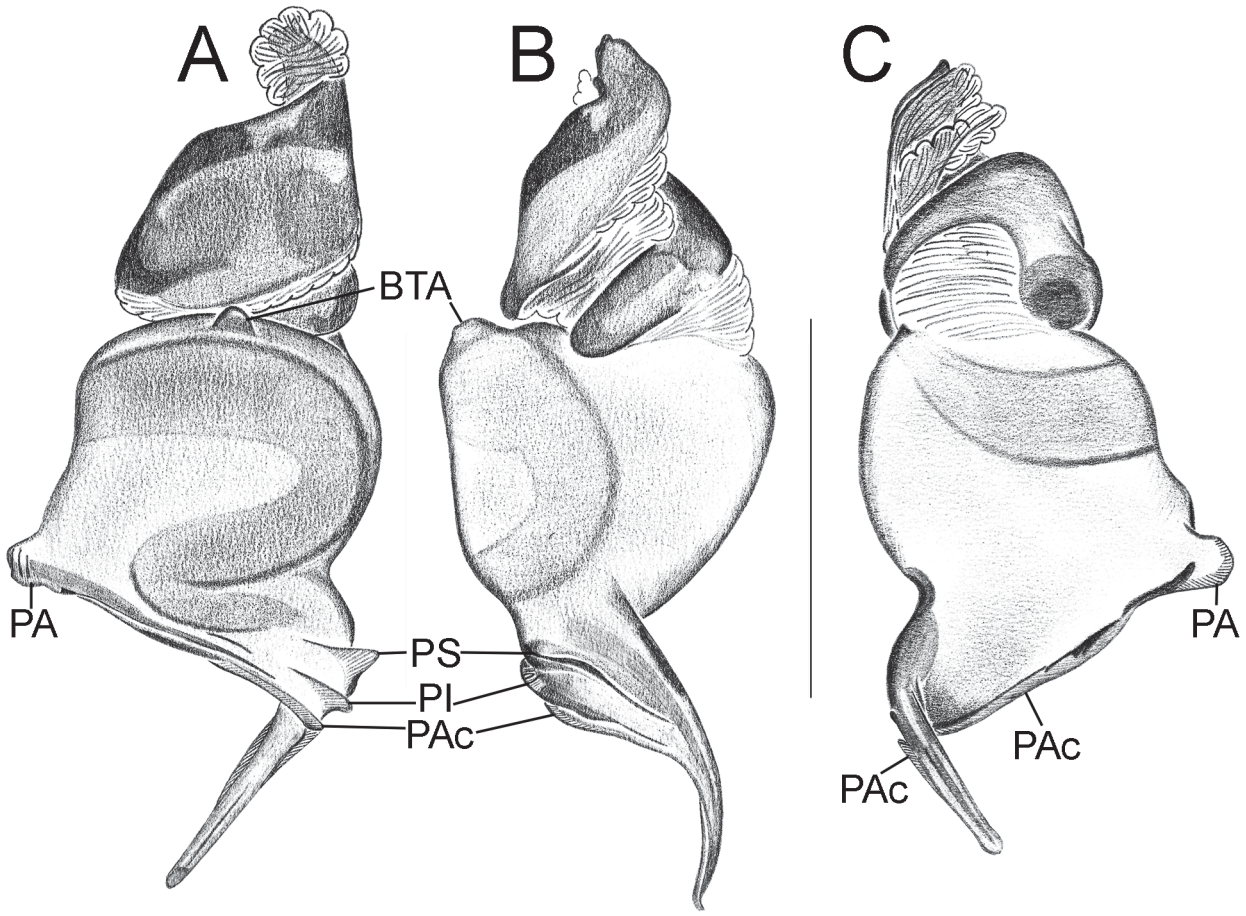


FIGURE 97. *Actinopus mesa* sp. nov., male: A–C MCN 28054: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel. Scale line: 1 mm.

p1-1-2, r0-0-3; ta v0, d0, p1-1-1, r0-0-1; IV—Fe v0, d0, p0, r0; Pa v0, d14-5-4, p1-2-1, r0; ti v0-0-1, d0, p0, r0; Me v1-1-3, d0, p0-0-6, r0-0-1; ta v0, d0, p0-4-1, r0. **Palp:** PA well-developed, continuous to PAc. Embolus with three keels (PAc, PI and PS). BTA developed, placed medially on prolateral tegular surface; serrated area absent; embolar bases thin, elongated. PA placed in triangular area (Fig. 97 A–C).

Distribution. BRAZIL. Goiás: Minaçu. Mato Grosso: Santa Isabel (Map 5).

***Actinopus caxiuana* sp. nov.**
Figs 98–100, Map 5

Type material. Holotype male from 07º 08.149' S 55º 24.818'W, Aeroporto, 250 m, Castelo dos Sonhos, Altamira, Pará, Brasil, 24.xi.2005, C. O. Araújo leg. (MPEG 2538). **Paratypes:** BRAZIL. Pará: Portel, FLONA de Caxiuanã, ECFPn, Parcela do projeto ESECAFLOR, 01º 42' 30" S 51º 31' 45" W, 1♂, 15–30.i.2012, D. A. Cunha leg. (MPEG 22278); Plote PPBio Caxiuanã, [01º 57' 36.7920" S 51º 36' 55.0800" W], 1♂, 30.i–13.ii.2007, M. A. Ribeiro-Junior & D. L. Arco Verde leg. (UFMG, UFMT, MNRJ); 3♂, 30.i–13.ii.2007, M. A. Ribeiro-Junior & D. L. Arco Verde leg. (CHNUFPI, MPEG 22266, MZSP); 4♂, 30.i–13.ii.2007, M. A. Ribeiro-Junior & D. L. Arco Verde leg. (MPEG 22260); 5♂, 30.i–13.ii.2007, M. A. Ribeiro-Junior & D. L. Arco Verde leg. (MPEG 22261, 22262, 22267); 6♂, 30.i–13.ii.2007, M. A. Ribeiro-Junior & D. L. Arco Verde leg. (MPEG 22256, 22257, 22263, 22265); 7♂, 30.i–13.ii.2007, M. A. Ribeiro-Junior & D. L. Arco Verde leg. (MPEG 22258, 22259, 22264); Jacareacanga, Km 350 da Transamazônica, 05° 54' 01.296" S 57° 41' 45.5994" W, 1♂, 2010, N. F. Lo-Man-Hung leg. (MPEG 22270); Altamira, Castelo dos Sonhos, 07º 08.149' S 55º 24.818' W, 4♂, 16.xi.2005, C. O. Araújo leg. (MPEG 2537, 1♂ removed for SEM); 08° 13.054' S 55° 00.956' W, 3♂, 13.xi.2005, C. O. Araújo leg. (MPEG 22268, 1♂

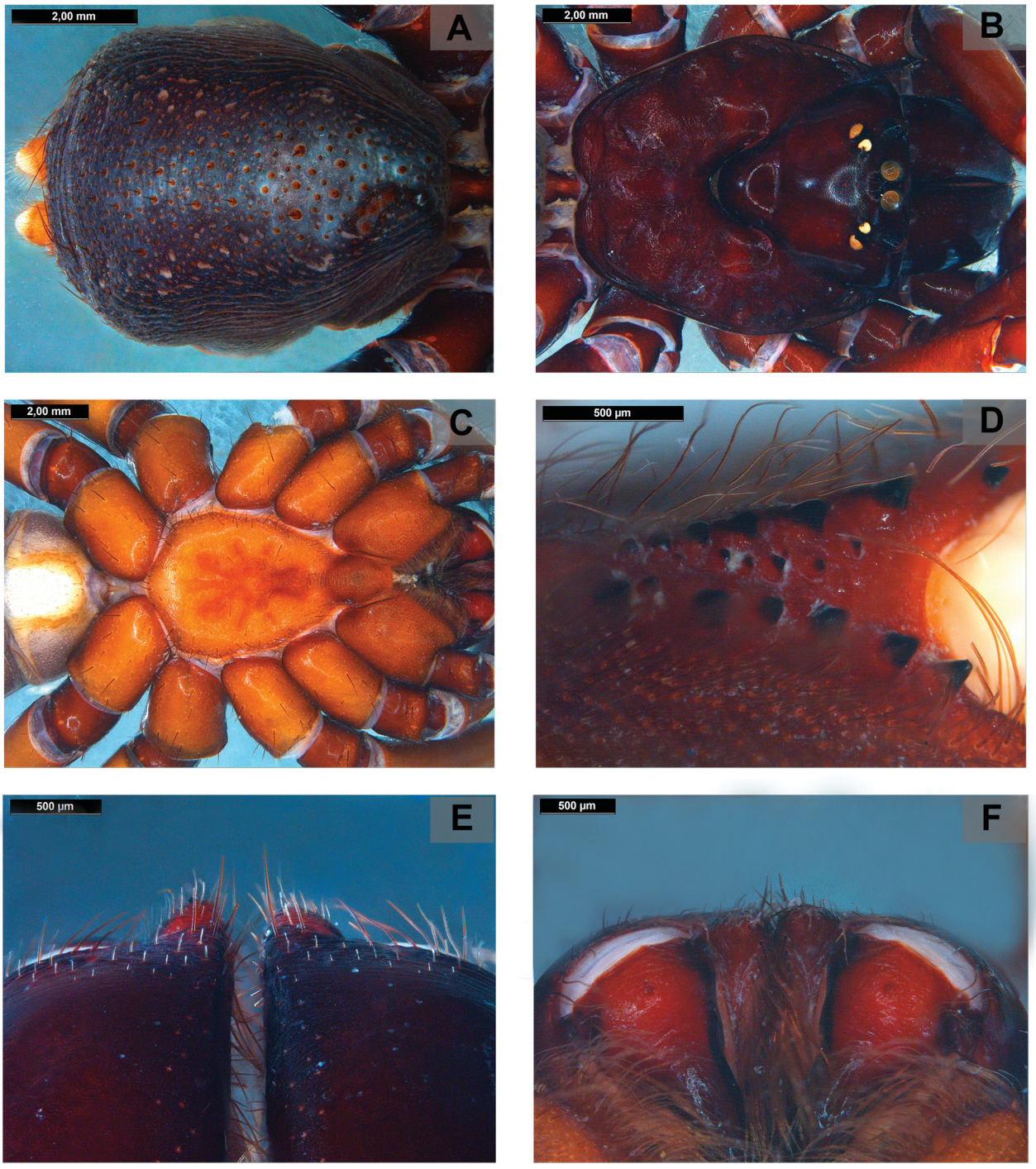


FIGURE 98. *Actinopus caxiuana* sp. nov., male: A–F MPEG 2538: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

removed for SEM); 08° 18' S 55° 05' W, 1♂, 11.xi.2005, C. O. Araújo leg. (MCTP); 08° 20.061' S 55° 12.875' W, 1♂, 12.xi.2005, C. O. Araújo leg. (MPEG 22269); 3♂, 16.xi.2005, C. O. Araújo leg. (MPEG 2536); 3♂ 1J, 13.xi.2005, C. O. Araújo leg. (MPEG 5526). Tocantins: Divisa Lajeado/Palmas, Serra do Lajeado, [10º 15' 23" S 48º 05' 05" W], 1♂, 25.xi.2002, J. Nunes leg. (IBSP 110416); Palmas, Taquarussu, [10º 19' 19" S 48º 10' 10" W], 1♂, 20.xii.2002, J. Nunes leg. (IBSP 110413, 110414).

Etymology. The specific name refers to Floresta Nacional de Caxiuanã, Portel, Pará, Brazil (Map 5).

Diagnosis. Males of *A. caxiuana* resemble those of *A. vilhena* (Fig. 73 A), *A. itapitocai* (Fig. 79 A), *A. itaqui* (Fig. 89 A) and *A. nattereri* (Figs 63 A, 67 E) by the bluish-gray coloration on dorsal surface of abdomen (Fig. 98 A);

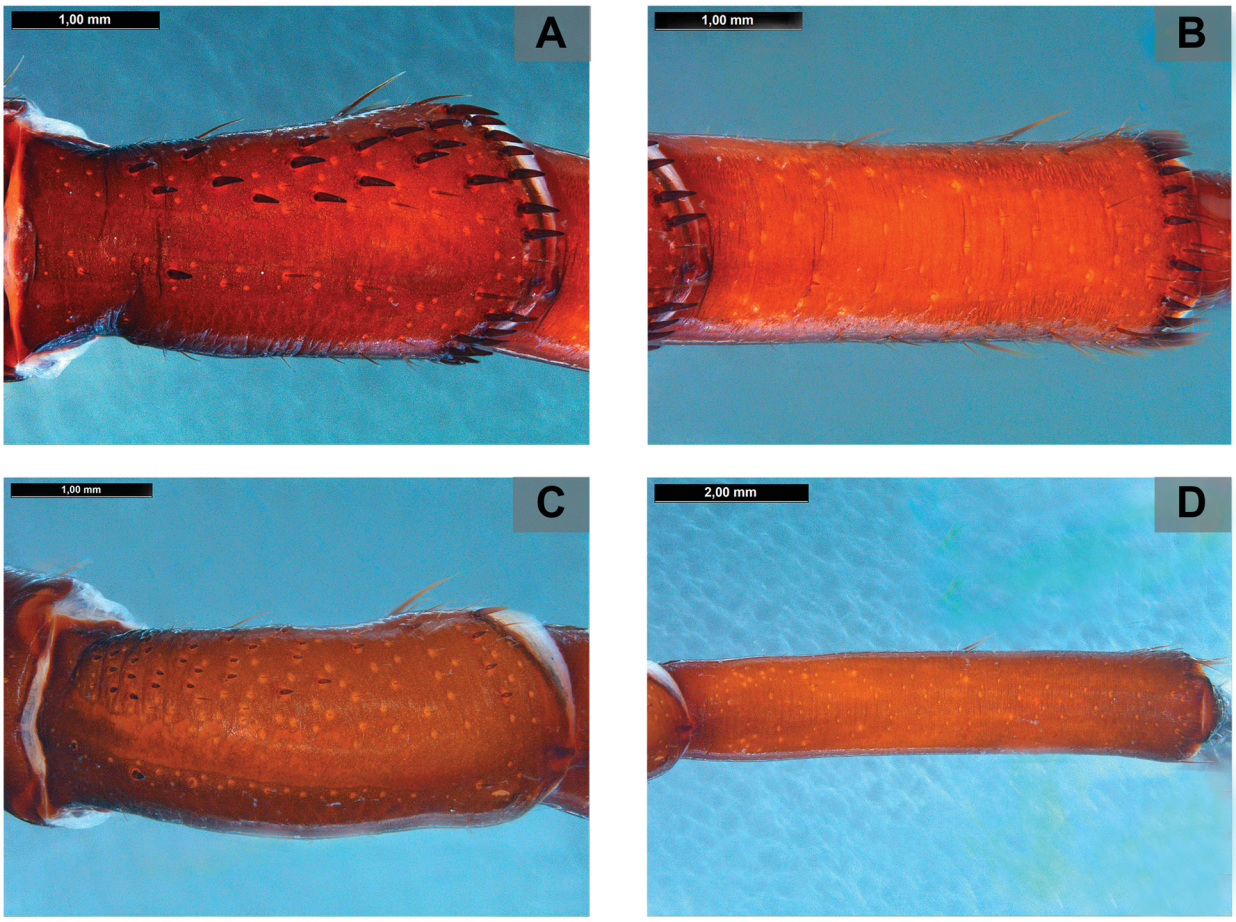


FIGURE 99. *Actinopus caxiuana* sp. nov., male: A–D MPEG 2538: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

they resemble *A. nattereri*, *A. ipioca* and *A. itaqui* by the palpal tibia being paler than other articles; they resemble those of *A. ipioca* (Fig. 88 A–C), *A. rufipes* (Fig. 72 A–C), *A. itaqui* (Fig. 37 A–C) and *A. mesa* (Fig. 97 A–C) by BTA placed medially on prolateral tegular surface (Fig. 100 A) and differ from those of other species in the group *nattereri*, except *A. itaqui,* by PS in a horizontal line along the prolateral tegular surface, with a larger keel surface. They differ from those of *A. itaqui* by a larger spacing between PS–PI and PI being less developed and longer than PS in dorsal view (Fig. 100 A–C).

MALE (MPEG 2538): Total length 15; Carapace, long 7.62; wide 6.87. Carapace rounded. Anterior eye row slightly procurved, posterior row recurved (Fig. 98 B). With few and weak short bristles between AME-clypeus, between ALE–ALP, between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with 10 sigilla fused medially, two anterior and two posterior sigilla more fused than others (Fig. 98 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines apically (Fig. 98 E, F). Chelicerae with seven denticles along prolateral row of teeth. Prolateral row with seven megateeth. Retrolateral row with six megateeth and one denticle between two basal megateeth (Fig. 98 D). Patella and tibia III with distal crown of well-developed thorns, on patella III interrupted in middle and on tibia III not interrupted in middle (Fig. 99 A, B). Patellae III and IV with spines on prolaterodorsal face (Fig. 99 A, C). Tibia IV without spines on dorsal surface (Fig. 99 D). Ventral pseudoscopulae occupying 50% of tarsus I, 70% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; on tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish brown; abdomen bluish-dark-gray (Fig. 98 A). **Eyes: Diameters:** PME 0.28, PLE 0.4, ALE 0.52, AME 0.48; MOQ: Length 1.32, front width 3.16, back width 2.8; **Interdistances:** PME–PME 1.64, PLE–PME 0.2, AME–AME 0.2, ALE–AME 0.68, ALE–PLE 0.6, AME–PME 0.48. **Ocular area:** OAL 4.62, OAW 3.75, and IF 2.12. **Body:** Clypeus: 0.25; Fovea: 1.62; Labium: long 1.12; wide 1.75; Chelicerae: long 2.75; wide 2; Sternum: long 4.75; wide 3.75. Abdomen: long 6.62; wide 5.37. **Leg measurements:** I: Fe 7.5/ Pa 3.12/ Ti 4.62/ Me 4.87/

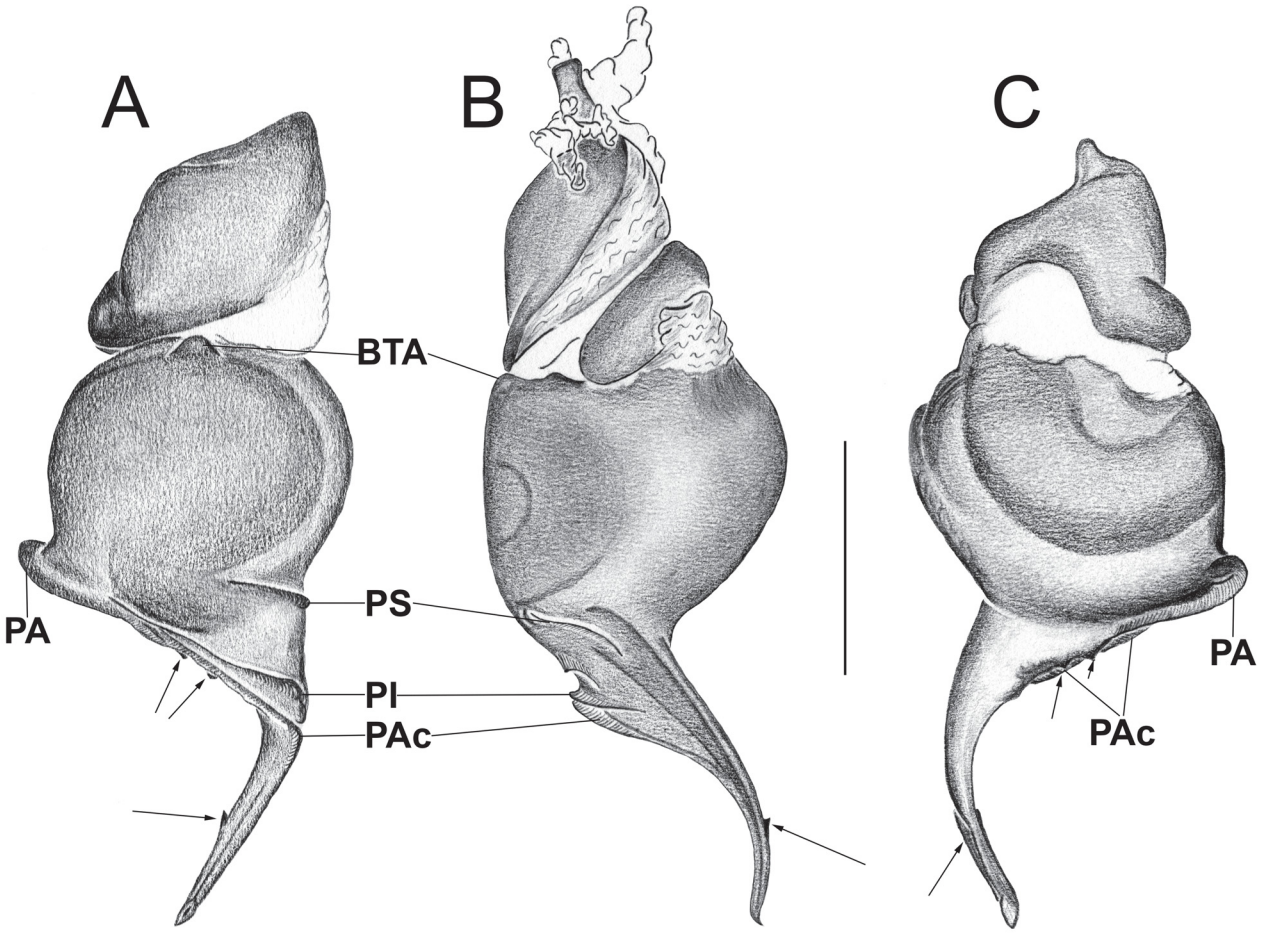


FIGURE 100. *Actinopus caxiuana* sp. nov., male: A–C MPEG 2538: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated area. Scale line: 1 mm.

Ta 3.37/ total 23.5. II: 7/ 3.25/ 4.62/ 5.12/ 3.5/ 23.5. III: 6/ 3.62/ 3.87/ 6.25/ 3.87/ 23.62. IV: 8.37/ 3.75/ 6.25/ 7.12/ 4.25/ 29.75. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0, r0; Me v4-4-2, d0, p0-0-1, r0-0-6; ta v0, d0, p0-1-2, r1-7-5. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0, r0; Me v4-2-3, d0, p0-0-2, r1-2-5; ta v0, d0, p1-2-5, r2-6-5. III—Fe v0, d0, p0, r0; Pa v0, d5-5-21, p0, r0-0-2; ti v0, d1-0-12, p0-0-2, r0; Me v4-2-5, d0, p0-1-2, r0-1-2; ta v0, d0, p0-3-4, r0-5-4; IV—Fe v0, d0, p0, r0; Pa v0, d16-10-5, p0-0-1, r0; ti v0, d0, p0, r0; Me v2-2-3, d0, p0-2-4, r0-0-1; ta v0, d0, p0-6-7, r0-3-6. **Palp:** PA well-developed and bordered, continuous to PAc. Embolus with three keels (PAc, PI and PS). BTA developed, placed medially on prolateral tegular surface; serrated area small, represented by two cusps; embolar bases thin and elongated (Fig. 100 A–C).

Distribution: BRAZIL. Pará: Altamira, Portel, and Jacareacanga. Tocantins: Divisa Lajeado/Palmas, and Palmas (Map 5).

***Actinopus utinga* sp. nov.**
Figs 101–103, Map 5

Type material. Holotype male from 1° 25’ 29.38” S 48° 26’ 16.86” W, Parque Ambiental de Belém (Utinga), Belém, Pará, Brazil, ii.2010, G. H. F. Azevedo *et al.* leg. (UFMG 9918).

Etymology. The specific name is a noun in apposition from the type locality name, Utinga.

Diagnosis. Males of *A. utinga* resemble those of *A. nattereri* (Fig. 67 A–C), *A. vilhena* (Fig. 75 A–C), *A. harveyi* (Fig. 78 A–C), *A. itapitocai* (Fig. 83 A–C), and *A. xingu* (Fig. 94 A–C) by the BTA displaced dorsally on the prolateral tegular surface (Fig. 103 A); they resemble those of *A. rufipes* (Fig. 72 A–C), *A. nattereri* (Fig. 88 A–C), *A. itaqui* (Fig. 91 A–C), *A. mesa* (Fig. 97 A–C) and *A. caxiuana* (Fig. 100 A–C) by the well-developed PA, rebordered. They differ from those of other species in the group *nattereri* by the palpal tibia and cymbium being paler than other articles; the PI prominent, almost

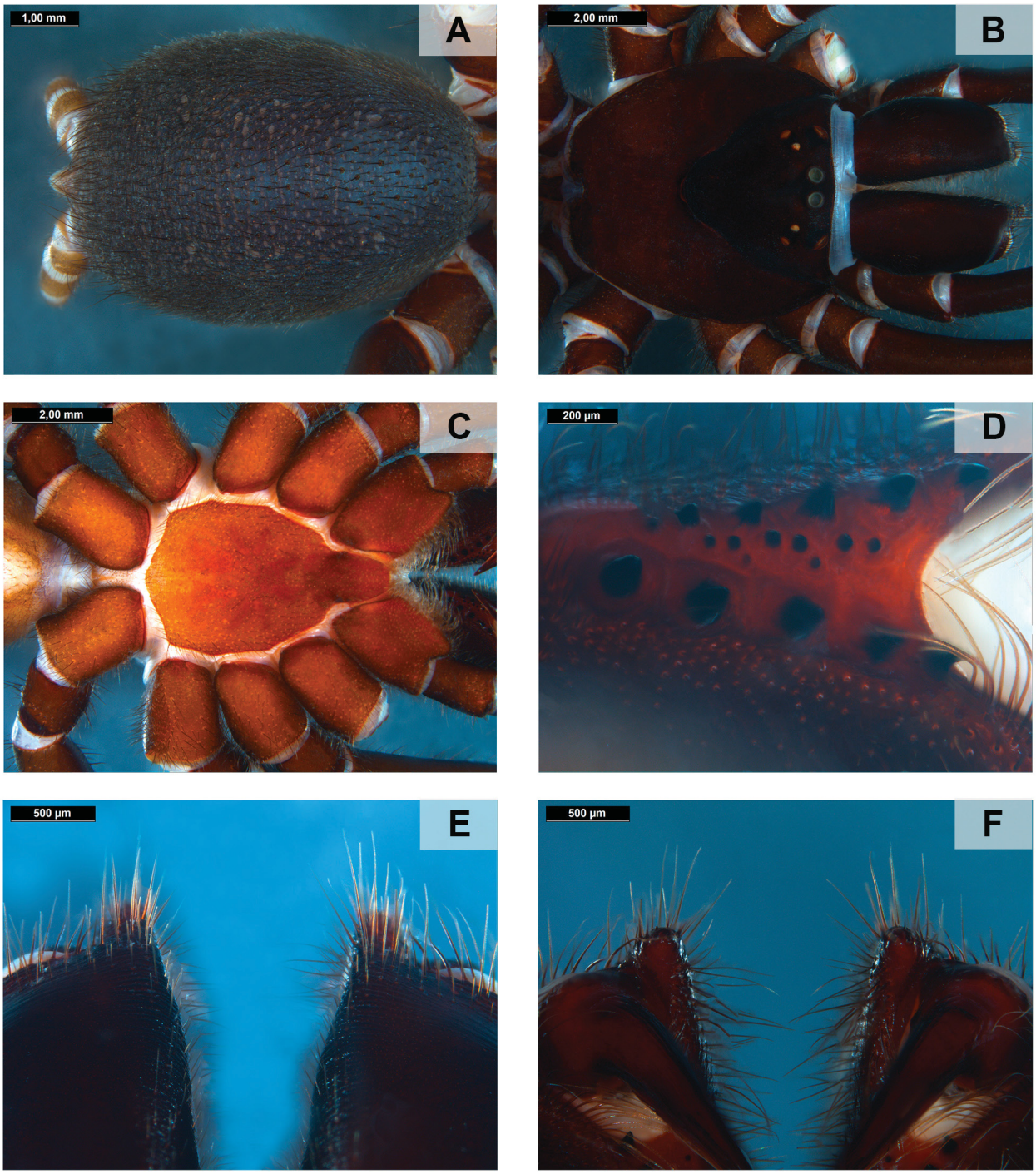


FIGURE 101. *Actinopus utinga* sp. nov., male: A–F UFMG 9918: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

reaching the border of embolus on dorsal view, and longer than other keels (Fig. 103 A–C).

MALE (UFMG 9918): Total length 11.87; Carapace, long 5.37; wide 5.12. Carapace rounded. Anterior eye row slightly procurved, posterior row recurved (Fig. 101 B). With row of short bristles on clypeus border. Without bristles between ALE–ALP and many short and weak bristles between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 101 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines apically (Fig. 101 E–F). Chelicerae with eight denticles along prolateral row of teeth. Prolateral row with six megateeth. Retrolateral row with five megateeth (Fig. 101 D). Patella and tibia III with distal crown of well-developed thorns, on patella

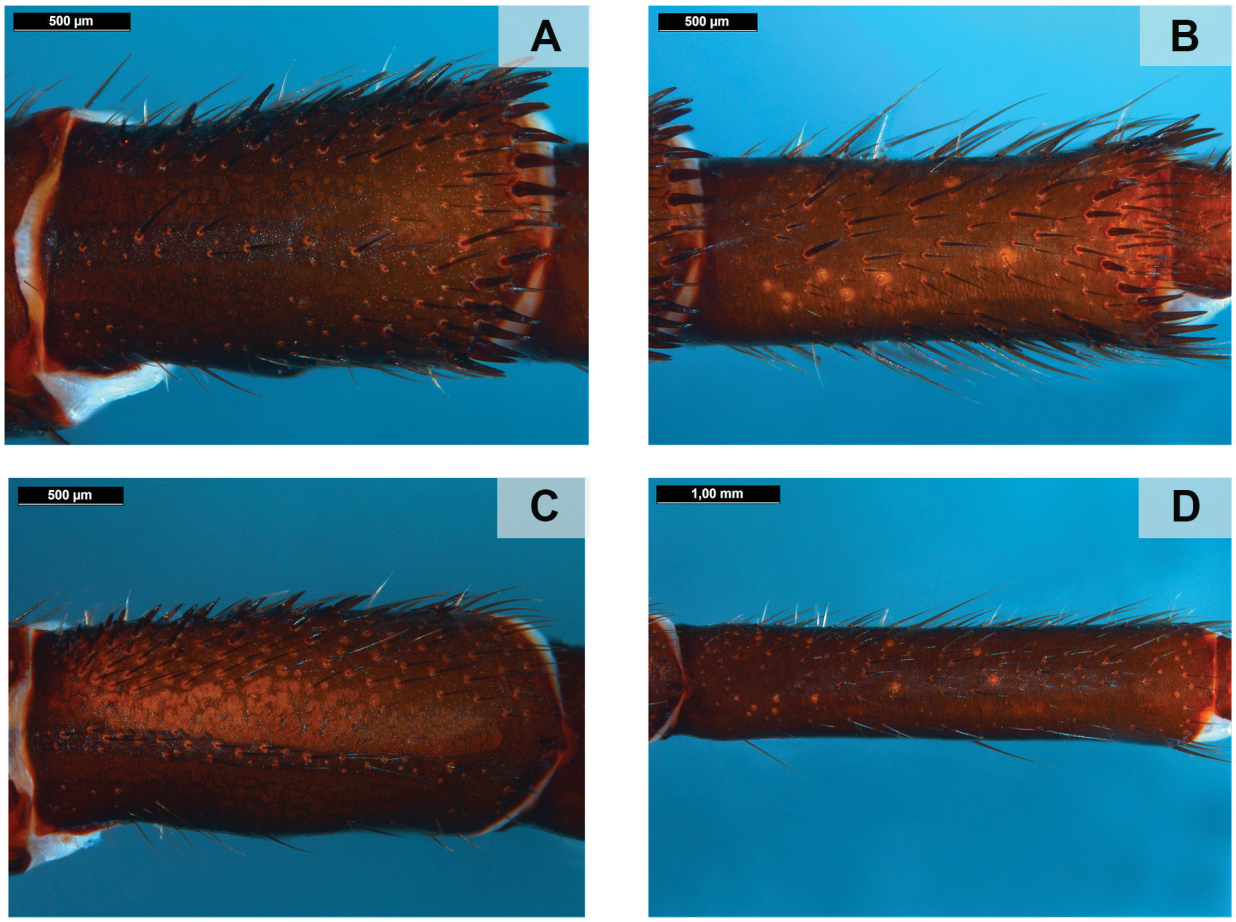


FIGURE 102. *Actinopus utinga* sp. nov., male: A–D UFMG 9918: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

III interrupted in middle and on tibia III not interrupted in middle and recurved (Fig. 102 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 102 A, C). Tibia IV without spines on dorsal surface (Fig. 102 D). Ventral pseudoscopulae occupying 50% of tarsus I, 70% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; on tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi dark brown; tibia of palp and cymbium paler than other articles. Abdomen gray (Fig. 101 A). **Eyes: Diameters:** PME 0.16, PLE 0.24, ALE 0.4, AME 0.32; MOQ: Length 1, front width 2.52, back width 2.36; **Interdistances:** PME–PME 1.48, PLE–PME 0.2, AME–AME 0.2, ALE–AME 0.64, ALE–PLE 0.28, AME–PME 0.48. **Ocular area:** OAL 3.5, OAW 3.12, and IF 2.25. **Body:** Clypeus: 0.12; Fovea: 2; Labium: long 1.25; wide 1; Chelicerae: long 3.25; wide 1.62; Sternum: long 3.62; wide 3. Abdomen: long 6; wide 4.25. **Leg measurements:** I: Fe 5.37/ Pa 2.12/ Ti 3.25/ Me 4.25/ Ta 2.25/ total 17.25. II: 5/ 2.25/ 2.5/ 4/ 2.25/ 16. III: 3.62/ 2.37/ 2.25/ 3.87/ 2.37/ 14.5. IV: 4.62/ 2.5/ 4.12/ 4.25/ 2.62/ 18.12. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-4-6, d0, p0, r0; Me v3-2-3, d0, p2-2-3, r3-5-4; ta v0-2-1, d0, p1-2-2, r2-2-6. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-3-3, d0, p0, r1-7-7; Me v2-2-3, d0, p1-2-2, r1-5-5; ta v0-1-3, d0, p2-3-2, r1-2-5. III—Fe v0, d0, p0, r0; Pa v0, d3-6-18, p2-2-4, r0-0-2; ti v0-0-3, d1-0-13, p0-0-3, r0-0-3; Me v1-1-2, d0-0-2, p1-0-0, r1-3-5; ta v0, d0, p0-0-2, r0-2-2; IV—Fe v0, d0, p0, r0; Pa v0, d17-11-4, p0, r0; ti v0-0-2, d0, p0, r0; Me v0-1-2, d0-0-1, p0-1-0, r0-0-2; ta v0, d0, p0-4-7, r0-0-5. **Palp:** PA well-developed and rebordered, continuous to PI. Embolus with three keels (PAc, PI and PS). BTA developed, displaced dorsally in relation to middle longitudinal line along prolateral tegular surface; serrated area absent; embolar bases thinner, elongated (Fig. 103 A–C).

Distribution. BRAZIL. Pará: Belém (Map 5).

Actinopus reycali Ríos-Tamayo & Goloboff, 2018

Actinopus reycali Ríos-Tamayo & Goloboff, 2018: figs 6 A–G, 7

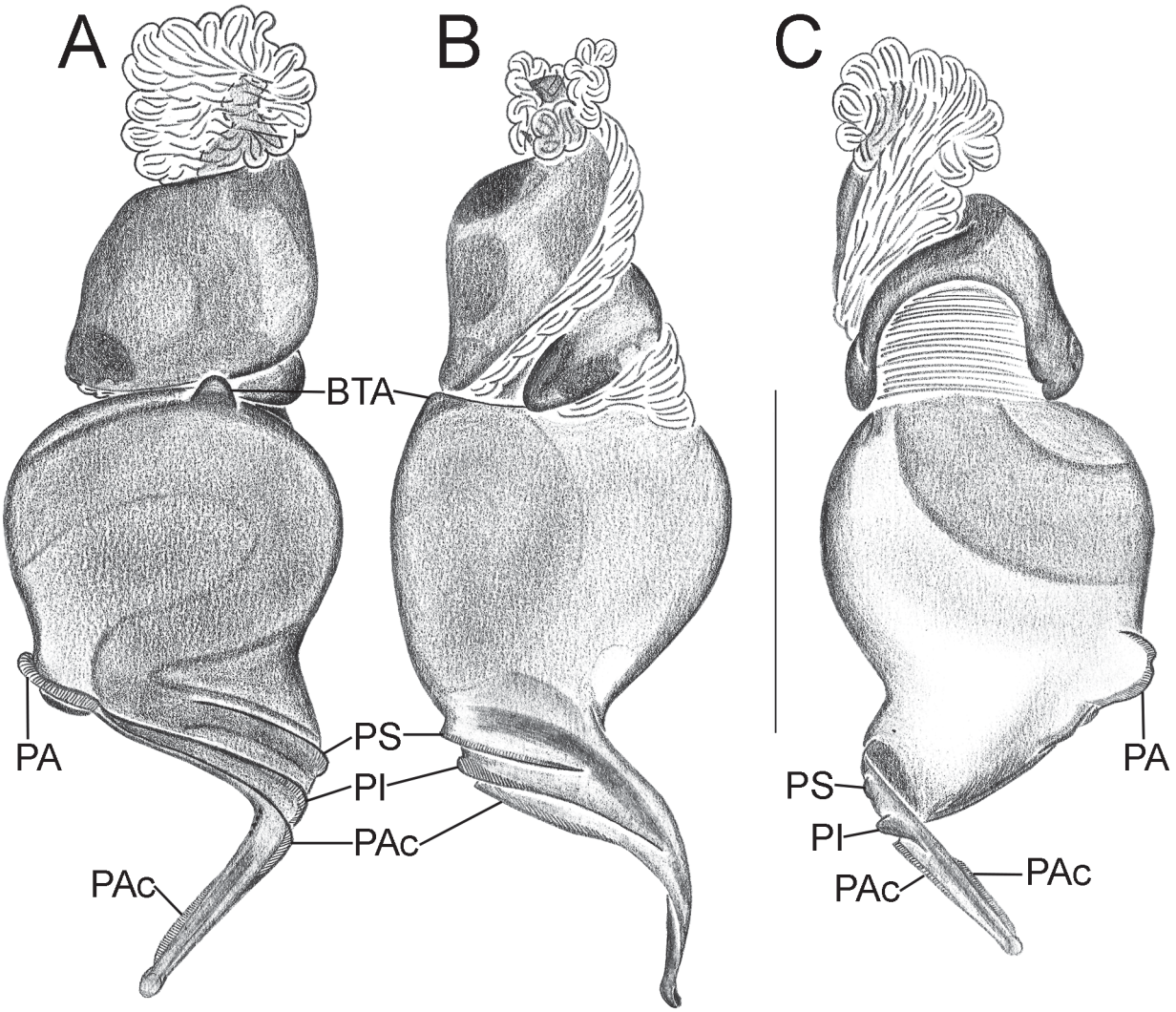


FIGURE 103. *Actinopus utinga* sp. nov., male: A–C UFMG 9918: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel. Scale line: 1 mm.

A–E (holotype ♂, [24º 42' S 64º 37' W], Parque Nacional "El Rey", Salta, Argentina, 10.xi.1976, M. Rumboll leg., MACN-Ar 36518; paratype ♀, same locality of holotype, i.1981, Grosso & P. Goloboff leg., MACN-Ar 36519; not examined); World Spider Catalog, 2020.

Diagnosis. Males of *A. reycali* (Ríos-Tamayo & Goloboff, 2018, fig. 6 D–F) resemble those of *A. harveyi* (Fig. 78 A–C), *A. itapitocai* (Fig. 83 A–C), *A. itaqui* (Fig. 91 A–C), *A. xingu* (Fig. 94 A–C), *A. caxiuana* (Fig. 100 A–C) and *A. utinga* (Fig. 103 A–C) by the general shape of the copulatory bulb, but males differ from those of the more elongated copulatory bulb. They differ from those of *A. utinga* by the embolus being thinner and PA continuous to PAc. In the disposition of keels, the copulatory bulb resembles *A. rufipes* (Fig. 72 A–C), *A. harveyi* and *A. utinga*, but males differ from those of PA not continuous to PI. Males resemble those of all other species of the group *nattereri*, except *A. nattereri* (Fig. 67 A–C), *A. vilhena* (Fig. 75 A–C), *A. harveyi*, *A. itapitocai* (Fig. 83 A–C), *A. xingu* and *A. utinga* by BTA located medially on width of tegulum.

Description. See Ríos-Tamayo & Goloboff (2018: 17).

Distribution. ARGENTINA: Jujuy and Salta.

Actinopus septemtrionalis Ríos-Tamayo & Goloboff, 2018

Actinopus septemtrionalis Ríos-Tamayo & Goloboff, 2018: figs 8 A–I, 9 A–E, 43 (holotype ♂, [26º 36' S 65º 12' W], El Cadillal, Tucumán, Argentina, 25.v.1983, P. Goloboff leg., MACN-Ar

36501; paratype ♀, same data as holotype, MACN-Ar 36052; not examined); World Spider Catalog, 2020.

Diagnosis. Males of *A. septemtrionalis* (Ríos-Tamayo & Goloboff, 2018, fig. 8 G–I) resemble *A. clavero* (Ríos-Tamayo & Goloboff, 2018, fig. 4 E–G) by the elongated shape of the copulatory bulb, but males differ by the more developed PA, PA continuous to PAc and a wider angle of embolar curvature. Females of *A. septemtrionalis* (Ríos-Tamayo & Goloboff, 2018, fig. 9 D–E) have unilobate receptacles and differ from those of all other species by having the receptacles much more longer than wide (two or more times).

Description. See Ríos-Tamayo & Goloboff (2018: 21).

Distribution. ARGENTINA: Salta, Tucumán, Catarmarca and Formosa.

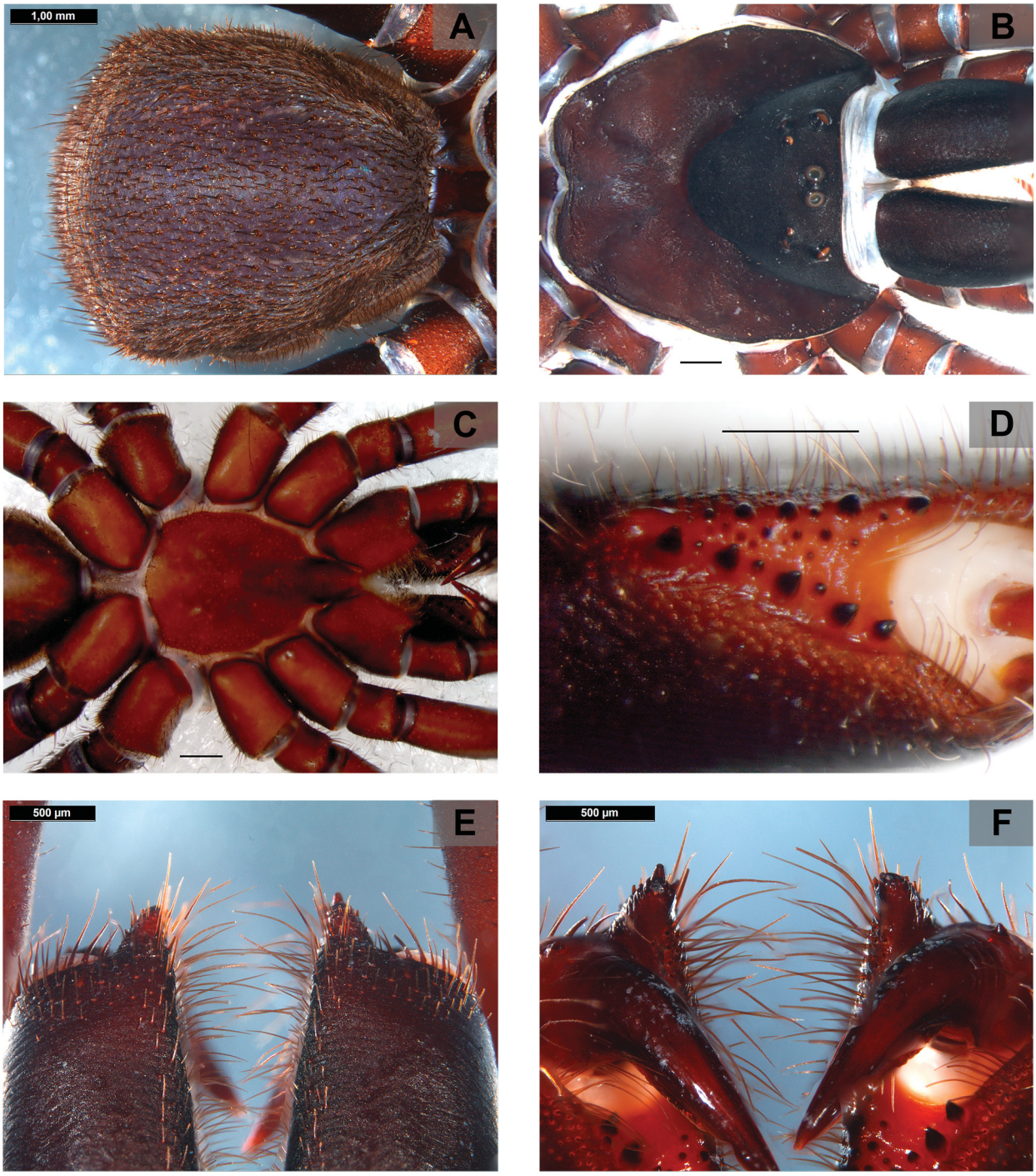


FIGURE 104. *Actinopus crassipes* (Keyserling, 1891), male: A–F MCN 21999: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral. Scales lines B–D: 0.5 mm.

Group *crassipes*

Diagnosis. Males of the group *crassipes* are recognized by the following combination of characters: Small total length; patterns of coloration on legs or palpal articles present; embolus with three keels; BTA developed (except on *A. paranensis*); serrated area on prolateral embolus large, densely covered by relatively large denticles. Females are recognized by the spermathecae having two bilobed receptacles, with outer lobes higher than inner lobes; pore distribution reaching 75% of apical portion on each receptacle.

Species included. *Actinopus crassipes* (Keyserling, 1891); *Actinopus dubiomaculatus* Mello-Leitão, 1923; *Actinopus paranensis* Mello-Leitão, 1920; *Actinopus pusillus* Mello-Leitão, 1920; *Actinopus emas* sp. nov.; *Actinopus bocaina* sp. nov.; *Actinopus laventana* sp. nov.; *Actinopus gerschiapelliarum* Ríos-Tamayo & Goloboff, 2018; *Actinopus magnus* Ríos-Tamayo & Goloboff, 2018; *Actinopus puelche* Ríos-Tamayo & Goloboff, 2018.

Actinopus crassipes (Keyserling, 1891)

Figs 104–107, Map 6

Pachyloscelis crassipes Keyserling, 1891: 3, plate 1, fig. 1. (holotype ♀, Taquara, Rio Grande do Sul, Brazil, NHM, examined).

Pachyloscelis luteipes: Keyserling, 1891: 5. *Actinopus luteipes* F. O. Pickard-Cambridge, 1896: 730; Mello-Leitão, 1923: 22 *Actinopus crassipes*: F. O. Pickard-Cambridge, 1896: 732; Strand, 1916: 81; Mello-Leitão, 1923: 18, fig. 128; Bücherl, 1957: 384, fig. 5; Schiapelli & Gerschman, 1962: 72, plate II, fig. 3; Lucas & Bücherl, 1965: 89, fig. 1-18; Silva-Moreira *et al.*, 2010: 7; World Spider Catalog, 2020.

Actinopus ceciliae Mello-Leitão, 1931: 11, fig. 1. (holotype ♂, Pedras Altas [Cacimbinhas], Rio Grande do Sul, Brazil, MNRJ 4, not located); Silva-Moreira *et al.*, 2010: 7.

Actinopus tarsalis: Mello-Leitão, 1943: 149, misidentification. *Actinopus niger* Bücherl, Timotheo & Lucas, 1971: 121, fig. 2 (= *A. ceciliae* holotype); Platnick, 1997: 126.

Note. The spermathecae of the female holotype of *A. crassipes,* deposited in NHM, was examined only by photos provided by arachnologist Stuart Longhorn which show the spermathecae composed of two receptacles, each one divided in two lobes. The outer lobes are much higher than the internal lobes and pore distribution reaches 75% of the apical sector of each receptacle.

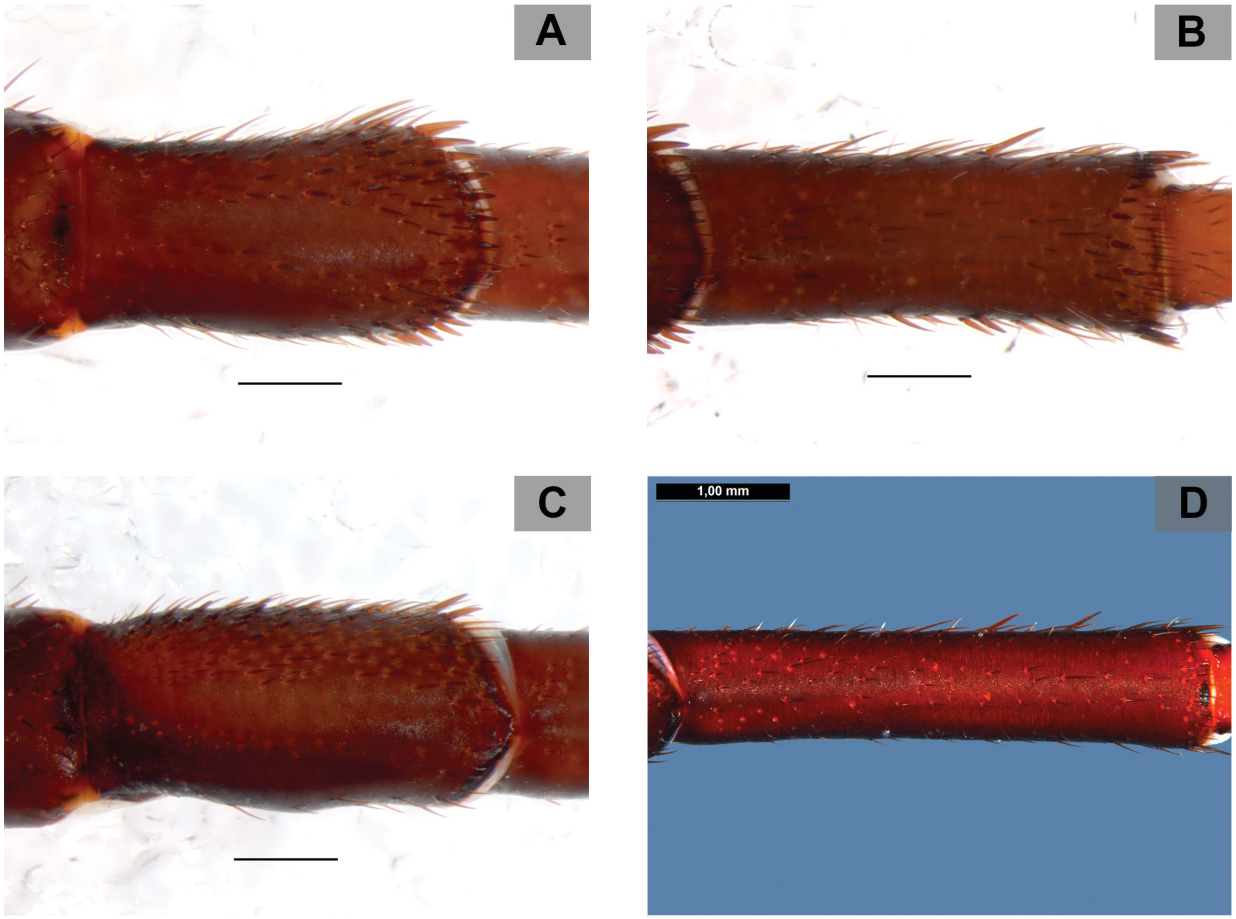


FIGURE 105. *Actinopus crassipes* (Keyserling, 1891), male: A–D MCN 21999: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal. Scales lines A–C: 0.5 mm.

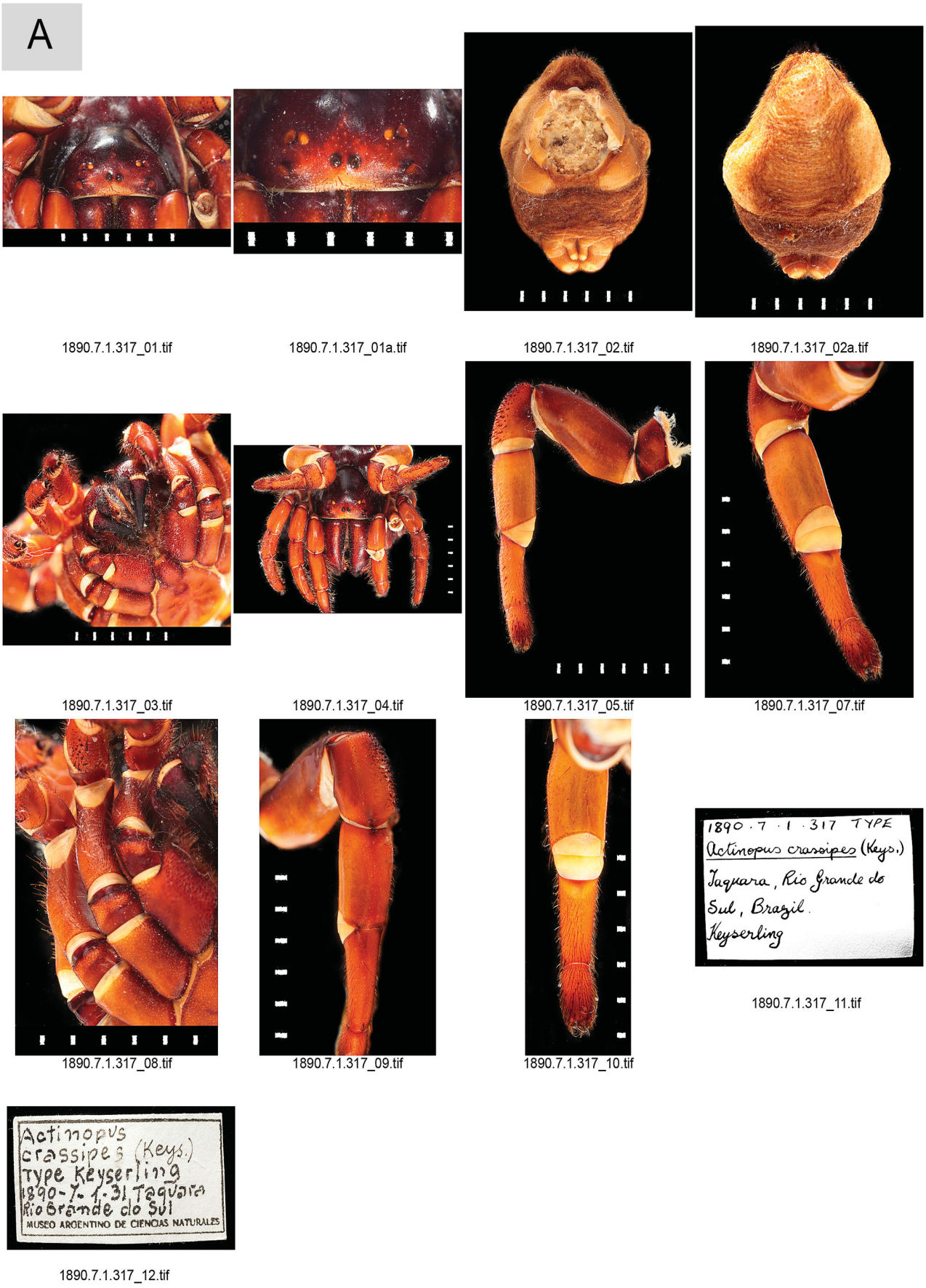


FIGURE 106. *Actinopus crassipes* (Keyserling, 1891), holotype from NHM, female: A NHM: A. Plate made by Janet Becalloni, with images of regions of interest to search for diagnostics characters for *A. crassipes*, female.

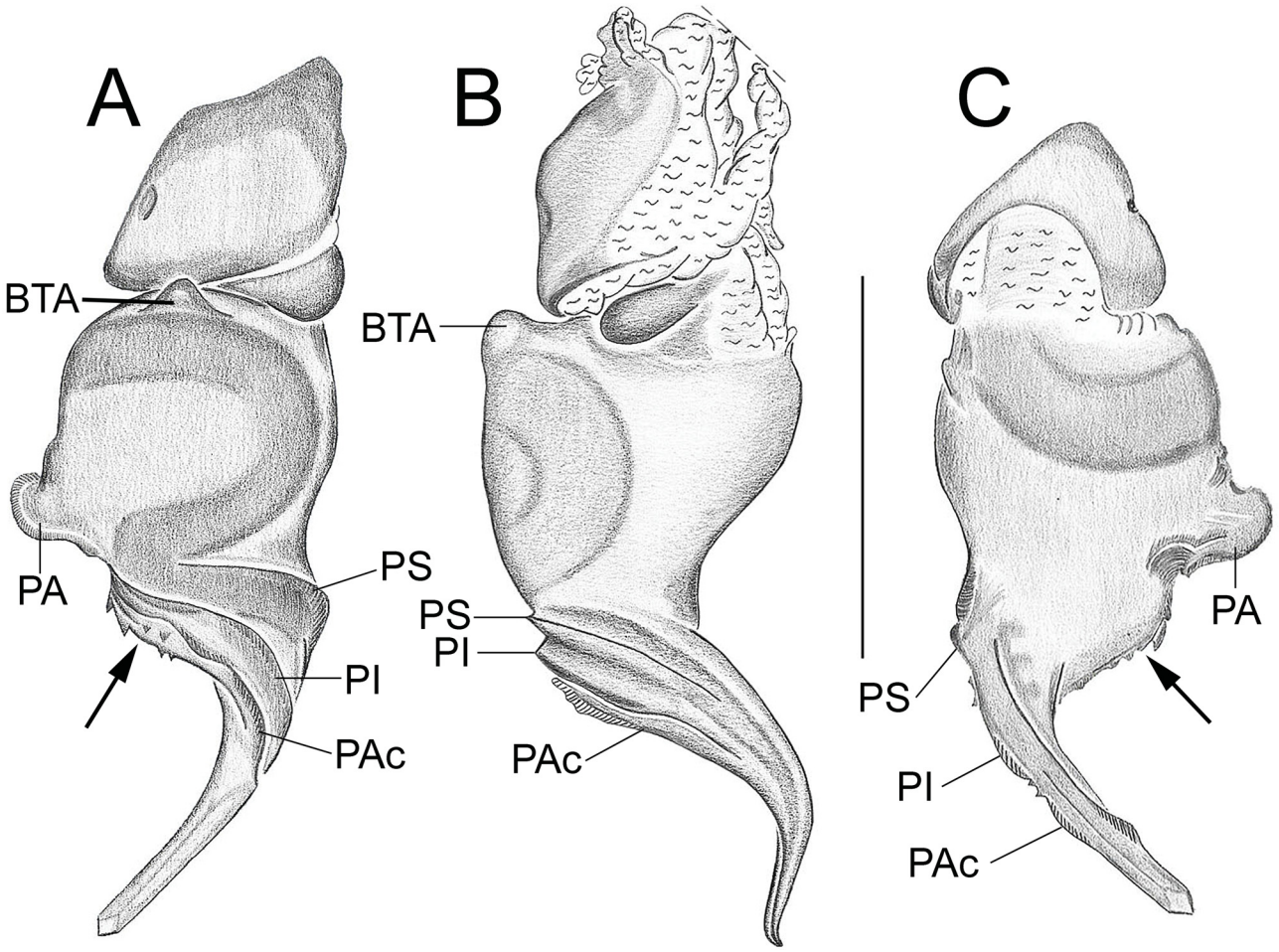
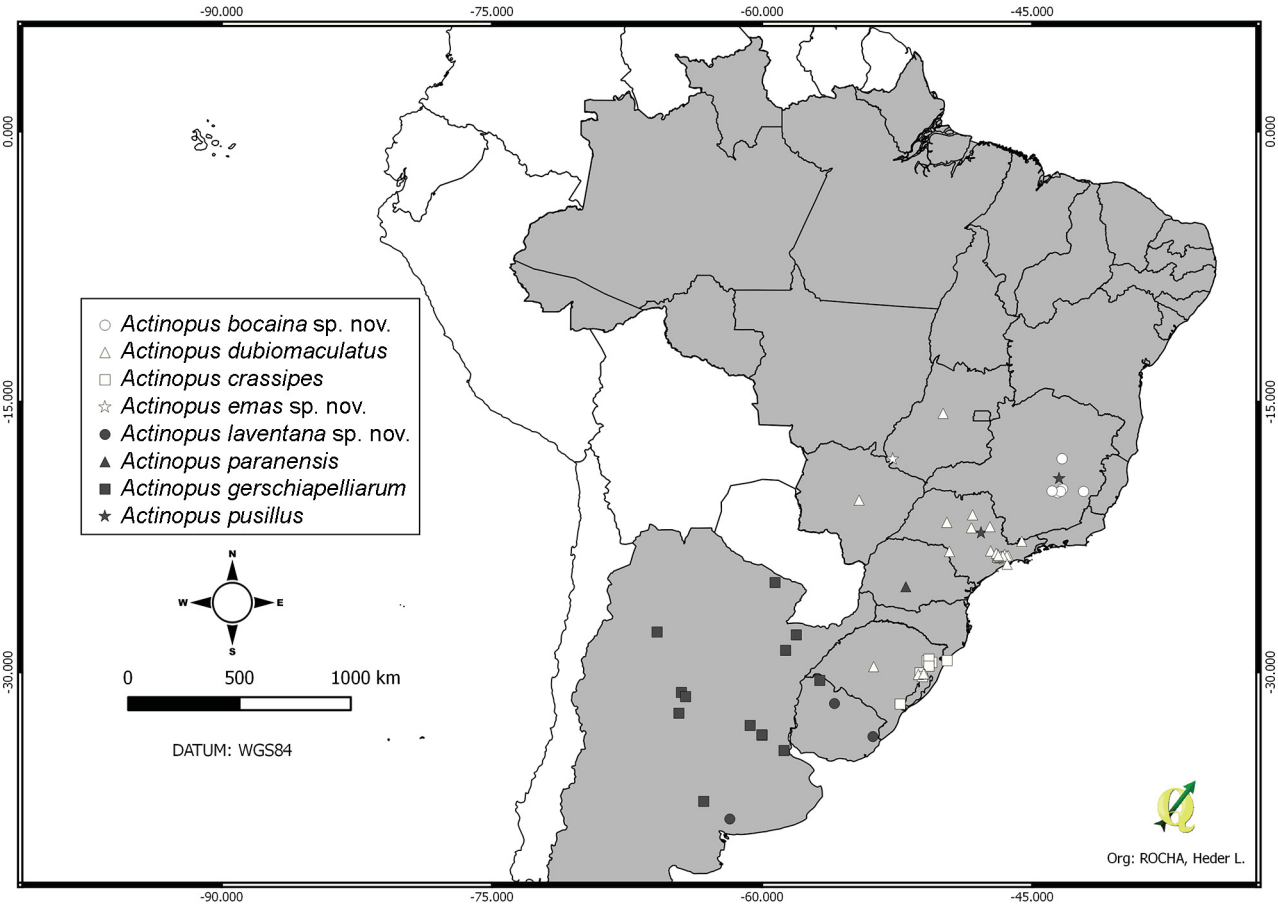


FIGURE 107. *Actinopus crassipes* (Keyserling, 1891), male: A–C MCN 30740: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated area. Scale line: 1 mm.

No additional female specimen was found and, for this reason, no redescription of the female of this species is provided here. On the other hand, several males from Rio Grande do Sul can be identified as belonging to *A. ceciliae*. Characters that are consistent with the original description of *A. ceciliae* are the arrangement of the rastellum spines, disposition and size of the eyes, total mean body length, and the copulatory bulb with three keels and a twisted duct. Bücherl *et al.* (1971) overlooked the fact that the specimen labeled as *A. niger* by Mello-Leitão was actually the type of *A. ceciliae* and that *A. niger* was just a manuscript name. However, these authors provided illustrations of that specimen, formally identifying it as *A. niger*, and, therefore, inadvertently validating that name (as correctly pointed out by Platnick, 1997). Moreira-Silva *et al.* (2010) considered that: "Bücherl *et al.* (1971) synonymized the manuscript name with *A. crassipes*. So, *Actinopus ceciliae* = *A. crassipes* n. syn.!".

We do not believe it is so simple. Bücherl *et al.* (1971) merely stated that the specimen "could be the male of *A. crassipes*", which is not a formal synonymy. Thus, evidence was provided only for the synonymy of *A. niger* Bücherl *et al.*, 1971 with *A. ceciliae* Mello-Leitão and the current synonymy of *A. ceciliae* with *A. crassipes* was an unjustified act by Moreira-Silva *et al.* (2010). Notwithstanding that, since there is still no material evidence to disprove this, *A. ceciliae* is maintained here as a junior synonym of *A. crassipes*. The redescription below was based on images of the holotype taken by J. Beccaloni (NHM).

Diagnosis. Males of *A. crassipes* resemble those of *A. pusillus* (Fig. 118 A–C), *A. emas* (Fig. 121 A–C) and *A. paranensis* (Fig. 115 A–C) by the leg metatarsi and tarsi being paler than other articles (Fig. 6 B). They resemble those of *A. dubiomaculatus* (Fig. 112 A–C) and *A. laventana* (Fig. 129 A–C) by the PA being continuous to the PI and resemble those of *A. emas* (Fig. 121 A–C) and *A. bocaina* (Fig. 124 A–C) by a tegular swelling above PA in prolateral view. Males resemble those of *A. bocaina* and *A. laventana* by the slender tegulum and *A.*



MAP 6. Distribution map of *Actinopus laventana* sp. nov., *Actinopus bocaina* sp. nov., *Actinopus emas* sp. nov., *Actinopus pusillus* Mello-Leitão, 1920, *Actinopus paranensis* Mello-Leitão, 1920, *Actinopus dubiomaculatus* Mello-Leitão, 1923, and *Actinopus crassipes* (Keyserling, 1891).

dubiomaculatus by having a smooth scutum, covering a part of dorsal surface (Fig. 104 A). They differ from those of all other species of the group *crassipes* and resemble *A. szumikae* by presenting a distal serrated area below PAc restricted to the proximal region of embolus (Fig. 107 A–C); ventral leg pseudoscopulae occupying 25% of tarsi I, 50% of II; and 5% and 10% of distal ventral surface of metatarsi III and IV, respectively. They differ from those of *A. szumikae* (Ríos-Tamayo & Goloboff, 2018, fig. 34 D–F) by embolus with only two keels, and from *A. ariasi* (Ríos-Tamayo & Goloboff, 2018, fig. 12 D–F) by the PA being continuous to PI.

MALE (MCN 21999): Total length 7.79; Carapace, long 3.96; wide 4.22. Carapace anterior part rounded. Anterior eye row slightly procurved, posterior row recurved (Fig. 104 B). Few bristles between AME-clypeus and in interdistances PME–PME and PLE–PLE. Sternum with eight sigilla fused medially (Fig. 104 C). Rastellum subtriangular, with few spines apically (Fig. 104 E–F). Chelicerae with denticles along prolateral row and between megateeth on prolateral and retrolateral rows. Prolateral row decreasing in distal-proximal direction (Fig. 104 D). Patella and tibia III with distal crown of well-developed thorns, not interrupted in middle (Fig. 105 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 105 A, C). Tibia IV without spines on dorsal surface (Fig. 105 D). Ventral pseudoscopulae occupy 25% of tarsi I, 50% of II and 100% of III and IV. Ventral pseudoscopulae occupying 5% of metatarsi I, 10%, respectively. Pseudoscopula of tarsi I and II, and metatarsi III and IV with setae spaced, forming diffuse group of bristles; on tarsi III and IV, compact. Carapace and chelicerae dark-brown; sternum pale brown; Coxae, trochantera, femora, patellae and tibia dark brown; Metatarsi and tarsi orangish (Fig. 6 B); abdomen dark-gray, with a smooth and bluish scutum, covering 50% of dorsal surface (Fig. 104 A). **Eyes: Diameters:** PME 0.10, PLE 0.16, ALE 0.33, AME 0.25; MOQ: Length 1, front width 0.77, back width 0.17; **Interdistances:** PME–PME 1.4, PLE–PME 0.11, AME–AME 0.22, ALE–AME 0.77, ALE–PLE 0.4, AME–PME 1. **Ocular area:** OAL 5.1, OAW 3.2, and IF 1.5. **Body:** Clypeus: 0.16; Fovea: 1.50; Labium: long 1; wide 1.20;

Chelicerae: long 3.40; wide 1.50; Sternum: long 3.6; wide 3.1. Abdomen: long 5.5; wide 4.4. **Legs:** I: Fe 5.2/ Pa 2.3/ Ti 3.3/ Me 4.2/ Ta 2.8/ total 18.6. II: 5/ 2.3/ 3.2/ 4.4/ 2.8/ 17.8. III: 4/ 2.3/ 2.7/ 4.5/ 3.1/ 16.8. IV: 5/ 2.5/ 4.6/ 4.8/ 3.4/ 20.55. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v1-5-5, d0, p0, r0; Me v0-0-2, d0, p1-1-1, r2-4-4; ta v0-2-1, d0, p1-2-4, r2-8-6. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v2-3-5, d0, p0, r0-4-4; Me v5-5-5, d0, p1-1-1, r0-0-1; ta v0-1-2, d0, p2-3-4, r4,6,6. III—Fe v0, d0, p0, r0; Pa v0, d7-13-25, p1-0-1, r0-0-2; ti v0-0-3, d1-0-15, p0-1-2, r0-4-4; Me v2-8-7, d4-3-1, p0-1-2, r0-0-2; ta v0-0-1, d0, p2-2-5, r0-5-6; IV—Fe v0, d0, p0, r0; Pa v0-0-1, d7-19-8, p0-0-1, r0; ti v1-3-3, d0, p1-1-1, r0; Me v2-6-8, d0, p0-1-2, r0; ta v0, d0, p2-7-9, r1-6-10. **Palp:** BTA developed and placed medially on prolateral tegular surface. Embolus with three developed keels (PAc, PI and PS), demarcated in all three views. Serrated area distal to the PAc, covered by PAc on dorsal view but apparent on prolateral and retrolateral views. Serrated area restricted to proximal region of embolus. Tegulum thin, PA developed and continuous to PI (Fig. 107 A–C).

VARIATION

MALES (n=10): **Eyes: Diameters:** PME 0.11–0.22, PLE 0.16–0.33, ALE 0.27–0.33, AME 0.22–0.25; MOQ: Length 0.77–1, front width 0.55–0.77, back width 1.4–1.8; **Interdistances:** PME–PME 1.1–1.5, PLE–PME 0.11–0.16, AME–AME 0.11–0.22, ALE–ALE 0.44–0.77, ALE–PLE 0.27–0.7, AME–PME 0.77–0.1. **Ocular area:** OAL 3.3–5.1, OAW 2.5–3.2, and IF 1.2–1.8. **Body:** Total length: 8.3–13.3; Carapace: long 3.4–5.4; wide 4.1–5.8; Clypeus: 0.11–0.22; Fovea: 1.1–1.8; Labium: long 0.88–1.1; wide 0.8–1.2; Chelicerae: long 2.3–3.5; wide 1.3–1.6; Sternum: long 3.2–3.6; wide 2.5–3.1. Abdomen: long 4.2–7.2; wide 3.4–5.5. **Legs:** I: Fe 4.5–5.2/ Pa 1.8–2.3/ Ti 2.8–3.4/ Me 3.2–4.2/ Ta 2.1–2.8/ total 14.4–17.9. II: 4.2–5/ 1.8–2.3/ 2.7–3.3/ 3.4–4.4/ 2.1–2.8/ 14.2–17.8. III: 3-5/ 1.8–2.3/ 2–3.2/ 3.5–4.7/ 2.3–3.4/ 12.6–18.6. IV: 3.8–5.5/ 1.7–2.5/ 3.4–4.6/ 3.6–4.8/ 2.5–3.4/ 15–17.5.

Distribution. BRAZIL. Rio Grande do Sul: São Franscisco de Paula, Torres, Canela, Porto Alegre, and Pelotas (Map 6).

Material Examined**.** BRAZIL. *Rio Grande do Sul:* São Francisco de Paula, Passo do Inferno, 1♂, 27.i.1999, C. Mansan leg. (MCN 30536); Potreiro Velho, 1♂, 22–25.iv.1999, A. A. Lise leg. (MCTP 14481); Torres, 1♂, 13.ii.1972, A. A. Lise leg. (MCN 3496); 4♂, 20.ii.1974, T. de Lema and A. A. Lise leg. (MCN 1973); Canela, 1♂, 03.ii.1967, A. A. Lise leg. (MCN 544); Porto Alegre, 1♂, 05.ii.1969, A. A. Lise leg. (MCN 26); 19.iv.1985, A. A. Lise leg. (MCN 13269); 16.iv.1991, L. de A. Moura leg. (MCN 20983); 11.iii.1992, A. M. Fonseca leg. (MCTP 1598); 08.iv.1995, B. M. Unpierre leg. (MCTP 6866); 14.iii.1996, A. Silva leg. (MCN 27416); 19.iv.1996, L. Moura leg. (MCN 27640); 2♂, 01.v.1997, E. Caberlou leg. (MCTP 9637); (Jardim Botânico), 1♂, 07.iv.1986, A. D. Brescovit leg. (MCN 14544); 17.iii.1992, A. D. Brescovit leg. (MCN 21999); 04.iii.1994, A. D. Brescovit leg. (MCN 25200); 10.iv.1994, A. D. Brescovit leg. (MCN 25385); 31.iii.1999, D. Cognato leg. (MCN 30740); 28.iii.2001, R. Ott leg. (MCN 33763); 22.iii.2002, R. Araújo leg. (MCN 34332); (campus da Fundação Zoobotânica), 1♂, iii.1995, R. Beheregaray leg. (MCTP 6196); (Lomba do Pinheiro), 2♂, 12.iii.1978, A. G. Ferreira leg. (MCN 7813); (bairro do Lami), 1♂, 10.iii.1985, S. S. Chula leg. (MCN 13240); Pelotas, 15–16.iii.1996, L. Moura leg. (MCN 27476).

Actinopus dubiomaculatus Mello-Leitão, 1923

Figs 108–112, Map 6

Actinopus dubiomaculatus Mello-Leitão, 1923: 20 (holotype ♂, Franca, São Paulo, Brazil, MZSP, not located); World Spider Catalog, 2020.

Note. The material examined can be identified as *A. dubiomaculatus* by patterns of diagnostic coloration of articles legs, cephalothorax and chelicerae, the average of total length, the size of the ventral metatarsal and tarsal pseudoscopulae and tibia without spines in dorsal view. The material examined can be recognized as *A. dubiomaculatus* by the geographic distribution in the state of São Paulo, with the addition of material provided by the present work extended to Mato Grosso and Rio Grande do Sul.

Diagnosis. Males of *A. dubiomaculatus* resemble those of *A. crassipes* (Fig. 107 A–C) and *A. laventana* (Fig. 129 A–C) by PA being continuous to PI, and those of all species of the group *crassipes*, except *A. laventana* and *A. paranensis* (Fig. 115 A–C), by BTA placed medially on prolateral tegular surface. They resemble those of all species of group *crassipes*, except *A. crassipes*, by the serrated area distal to PAc, continuous to proximal area of PAc (Fig. 112 A–C). Males resemble those of *A. pusillus* (Fig. 118 A–C) and *A. paranensis* by the tibiae, tarsi and metatarsi being paler than the other articles. They differ from those of all other species of the group by the ventral scopulae occupying 25% of the distal portion of tarsi II and metatarsi IV, with diffuse setae; paraembolic apophysis inconspicuous (Fig. 112 A, C); basal portion of sternum tapering (Fig. 108 C). Females of *A. dubiomaculatus* (Fig. 112 D–H) differ from those of *A. laventana* (Fig. 129 D) by the receptacles lacking lateral swelling; the s*cutum* delicate and slightly sclerotized and occupying *ca*. 1/3 of abdomen dorsum (Fig. 110 A).

MALE (MZSP 7636): Total length 7.79; Carapace,

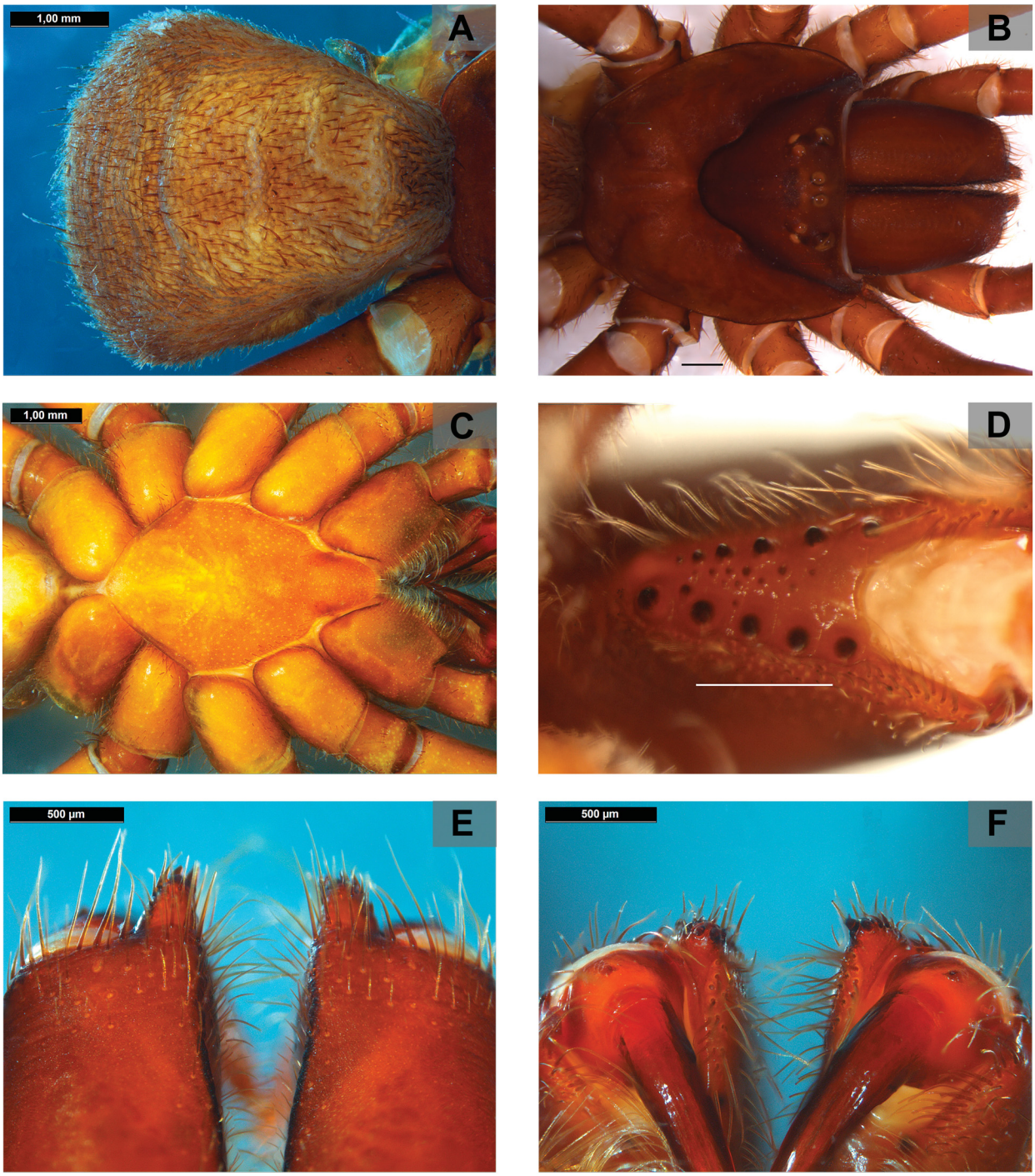


FIGURE 108. *Actinopus dubiomaculatus* Mello-Leitão, 1923, male: A–F MZSP 7636: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral. Scales lines B, D: 0.5 mm.

long 3.96; wide 4.22. Carapace anterior part rounded. Eyes. Anterior row slightly procurved, posterior row recurved (Fig. 108 B). Few bristles between AME-clypeus and forming recurved rows on interdistances PME–PME and PLE–PLE. Sternum with eight sigilla weakly demarcated and fused medially, and shape of basal portion of sternum tapering (Fig. 108 C). Rastellum protuberant, inverted V-shaped, hirsute, with row of strong spines apically (Fig. 108 E–F). Subunguinal sulci of chelicerae with small and widespread denticles. Prolateral row with teeth decreasing in size in distal-proximal way. Retrolateral row with subequal teeth in size (Fig. 108 D). Patella and tibia III with distal crown of well developed thorns, not interrupted in middle (Fig. 109 A–B). Patellae III and IV

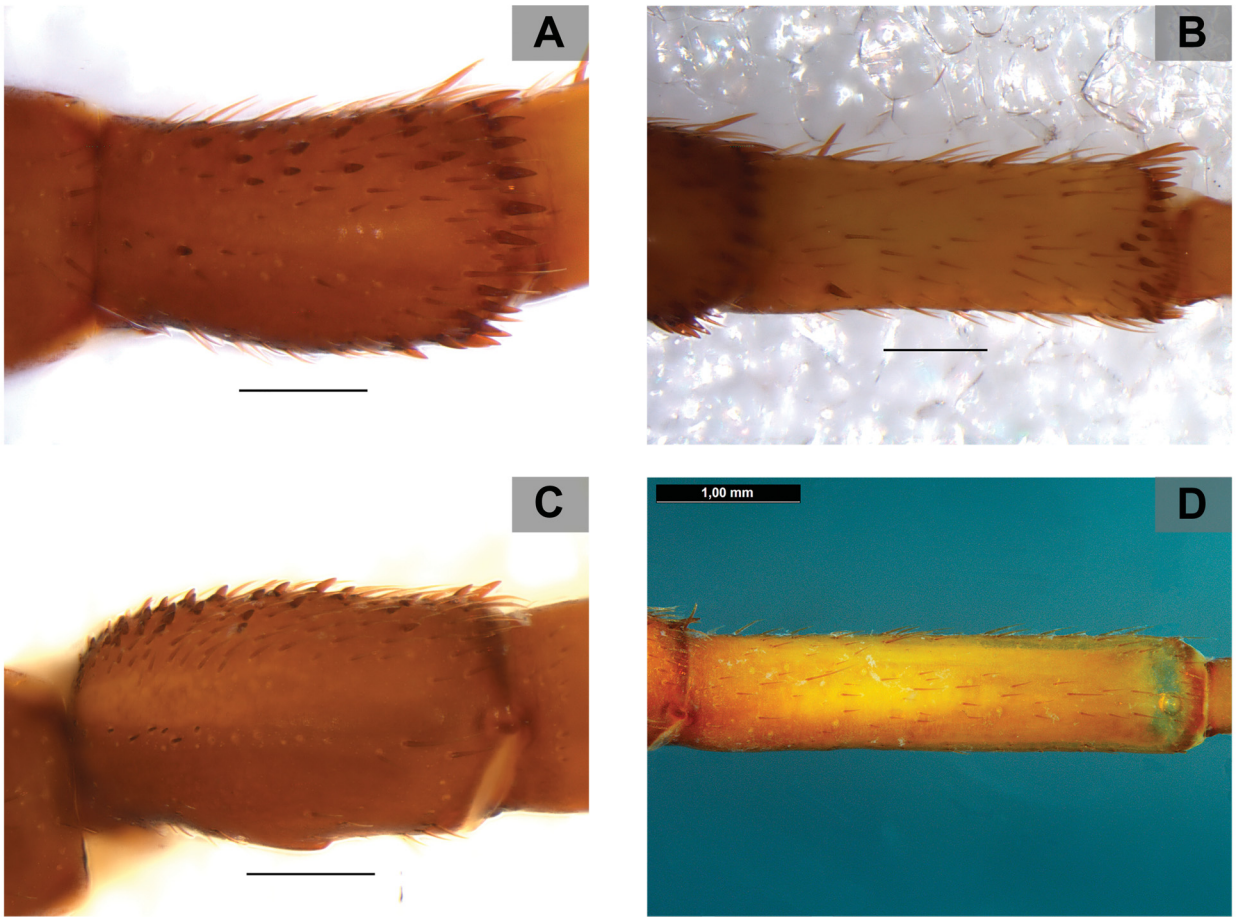


FIGURE 109. *Actinopus dubiomaculatus* Mello-Leitão, 1923, male: A–D MZSP 7636: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal. Scales lines A–C: 0.5 mm.

with spines on prolaterodorsal face, along of articles, and one dorsal spine (Fig. 109 A, C). Tibia IV without spines on dorsal surface (Fig. 109 D). Ventral scopula occupying 100% of tarsi III and IV, and occupying 25% of the tarsi II and metatarsi IV, with diffuse bristles in distal area of articles. Carapace and chelicerae pale brown; sternum yellowish-brown, coxae, trochantera, femora and patellae pale brown; tibiae, metatarsi and tarsi orange; Abdomen pale gray, with smooth scutum, where bases of bristles are more chitinized than the rest of abdomen (Fig. 108 A). **Eyes: Diameters:** PME 0.17, PLE 0.21, ALE 0.17, AME 0.3; MOQ: Length 0.67, front width 0.53, back width 1.28; **Interdistances:** PME–PME 1, PLE–PME 0.06, AME–AME 0.15, ALE–AME 0.44, ALE–PLE 0.23, AME–PME 0.31. **Ocular area:** OAL 2.9, OAW 2.2, and IF 1.63. **Body:** Clypeus: 0.16; Fovea: 1.63; Labium: long 0.9; wide 0.72; Chelicerae: long 2.34; wide 1.24; Sternum: long 2.97; wide 2.39. Abdomen: long 3.83; wide 3.4. **Leg measurements:** I: Fe 4.6/ Pa 1.79/ Ti 2.86/ Me 3.39/ Ta 2.12/ total 14.76. II: 1.77/ 4.31/ 2.71/ 1.96/ 2.82/ 13.57. III: 3.21/ 1.84/ 1.8/ 3.41/ 2.39/ 12.65. IV: 4.41/ 1.94/ 3.05/ 3.86/ 2.47/ 15.73. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v2-3-7, d0, p0-0-1, r0-0-2; Me v2-3-3, d0, p1-1-2, r1-3-4; ta v0-2-3, d0, p1-2-2, r0-2-2. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v3-5-4, d0, p0-0-1, r0-3-4; Me v1-2-4, d0, p2-1-2, r3-3-2; ta v0-0-2, d0, p0-3-5, r0-3-4. III—Fe v0, d0, p0, r0; Pa v0-0-1, d2-9-17, p0-0-3, r0-0-3; ti v4-1-4, d1-0-13, p1-1-2, r0-0-1; Me v0-4-3, d2-1-0, p1-0-2, r0-0-4; ta v0-0-1, d0, p1-1-4, r0-2-2; IV—Fe v0, d0, p0, r0; Pa v0-1-1, d18-9-4, p0, r0; ti v2-2-3, d0, p0-1-1, r0; Me v2-2-1, d0, p1-2-2, r0; ta vx, d0, p0-3-7, r0-1-0. **Palp:** BTA developed, displaced medially on prolateral tegular surface; embolus with three developed and well demarcated keels (PAc, PI and PS), in dorsal and retrolateral views. Serrated area distal to PAc, covered by PAc in dorsal view. Serrated area apparent in prolateral and retrolateral views, continuous to proximal sector of PAc. Thin tegulum, smooth PA, continuous to PI (Fig. 112 A–C).

FEMALE (MCN 13243): Total length 11.74; Carapace, long 4.62; wide 4.9. Carapace anterior part square and posterior part triangular. Eyes. Anterior row

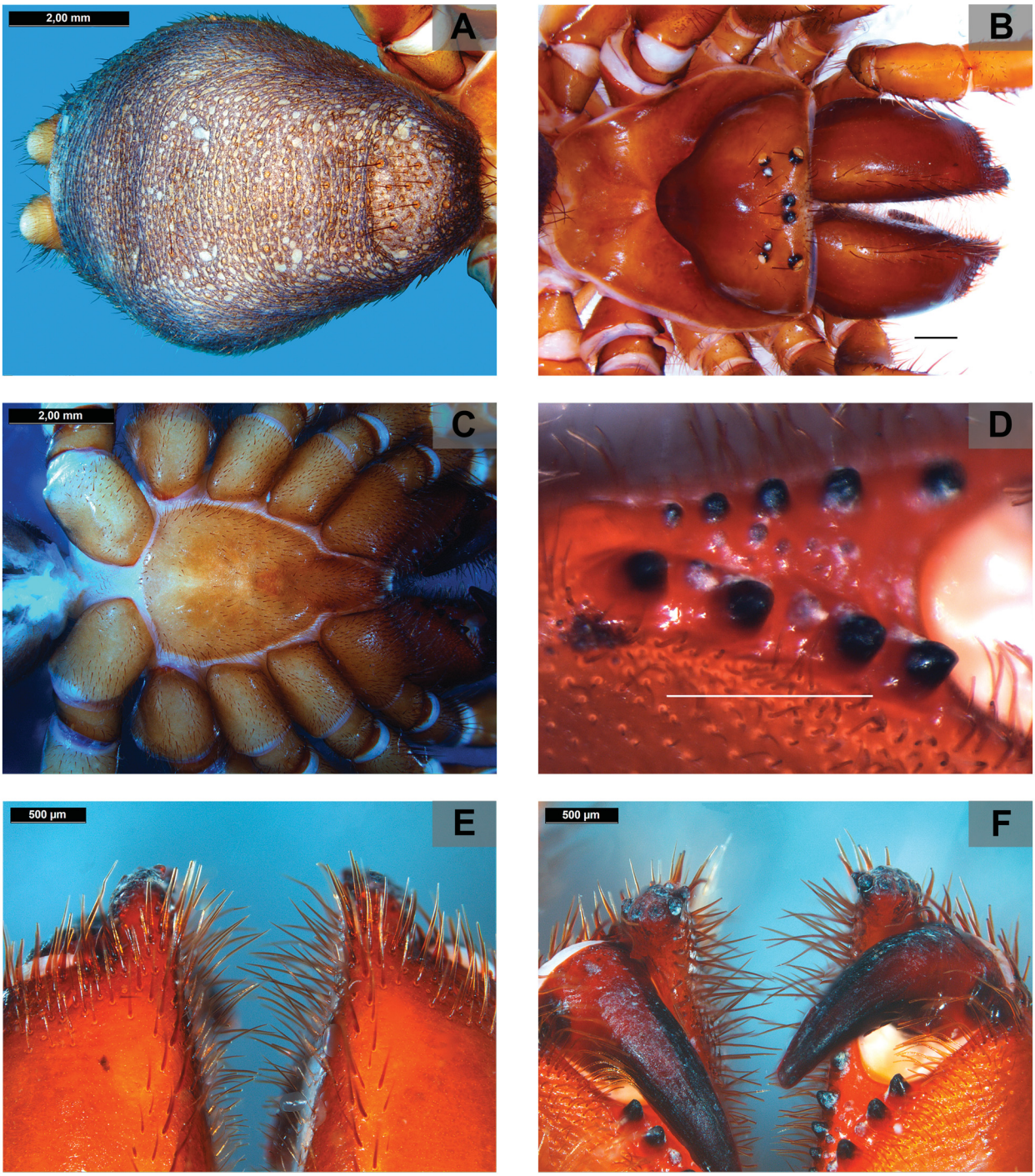


FIGURE 110. *Actinopus dubiomaculatus* Mello-Leitão, 1923, female: A–F MCN 13243: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral. Scales lines B, D: 0.5 mm.

procurved, posterior row slightly recurved. Long and short bristles between AME-clypeus forming straight and recurved rows between PME–PME and PLE–PLE. Short bristles between AME–ALE and between lateral eyes-edge of carapace (Fig. 110 B). Sternum with eight sigilla strongly fused medially (Fig. 110 C). Rastellum protuberant, digitiform, with prolateral part subquadrate, hirsute, with many short spines covering the dorsal rastellum (Fig. 110 E–F). Small denticles widespread in subunguinal sulci of chelicera. Prolateral row decreasing in size in distal-proximal way. Retrolateral row of teeth, basally, with small denticles in middle of teeth (Fig. 110 D). Patella and tibia III with distal developed crowns of thorns (Fig. 111 A–B). Patella IV with prolaterodorsal short spines along extension of article (Fig. 111 C). Tibia IV without spines and with long bristles on dorsal and

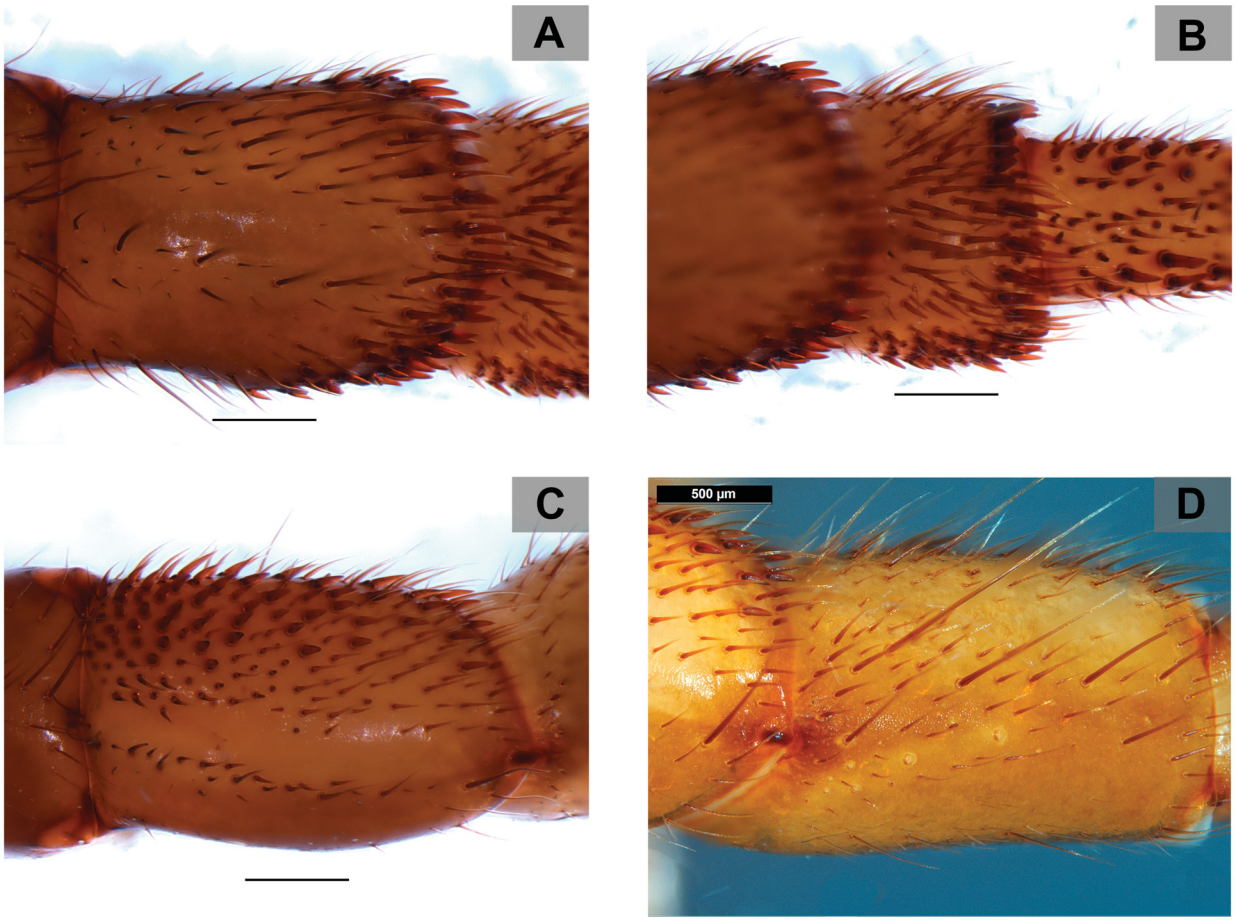


FIGURE 111. *Actinopus dubiomaculatus* Mello-Leitão, 1923, female: A–D MCN 13243: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal. Scales lines A–C: 0.5 mm.

prolaterodorsal surfaces (Fig. 111 D). Without scopula. Carapace, chelicerae, sternum and legs yellowish-brown; abdomen pale brown with a slightly sclerotized scutum, which occupies about 1/3 of the abdomen (Fig. 110 A). 14 labial cuspules, 96 on right maxilla and 103 on left. **Eyes: Diameters:** PME 0.13, PLE 0.24, ALE 0.25, AME 0.19; MOQ: Length 0.81, front width 0,57, back width 1.56; **Interdistances:** PME–PME 1.23, PLE–PME 0.11, AME–AME 0.19, ALE–AME 0.65, ALE–PLE 0.51, AME–PME 0.52. **Ocular area:** OAL 4.16, OAW 2.64, and IF 2.25. **Body:** Clypeus: 0.18; Fovea: 2.26; Labium: long 1.47; wide 1.06; Chelicerae: long 3.32; wide 1.93; Sternum: long 3.24; wide 2.97. Abdomen: long 7.12; wide 5.74. **Leg measurements:** I: Fe 2.75/ Pa 1.84/ Ti 1.13/ Me 1.64/ Ta 1.17/ total 8.53. II: 2.84/ 1.87/ 1.06/ 1.66/ 1.04/ 8.47. III: 2.67/ 2.15/ 0.64/ 1.73/ 1.1/ 8.29. IV: 3.64/ 2.25/ 1.62/ 2.08/ 1.18/ 10.77. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-1-1, d0, p0-0-2, r1-3-3; Me v0-4-3, d0, p2-4-3, r2-6-3; ta v0-1-3, d0, p3-5-2, r3-3-4. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0, r9-14-12; Me v0-3-4, d0, p0-3-3, r0-6-4; ta v0-1-4, d0, p4-3-2, r2-2-4. III—Fe v0, d0, p0, r0; Pa v0, d0-1-33, p1-0-0, r0-6-7; ti v0, d9-10-18, p0-0-2, r1-5-9; Me v0-0-4, d3-6-7, p0, r2-7-6; ta v15-21-13, d6-9-10, p2-4-3, r0-4-5; IV—Fe v0, d0, p0, r0; Pa v0, d19-25-10, p2-2-1, r0; ti v0, d0, p0-2-0, r0; Me v0-0-3, d0-0-2, p0-3-2, r0; ta v1-9-10, d0-2-3, p1-4-3, r0-2-3. **Spermathecae:** Represented by two seminal receptacles, bilobed, longer than wide, with short duct. External lobes longer than internal lobes. Pore distribution reaching 75% of apical area of each receptacle (Fig. 112 D–H).

VARIATION

MALES (n=10): **Eyes: Diameters:** PME 0.14–0.22, PLE 0.16–0.22, ALE 0.15–0.44, AME 0.2–0.39; MOQ: Length 0.56–0.89, front width 0.51–0.78, back width 1.16–1.56; **Interdistances:** PME–PME 0.87–1.22, PLE–PME 0.03–0.17, AME–AME 0.11–0.67, ALE–AME 0.39–0.56, ALE–PLE 0.23–044, AME–PME 0.28–0.40. **Ocular area:** OAL 2.67–4, OAW 1.84–3, and IF 1.44–1.91.

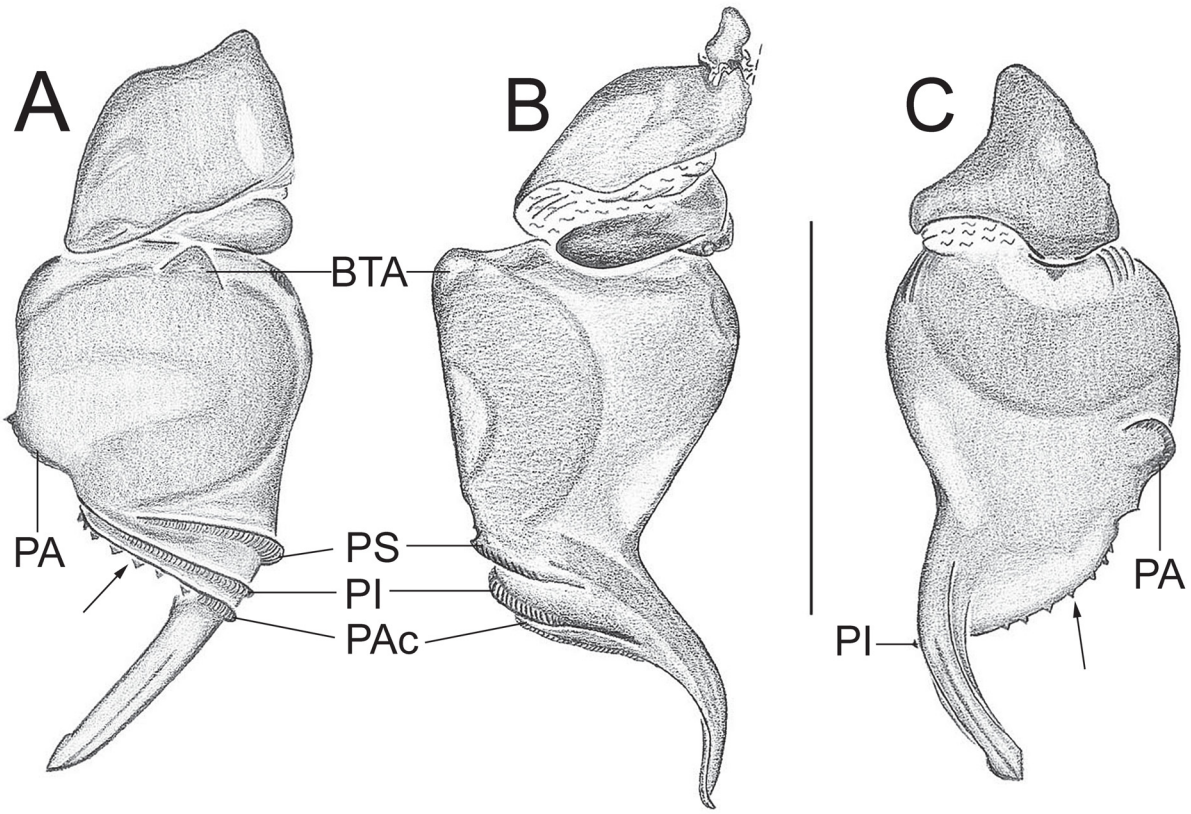


FIGURE 112 A–C. *Actinopus dubiomaculatus* Mello-Leitão, 1923, male: A–C MZSP 7636: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc-**Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated area. Scale line: 1 mm.

Body: Total length: 6.53–12.33; Carapace: long 3.18–5.33; wide 3.67–5; Clypeus: 0.09–0.22; Fovea: 1.36–2; Labium: long 0.9–1.22; wide 0.7–1.11; Chelicerae: long 1.78–2.78; wide 1.1–1.56; Sternum: long 2.52–3.44; wide 2.13–3. Abdomen: long 3.42–6.89; wide 2.98–5.11. **Leg measurements:** I: Fe 4–5.56/ Pa 1.64–2.33/ Ti 2.39–3.33/ Me 2.8–4.22/ Ta 2.02–2.78/ total 12.85–17.89. II: 4.05–5.11/ 1.65–2.22/ 2.39–3.22/ 1.96–4.33/ 2.07–2.82/ 13.16–17.56. III: 2.96–4/ 1.34–2.33/ 1.8–3.22/ 2.77–4.44/ 1.99–2.89/ 10.6–16.33. IV: 3.93–5.67/ 1.82–2.44/ 2.84–4.44/ 2.75–4.78/ 2.17–3.22/ 13.51–20.22. FEMALES (n=10): **Eyes: Diameters:** PME 0.13–0.3, PLE 0.2–0.4, ALE 0.22–0.35, AME 0.14–0.26; MOQ: Length 0.71–1.4, front width 0.44–0.8, back width 1.27–2.61; **Interdistances:** PME–PME 1.01–2.09, PLE–PLE 0.06–0.25, AME–AME 0.09–0.22, ALE–AME 0.66–1.45, ALE–PLE 0.48–0.85, AME–PME 0.4–1.08. **Ocular area**: OAL 3.7–5.46, OAW 2.43–3.59, and IF 1.73–3.34. **Body:** Total length: 10.96–16.49; Carapace: Length 4.05–6.04; wide 4.16–6.45; clypeus: 0.11–0.34; fovea: 1.83–3.04; Labium: Length 1.25–2.08; wide 0.88–1.49; Chelicera: length 2.65–4; wide 1.72–2.55; Sternum: length 2.86–4.42; wide 2.57–4.25. Abdomen: length 6.28–9.25; wide 4.51–7.13. Legs: I: Fe 2.4–3.71/ Pa 1.64–2.47/ Ti 1.08–1.7/ Me 1.3–2.16/ Ta 0.79–1.23/ total 7.37–11.16. II: 2.36–3.69/ 1.48–2.46/ 1.06–1.63/ 1.33–2.25/ 0.59–1.31/ 6.93–11.31. III: 2.28–3.51/ 1.9–2.86/ 0.64–1.21/ 1.26–2.31/ 0.69–1.31/ 7.03–10.56. IV: 3.09–4.85/ 1.99–2.92/ 1.62–2.51/ 1.01–2.73/ 0.65–1.43/ 9.52–14.29. **Spermathecae:** Varies subtly in the apex format (Fig. 112 A–H). Carapace and chelicerae in specimens recently fixed dark-brown; brown sternum; dark-brown legs; tibiae, metatarsi and tarsi orange; abdomen gray.

Distribution. BRAZIL. Minas Gerais; Mato Grosso do Sul: Campo Grande; São Paulo: Jaboticabal, Campos do Jordão, Itu, Pirapora do Bom Jesus, Santana de Parnaíba, Guarulhos, Barueri, Suzano, São Paulo, Itapevi, Cotia, Embu, São Bernardo do Campo, Praia Grande, Pirassununga; Rio Grande do Sul: Santa Maria, Camobi, Viamão, Passo do Vigário, Guaíba (Map 6).

Examined material. BRAZIL: 1♂ (MZSP 165); Minas Gerais: [15º 38’ S 49º 57’ W], 1♂, iii.1962, S. Kawall leg. (IBSP 103597); Mato Grosso do Sul: Campo Grande, [20° 26’ 59.9994” S 54° 37’ 0.0006” W], 1♂, 21.ii.1993 (IBSP 110495); São Paulo: Jaboticabal, [21° 15’ 59.9976” S 48° 19’ 0.0012” W] 1♂, iii.1954, J.

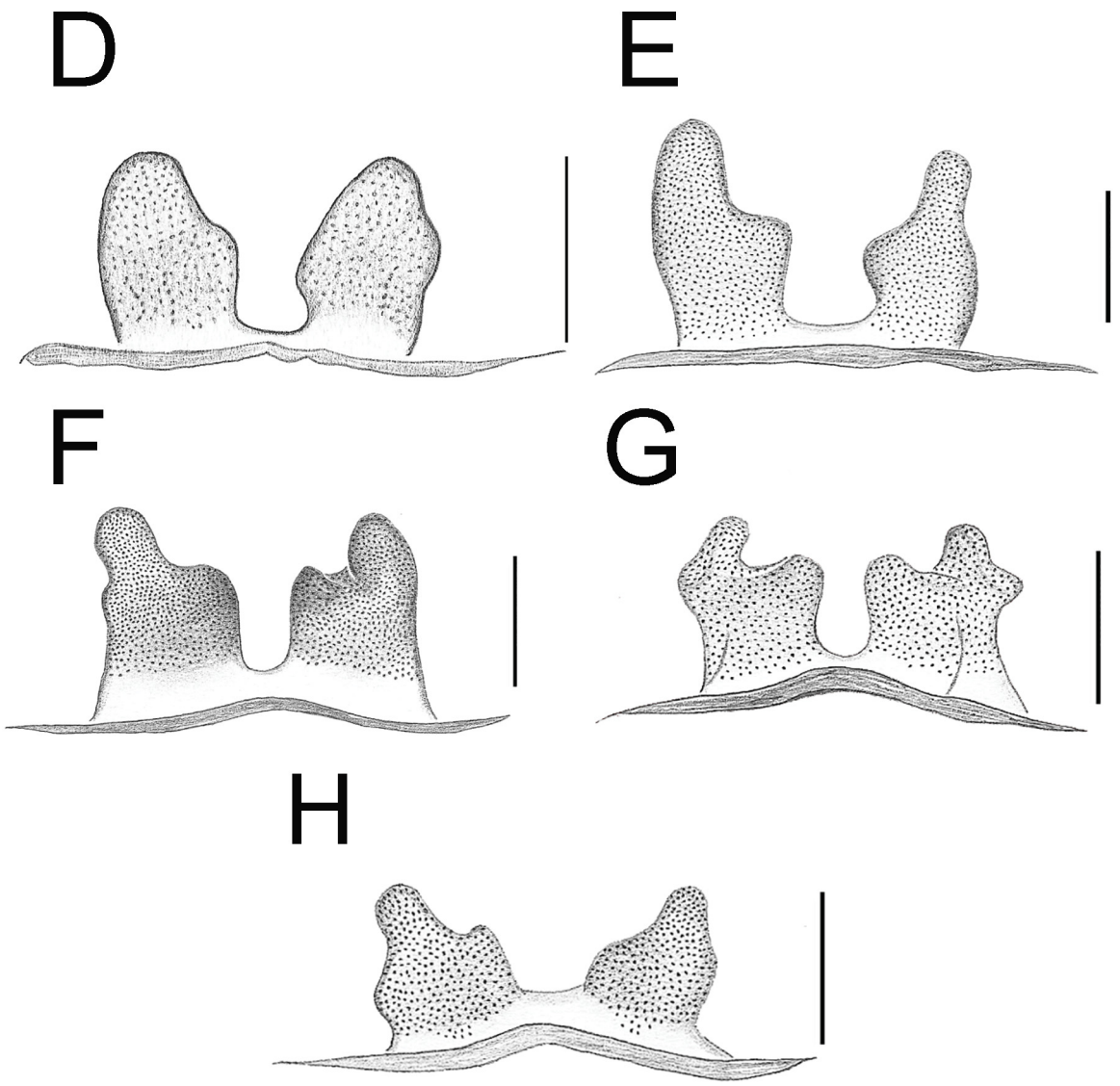


FIGURE 112 D–H. *Actinopus dubiomaculatus* Mello-Leitão, 1923, Female: D–H MCN 13243: D; MCN 28470: E; MCTP 3074: F; IBSP 13263: G; IBSP 10565: H. Spermathecae, dorsal view. Scales lines: 0.5 mm.

Paranelli leg. (IBSP 103199); Brooklin, [21º 40' 44" S 49º 44' 33" W], 1♂, 06.ii.1962, F. Grossman leg. (MZSP 8278); Boa Esperança do Sul, [21º 59' S 48º 23' W], 1♂, 8.vii.1948, Delegacia de Polícia de Boa Esperança leg. (IBSP 101523); Campos do Jordão, [22° 43' 59.9982" S 45° 34' 59.9988" W], 1♂, iii.1963, S. Kawall leg. (IBSP 103646); Itu, [23° 15' 59.9976" S 47° 19' 0.0012" W], 1♂, 27.ii.1998, J. Weber leg. (IBSP 110587); 07.ii.2002, A. C. G. Ribeiro leg. (IBSP 109529); iii.2006, C. Pavanis L. leg. (IBSP 113460); Centro de Animais Peçonhentos, [23º 15' 60" S 47º 17' 59" W], 1♂, 25.i.2005, R. D´Avila leg. (IBSP 112340); Pirapora do Bom Jesus, [23° 23' 59.9994" S 47° 0' 0" W], 1♂ (IBSP 114530); Santana de Parnaíba, [23º 26' 39" S 46º 55' 04" W], 1♂, 20.ii.1987, V. Fernandes leg. (IBSP 110483); 2♂ (IBSP 142546); (3 km do Centro de Santana de Parnaíba), 1♂, V. 07.ii.1987, Fernandes leg. (IBSP 110572); Guarulhos, [23º 27' 47" S 46º 31' 59" W], 1♂, M. Andrade leg. (IBSP 110560); Barueri, [23° 30' 59.9976" S 46° 52' 59.9988" W], 1♂, 20.i.1966, K. Lenko leg. (MZSP 5706); Suzano, [23° 31' 59.9982" S 46° 19' 59.9988" W], 1♂, 04.i.1995, R. Martins leg. (IBSP 110485); Distrito de Guaianases, [23º 32' 36" S 46º 24' 38" W] 1♂, ii.1950, M. Carrera leg. (MZSP 22117); Ipiranga, [23º 32' S 46º 38' W], 1♂ B. A. M. Soares leg. (MZSP 22116); ii.1924, R. Spitz leg. (MZSP 3144); i.1929, R. Spitz leg. (MZSP 22120); V.1941, J. Barroso leg. (MZSP 3142); 1941, Nuncio leg. (MZSP 3160); i.1942, Lane leg. (MZSP 3143); 20.ii.1942, G. Pastore leg. (MZSP 22123); F. Lane leg. (MZSP 22119); Horto do Museu do Ipiranga, [23º 32' 52" S 46º 38' 09"

W], 1♂, 30.iii.1949, Rabello leg. (MZSP 8276); Itapevi, [23° 33’ S 46° 55’ W], 1♂, 17.iii.1995, C. L. A. Santos leg. (IBSP 110480); São Paulo, [23º 33’ S 46º 37’ W], 1♂, 1944 (MZSP 8524, IBSP 114529); 21.ii.1992, N. P. Emerique leg. (IBSP 110574); 27.iii.2002, C. Hulten leg. (IBSP 119631); Campus da Universidade de São Paulo (USP), [23° 33’ 52.0518” S 46° 42’ 51.3396” W], 1♂, 02.iv.2007, L. M. Almeida leg. (IBSP 113640); Butantan, [23º 35’ 23” S 46º 45’ 24” W], 1♂, J. de Souza leg. (IBSP 103808); ii.1971, J. Soller Lopes leg. (IBSP 104091); Morumbi, [23° 35’ 46.2798” S 46° 42’ 15.642” W], 2♂, i.1960, C. Ostrand leg. (IBSP 103525); Cotia, [23° 36’ S 46° 55’ W], 1♂, 05.iii.1990, F. M. G. Silva leg. (IBSP 110585); 08.i.2006, L. C. dos Santos leg. (IBSP 113260); Embu, [23° 38’ 59.9994” S 46° 51’ 0” W] 2♂, xii.1980, V. R. von Eickstedt leg. (IBSP 104534); 1♂ (IBSP 104225); 1♂, V. R. D. Eickstedt leg. (IBSP 110572); são Bernardo do Campo, [23° 41’ 59.9994” S 46° 32’ 59.9994” W] 1♂, ii.1926, F. Spitz leg. (MZSP 7635); 1♂, iii.1927, R. Spitz leg. (MZSP 7636); Praia Grande, [24° 0’ 0” S 46° 23’ 59.9994” W], 1♂, 1945, M. Carrera leg. (MZSP 7811); Rio Grande do Sul: Santa Maria, [29º 41’ 04” S 53º 48’

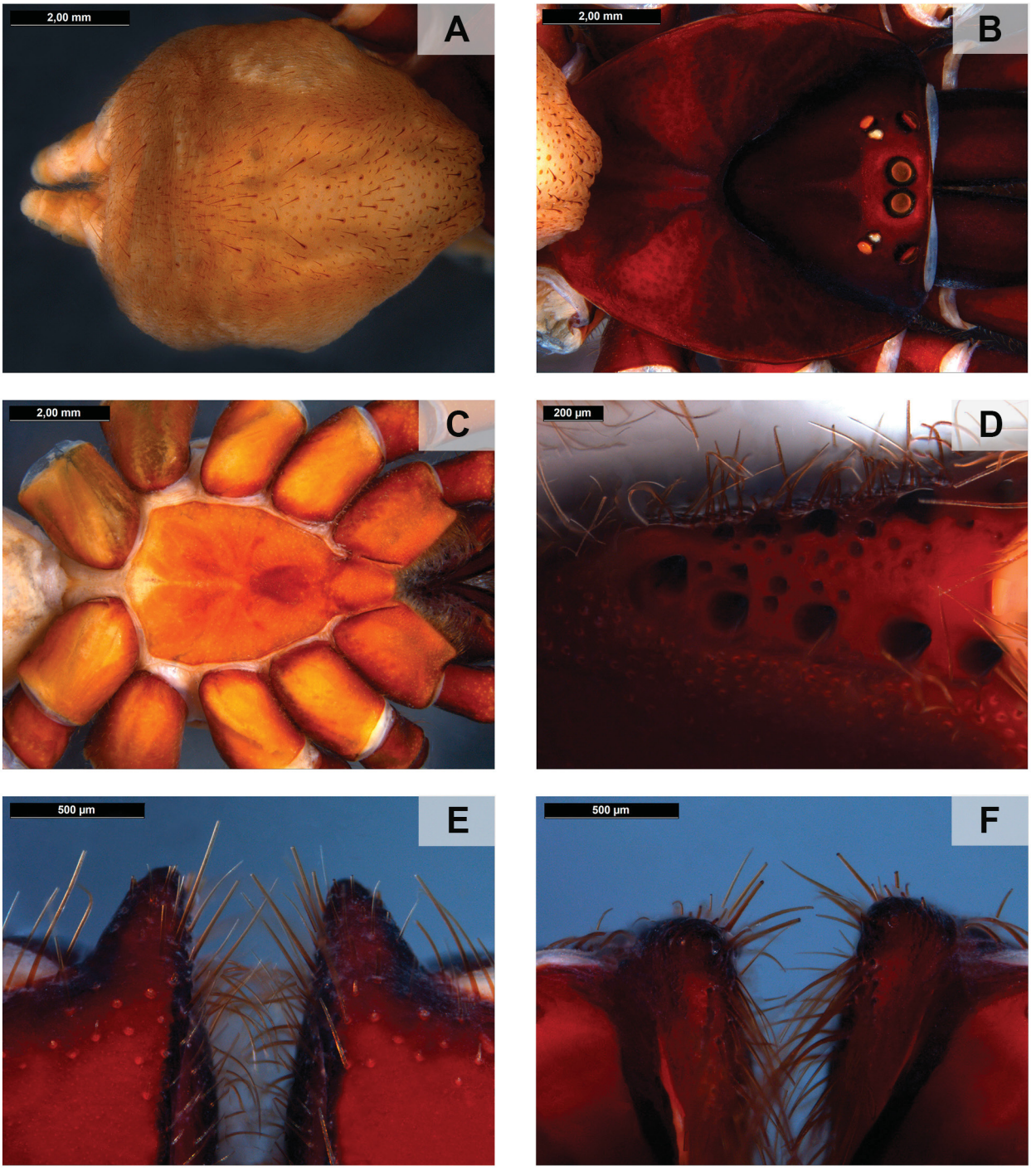


FIGURE 113. *Actinopus paranensis* Mello-Leitão, 1920, holotype, male: A–F MNRJ 00002: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

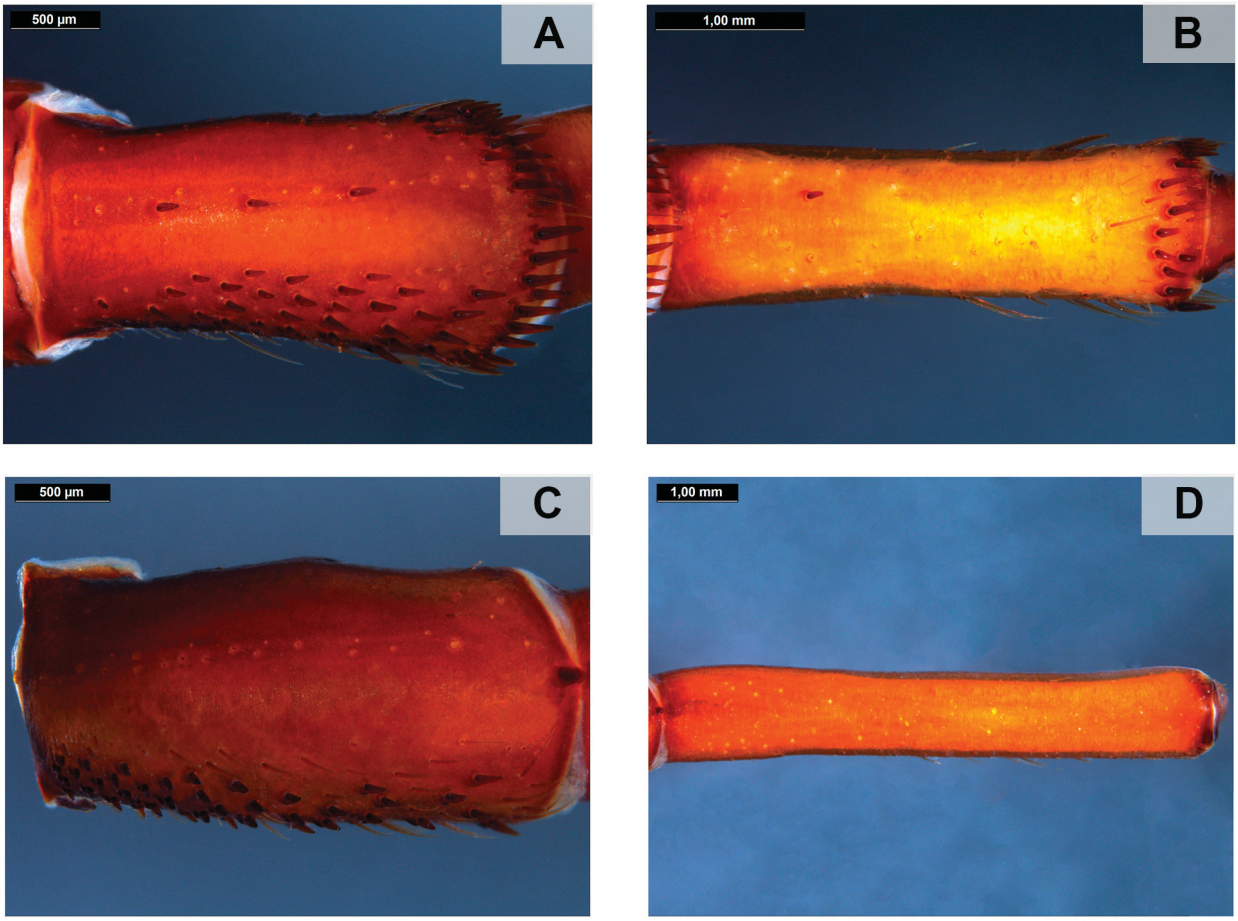


FIGURE 114. *Actinopus paranensis* Mello-Leitão, 1920, holotype, male: A–D MNRJ 00002: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

25” W], Camobi, 1♀, IX–X.1989, N. Samarila leg. (IBSP 110565); Viamão, [30° 4’ 59.9982” S 51° 1’ 59.9982” W], 1♀1♂, 13.iii.1985, M.C. Balestrin leg. (MCN 13243); 1♀, 07.iv.1995, C. S. Azevedo leg. (MCTP 3059, MCTP 4834); 3♀, 08.iv.1995, C.S. Azevedo leg. (MCN 28470); 1♀, 07.iv.1996, C. S. Azevedo leg. (MCTP 17681); 1♀, 18.iv.1994, R. Balestrin leg. (MCTP 6222); Passo do Vigário, [30° 5’ 26.7144” S 50° 58’ 35.5434” W], 3♀, 22.iii.1993, R. Balestrin leg. (MCTP 3074); Guaíba, [30° 6’ 51.048” S 2847051° 19’ 41.2068” W], Sertão Santana, 1♀, 10.iv.1985, M. Rosenau leg. (MCN 13253).

Material examined (burned in fire). BRAZIL: São Paulo: Pirassununga, Cachoeira da Ema, [21º 55’ 01” S 47º 20’ 59” W] 1♂, 03.x.1982, F. Molina leg. (IBSP 108609); São Paulo [23° 32’ 56” S 46° 38’ 20” W], 1♂ (114528); vii.1975, A. S. Gomes leg. (IBSP 115434).

Actinopus paranensis Mello-Leitão, 1920

Figs 113–115, Map 6

Actinopus paranensis Mello-Leitão, 1920: 58 (holotype ♂, Paraná, Brazil, MNRJ 000002, examined); Bücherl, Timotheo & Lucas, 1971: 121, figs 3–4; World Spider Catalog, 2020.

Diagnosis. The male resembles males of *A. pusillus* (Fig. 118 A–C), *A. emas* (Fig. 121 A–C) and *A. bocaina* (Fig. 124 A–C) by the PA being continuous to the PAc. They resemble those of all species of the group *crassipes*, except *A. crassipes*, by the serrated area distal to PAc and continuous to proximal area of PAc (Fig. 115 A–C). It resembles those of *A. pusillus* and *A. gerschiapelliarum* by the palpal tibia, and tarsi paler than other articles. It resembles males of *A. bocaina* and *A. laventana* by the palpal tibia paler than other articles. It differs from males of all other species of the group by the absence of BTA (Fig. 115 A–B).

MALE (Holotype, MNRJ 000002): Total length 12.75; Carapace, long 6.25; wide 5.75. Carapace anterior part tapering, subquadrate. Eyes. Anterior row slightly procurved, posterior row recurved (Fig. 113 B). Without bristles between AME-clypeus. Rastellum protuberant,

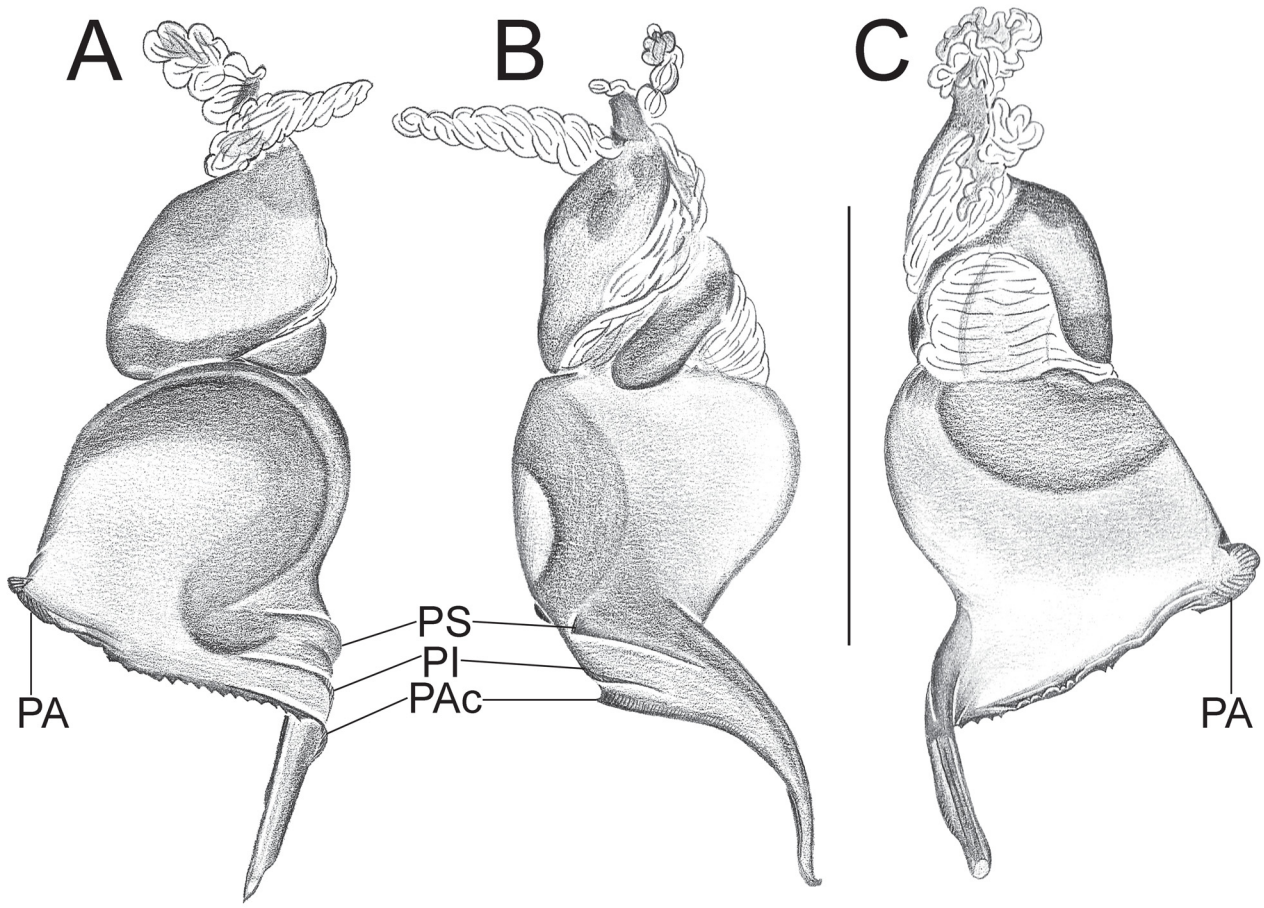


FIGURE 115. *Actinopus paranensis* Mello-Leitão, 1920, holotype, male: A–C MNRJ 00002: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; **PAc**-Prolateral Accessory keel. Scale line: 1 mm.

inverted V-shaped, hirsute, without spines apically (Fig. 113 E–F). Chelicerae with denticles along prolateral row of teeth. Prolateral row with megateeth and teeth between megateeth. Retrolateral row with megateeth and one tooth between second and third basal megateeth (Fig. 113 D). Patella and tibia III with distal crown of well developed thorns, interrupted in middle on patella III and not interrupted in middle on tibia III (Fig. 114 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 114 A, C). Ventral scopula absent on tarsi I and II and occupying 100% of III and IV. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae tibiae reddish brown; metatarsi and tarsi yellowish brown and abdomen pale brown (Fig. 113 A). **Eyes: Diameters:** PME 0.2 PLE 0.28 ALE 0.44, AME 0.32; MOQ: Length 1.04, front width 2.6, back width 2.32; **Interdistances:** PME–PME 1.56, PLE–PME 0.08, AME–AME 0.18, ALE–AME 0.6, ALE–PLE 0.48, AME–PME 0.48. **Ocular area:** OAL 4.25, OAW 3.375, and IF 1.92. **Body:** Clypeus: 0.36; Fovea: 2.6; Labium: long 1.2; wide 1.12; Chelicerae: long 3.04; wide 1.72; Sternum: long 4.00; wide 3.24. Abdomen: long 6.25; wide 5.62. **Leg measurements:** I: Fe 7.12/ Pa 2.6/ Ti 4.72/ Me 5.52/ Ta 3.08/ total 23.04.II: 6.87/ 4/ 6.5/ 7.62/ 4.37/ 29.37. III: 5.75/ 3/ 3.75/ 6.25/ 3.75/ 22.5.IV: 7.75/ 3/ 7.12/ 6.75/ 4.25/ 28.87. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0-0-1, r0-0-3; Me v0-0-2, d0, p1-2-0, r3-6-7; ta v0-2-3, d0, p1-3-2, r3-4-5. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0, r0; Me v1-1-2, d0, p2-4-6, r1-2-3; ta v03-4, d0, p2-4-5, r2-5-2. III—Fe v0, d0, p0, r0; Pa v0, d13-16-24, p0-0-3, r0-0-2; ti v0, d1-0-12, p0-0-4, r0-0-4; Me v0-1-2, d0, p1-1-2, r1-3-5; ta v0-0-3, d0, p3-3-5, r0-3-4; IV—Fe v0, d0, p0, r0; Pa v0, d20-11-5, p2-2-0, r0; ti v0-0-1, d0, p0, r0; Me v0-1-3, d0, p1-2-3, r0-0-1; ta v0, d0, p2-6-9, r0-2-6. **Palp:** PA well developed, embolus with three keels (Pac, PI and PS). BTA absent; prolateral tegulum with a developed serrated area continuous to PAc; embolar bases thinner than basal apice (Fig. 115 A–C).

Distribution. Known only from the type locality, Paraná, Brazil.

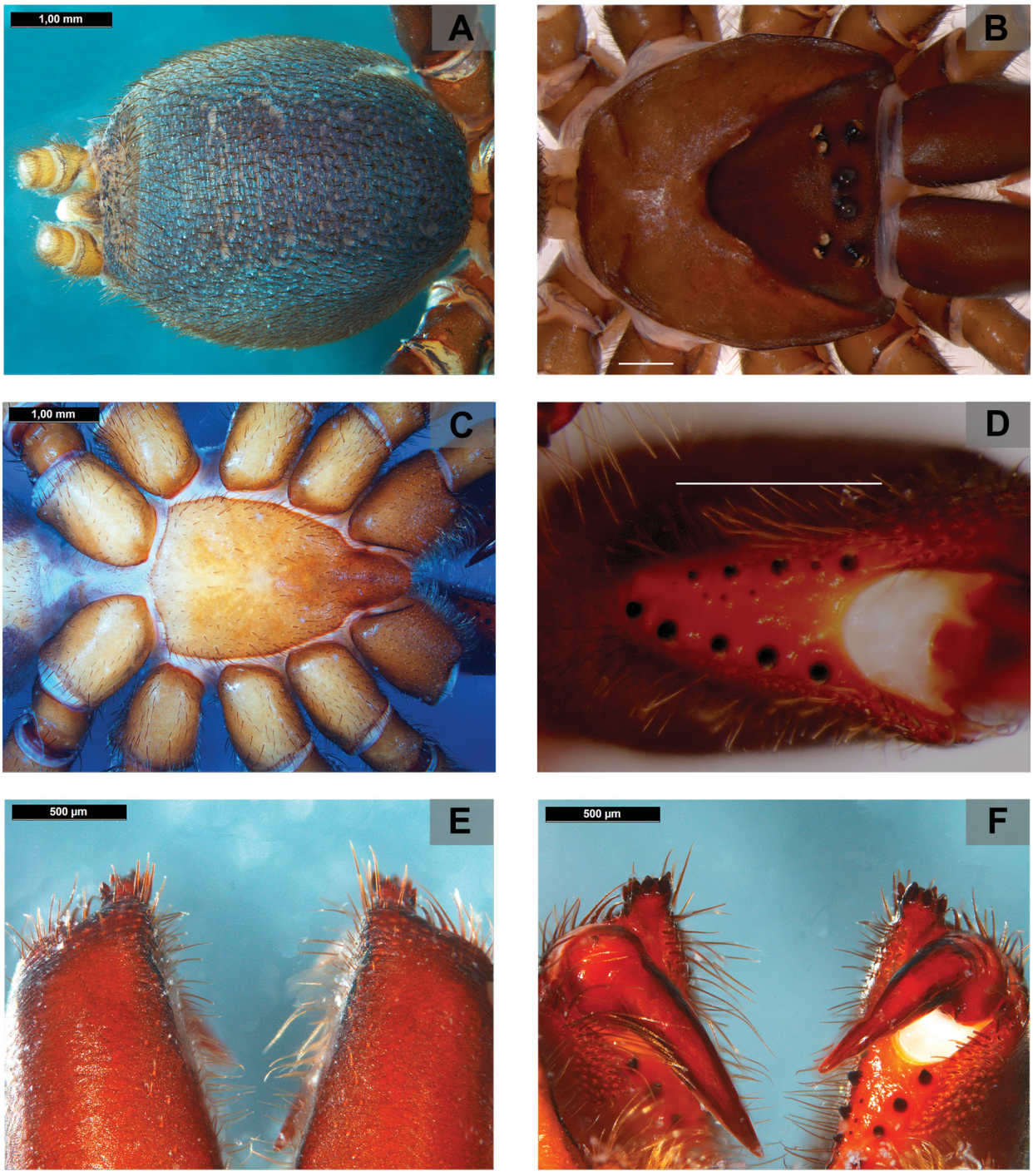


FIGURE 116. *Actinopus pusillus* Mello-Leitão, 1920, male: A–F IBSP 13194: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral. Scales lines: A: 0.5 mm; D: 1 mm.

Actinopus pusillus Mello-Leitão, 1920

Figs 116–118, Map 6

Actinopus pusillus Mello-Leitão, 1920: 59 (holotype ♂, Franca, São Paulo, Brasil, MZSP, not located); World Spider Catalog, 2020.

Note. The material examined was attributed to *A. pusillus* by the following characters coincident with the original description: unique pattern formed by the crowns of spines in dorsal surface of the patellae III and IV; coloration of cephalothorax and chelicerae, total length average, rastellum with few short spines, and the size of ventral scopulae in tarsi and metatarsi. The records are also coincident with the type locality.

Diagnosis. Males of *A. pusillus* resemble *A. emas* (Fig. 121 A–C), *A. bocaina* (Fig. 124 A–C) and *A. paranensis* (Fig. 115 A–C) by PA continuous to PAc.

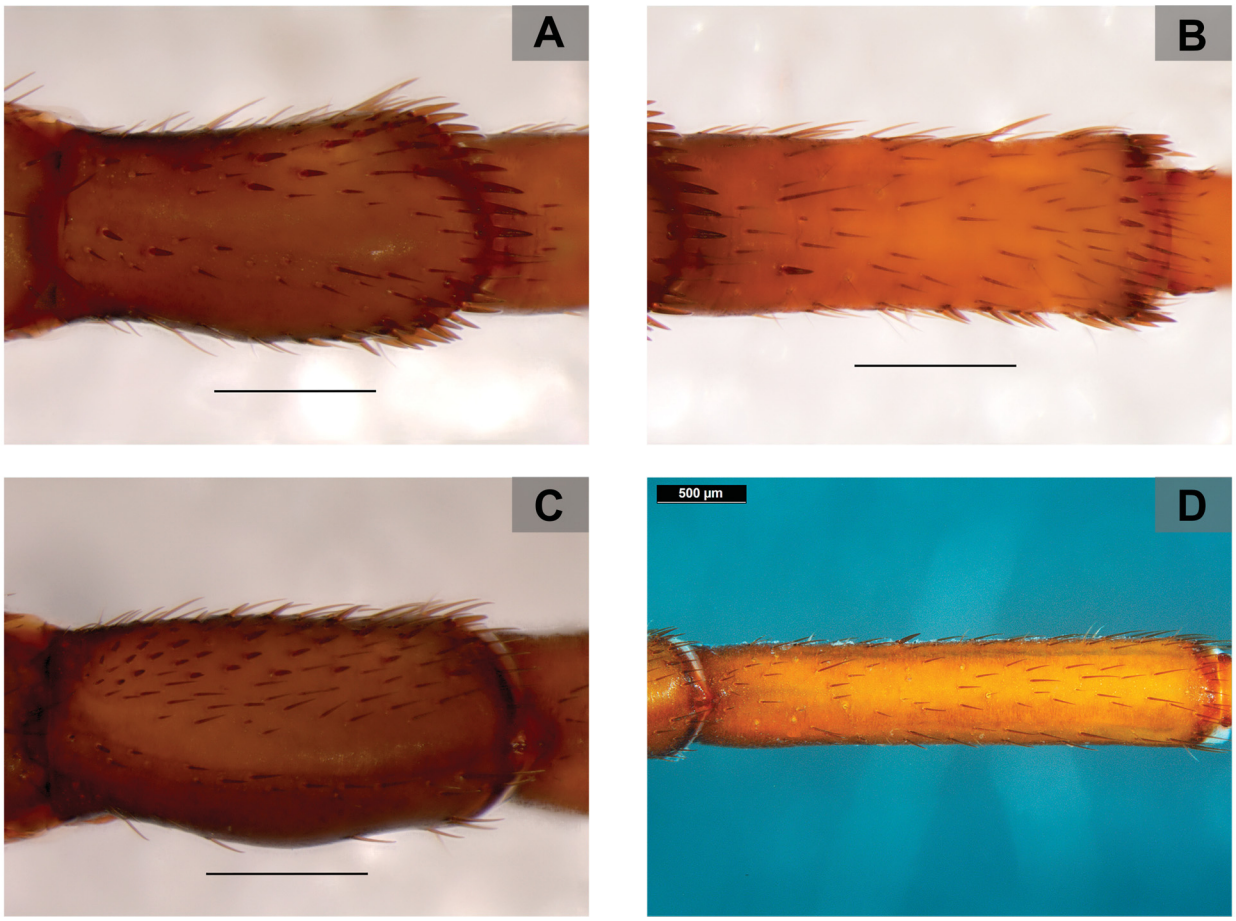


FIGURE 117. *Actinopus pusillus* Mello-Leitão, 1920, male: A–D IBSP 13194: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal. Scales lines A–C: 0.5 mm.

They resemble those of all species of the group *crassipes*, except *A. laventana* (Fig. 129 A–C) and *A. paranensis*, by BTA placed medially on prolateral tegular surface. They resemble those of all species of the group *crassipes*, except *A. crassipes* (Fig. 107 A–C), by the serrated area distal to PAc and continuous to proximal area of PAc (Fig. 118 A–C). They resemble those of *A. dubiomaculatus* and *A. paranensis* by tibia, tarsi and metatarsi paler than other articles. They resemble those of *A. bocaina, A. laventana* and *A. paranensis* by palpal tibia paler than other articles. They differ from those of all other species of the group by the ventral scopulas occupying 25% of the distal portion of tarsi II and metatarsi IV, with diffuse setae; Chelicerae with only three or four prolateral denticles along subunguial sulci, (Fig. 116 D); PS and PI length on dorsal view reaching nearly 25% of the embolus length (Fig. 118 A–C).

MALE (IBSP 113194): Total length 7.19; Carapace, long 2.88; wide 2.95. Carapace anterior part rounded. Anterior eye row slightly procurved, posterior row recurved (Fig. 116 B). With few bristles between AME-clypeus, between lateral eyes-edge of carapace and forming recurved rows in interdistances PME–PME and PLE–PLE. Sternum with eight sigilla fused medially, two distal sigilla more fused to each other than others (Fig. 116 C). Rastellum protuberant and digitiform, with row with six or seven spines apically (Fig. 116 E–F). Chelicerae with subequal teeth in prolateral and retrolateral rows, and denticles widespread along prolateral row of teeth, with a low number of denticles (Fig. 116 D). Patella and tibia III with distal crown of well developed thorns, not interrupted in middle (Fig. 117 A–B). Patella III with spines along dorsal surface and patella IV with spines on prolaterodorsal surface (Fig. 117 A, C). Tibia III with one or two dorsal spines (Fig. 117 B). Ventral scopulae occupying 75% of tarsi I and 100% of II, III and IV. Scopula of tarsi I and II occupying 30% and 3% of tarsi, with setae spaced, forming diffuse group of bristles; on tarsi III and IV, compact. Carapace and chelicerae pale brown; sternum yellowish brown; coxae, trochantera, femora and patellae pale brown; tibiae, metatarsi and tarsi pale orange; tibia of palp pale than other articles;

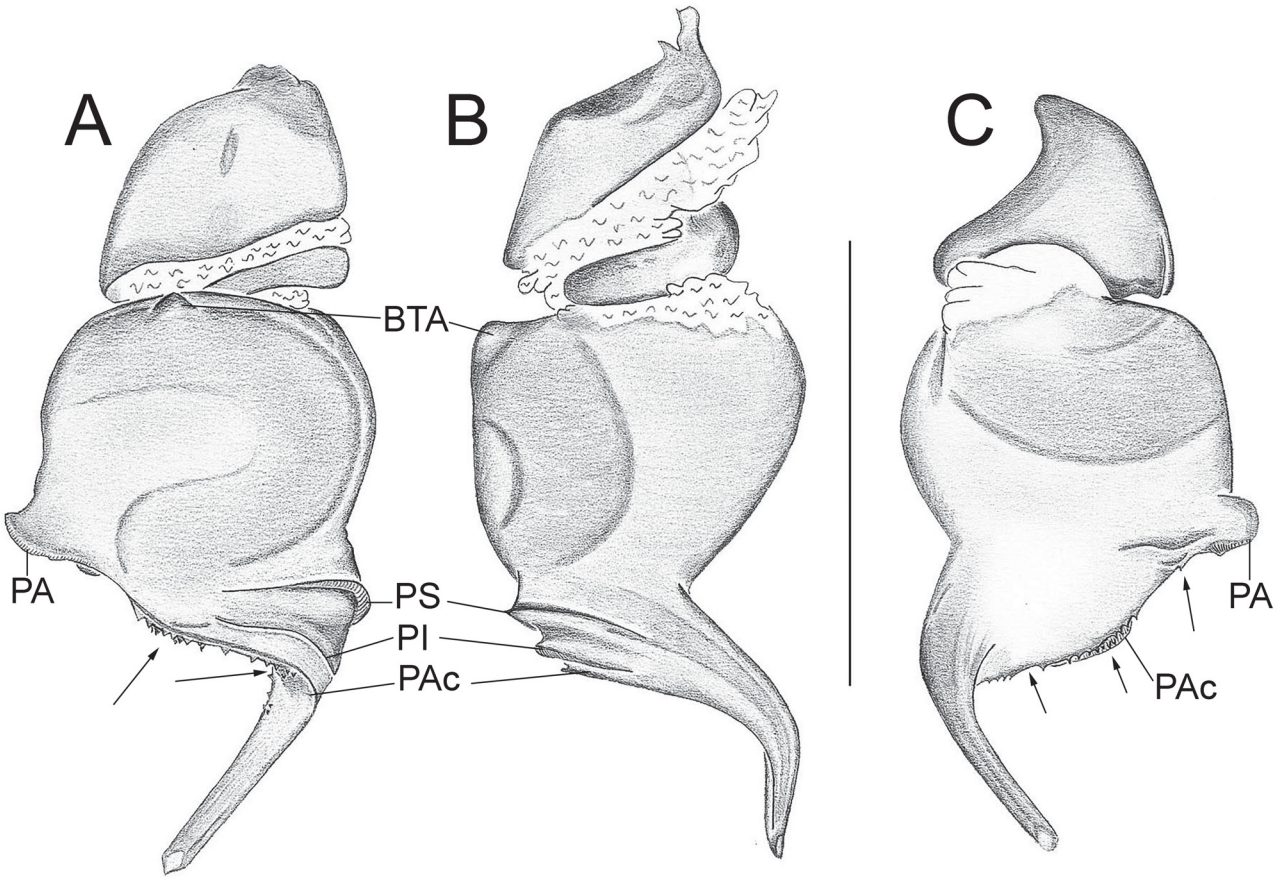


FIGURE 118. *Actinopus pusillus* Mello-Leitão, 1920, male: A–C IBSP 14552: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated area. Scale line: 1 mm.

abdomen dark-gray, with bluish dorsal spot (Fig. 116 B). **Eyes: Diameters:** PME 0.11, PLE 0.15, ALE 0.2, AME 0.12; MOQ: Length 0.59, front width 0.47, back width 1.02; **Interdistances:** PME–PME 0.77, PLE–PME 0.07, AME–AME 0.23, ALE–AME 0.36, ALE–PLE 0.32, AME–PME 0.28. **Ocular area:** OAL 2.36, OAW 1.78, and IF 1.14. **Body:** Clypeus: 0.07; Fovea: 1.06; Labium: long 0.85; wide 0.59; Chelicerae: long 1.96; wide 0.88; Sternum: long 2.3; wide 1.79. Abdomen: long 3.89; wide 3.02. **Leg measurements:** I: Fe 3.34/ Pa 1.33/ Ti 2/ Me 2.32/ Ta 1.71/ total 10.7. II: 3.16/ 1.33 / 1.94/ 2.51/ 1.69/ 10.63. III: 2.57/ 1.39/ 1.49/ 2.55/ 1.72/ 9.72. IV: 3.54/ 1.52/ 2.81/ 2.89/ 1.88/ 12.64. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v1-4-4, d0, p0, r0; Me v4-5-4, d0, p0-1-0, r1-3-4; ta v0-3-5, d0, p1-2-2, r2-3-3. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v2-3-4, d0, p0, r1-6-14; Me v3-3-4, d0, p1-1-2, r1-3-5; ta v0-1-1, d0, p2-1-2, r1-3-7. III—Fe v0, d0, p0, r0; Pa v0-0-1, dx, p1-0-4, r0-0-1; ti v0-0-2, dx, p0-0-3, r0-0-4; Me v0-2-4, dx, p1-0-2, r0-1-5; ta v0, dx, p0-1-4, r0-0-3; IV—Fe v0, dx, p0, r0; Pa v0, d5-6-27, p3-2-1, r0; ti v3-2-4, d1-0-12, p0-1-0, r0; Me v3-3-2, d0-1-0, p0-2-4, r0-0-1; ta v0, d0, p1-2-5, r0-2-3. **Palp:** BTA developed, placed medially on prolateral tegular surface, embolus with three keels (PAc, PS and PI) notable on prolateral and dorsal views. PS more developed than PI; PAc evident on prolateral and dorsal views. Serrated area in a row, continuous to PAc, toward base of embolus. Tegulum developed, PA pronounced, continuous to PAc (Fig. 118 A–C).

VARIATION

MALES (n=3): **Eyes: Diameters:** PME 0.1–0.18, PLE 0.13–0.21, ALE 0.2–0.24, AME 0.12–0.15; MOQ: Length 0.59–0.68, front width 0.47–0.56, back width 1.02–1.37; **Interdistances:** PME–PME 0.77–1.26, PLE–PLE 0.06–0.12, AME–AME 0.2–0.26, ALE–ALE 0.36–0.52, ALE–PLE 0.32–0.38, AME–PME 0.28–0.4. **Ocular area:** OAL 2.36–3.02, OAW 1.78–302 and IF 1.14–1.32. **Body:** Total length: 7.19–8.23; Carapace: Length 2.88–4.13; wide 2.95–4.23; Clypeus: 0.07–0.13; Fovea: 0.98–1.43; Labium: Length 0.85–0.98; wide 0.59–0.74; Chelicerae: Length 1.85–2.31; wide 0.88–1.08; Sternum: Length 2.3–2.98;

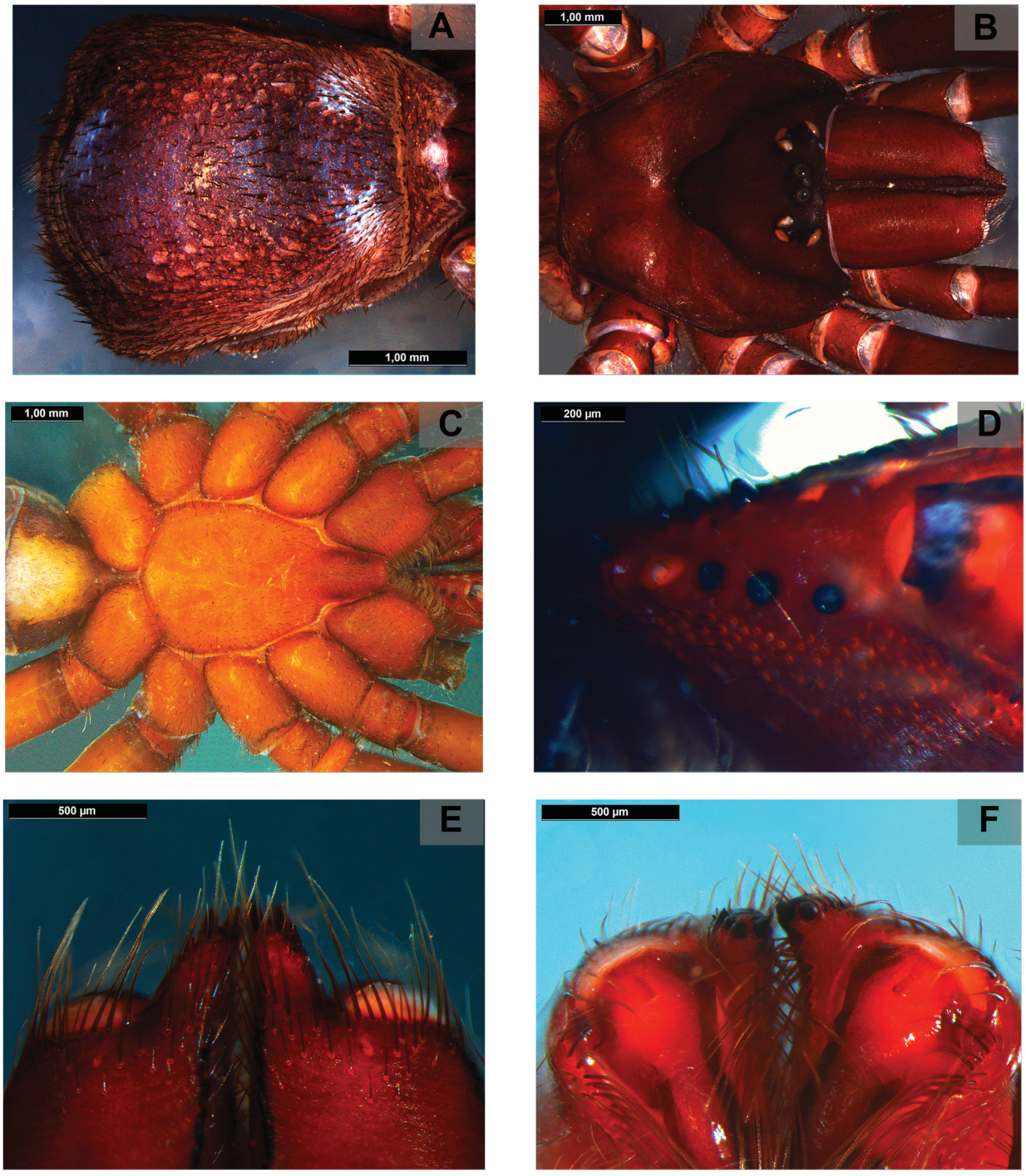


FIGURE 119. *Actinopus emas* sp. nov., male: A–F IBSP 108072: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

wide 1.79–2.45. Abdomen: Length 3.72–3.98; wide 2.74–3.06. **Legs:** I: Fe 3.34–4.45/ Pa 1.25–1.73/ Ti 2–3.06/ Me 2.32–3.37/ Ta 1.71–2.21/ total 10.7–14.34. II: 3.16–4.39/ 1.33–1.76/ 1.94–2.75/ 2.51–3.41/ 1.69–2.23/ 10.63–13.93. III: 2.57–3.49/ 1.39–1.87/ 1.49–2.22/ 2.55–3.9/ 1.72–2.27/ 9.72–13.52. IV: 3.54–4.51/ 1.52–2.07/ 2.81–3.76/ 2.89–3.83/ 1.88–2.42/ 12.64–16.5. Tibiae, metatarsi and tarsi may or may not be pale than the rest of leg articles. Rastellum without spines in some specimens.

Distribution. BRAZIL. Minas Gerais: Jaboticatubas; São Paulo: Itirapina (Map 6).

Examined material. BRAZIL: Minas Gerais: Jaboticatubas, Santana do Riacho, Morro do Pilar e Itambé do Mato Dentro, Parque Nacional da Serra do

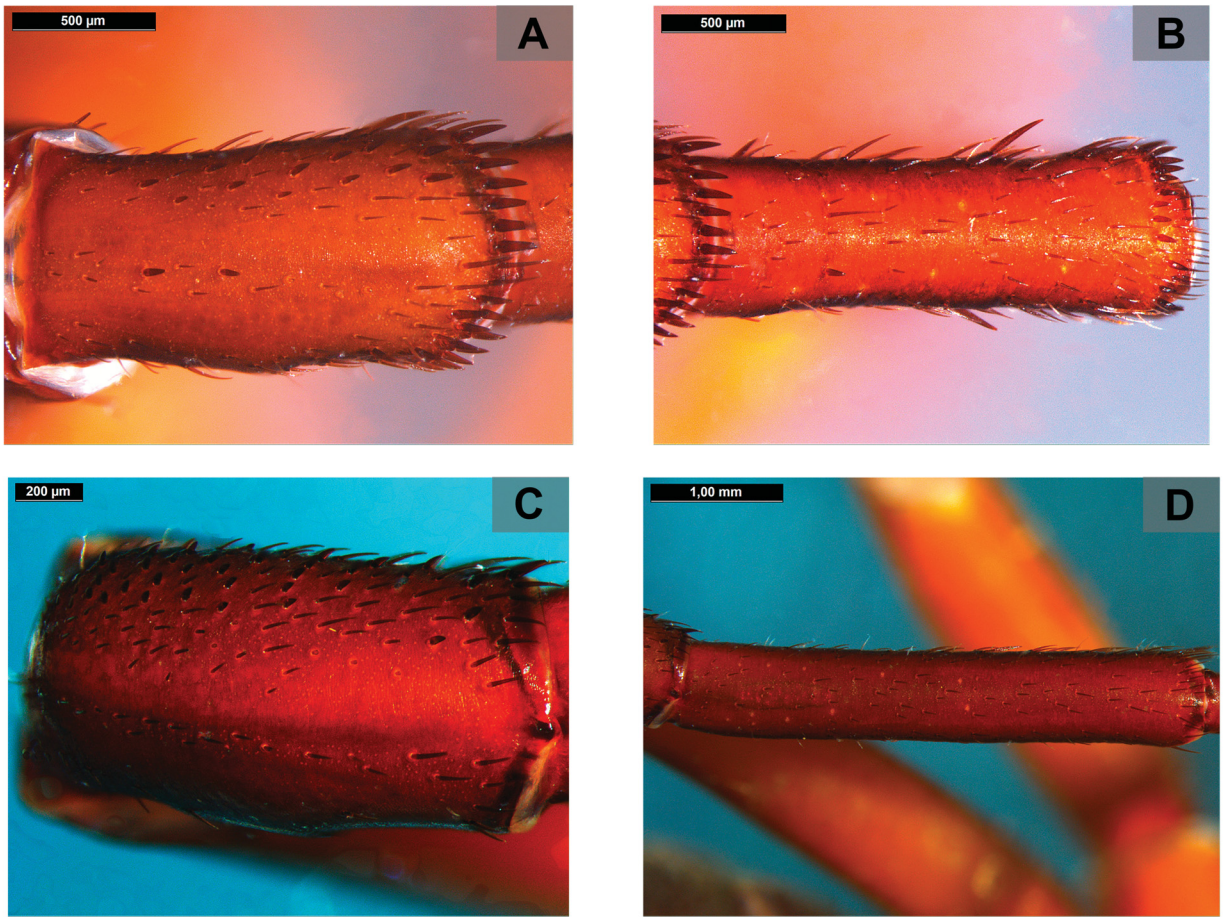


FIGURE 120. *Actinopus emas* sp. nov., male: A–D IBSP 108072: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

Cipó, 19º15'S 43º31'O, 1♂, 07–14.i.2002, Equipe Biota leg. (IBSP 113194); São Paulo: Itirapina, Estação Ecológica de Itirapina, 22º15'S 47º49'O, 1♂, C. Bertim leg. (IBSP 114452); 14–21.v.2001, C. Bertim *et al.* leg. (IBSP 114460).

Actinopus emas sp. nov.

Figs 119–121, Map 6

Type material. Holotype male from 18º 10' 00.00" S 52º 45' 00.00" W, Parque Nacional das Emas, Mineiros, Goiás, Brazil, ii.1999, F. Rodrigues leg. (IBSP 108072). **Paratype:** BRAZIL. Goiás: Mineiros, Parque Nacional da Emas, 18º 10' 00.00" S 52º 45' 00.00" W, 1♂, ii.1999, F. Rodrigues leg. (IBSP 108072).

Etymology. The specific name is a noun in apposition from the type locality name.

Diagnosis. Males of *A. emas* resemble those of *A. paranensis* (Fig. 115 A–C), *A. pusillus* (Fig. 118 A–C) and *A. bocaina* (Fig. 124 A–C) the PA continuous to PAc. They resemble males of all species of the group *crassipes*, except *A. laventana* (Fig. 129 A–C) and *A. paranensis*, by the BTA being placed medially on the prolateral tegular surface. They resemble males of all species of the *crassipes* group, except *A. crassipes* (Fig. 107 A–C), by the serrated area distal to the PAc, continuous to proximal area of PAc. They resemble males of *A. dubiomaculatus* (Fig. 112 A–C) and *A. paranensis* by the serrated area being parallel to PAc extension (Fig. 121 A–C). They resemble males of *A. crassipes* by the metatarsi and tarsi being paler than other articles. They differ from those of all other species of the group by PS not visible on dorsal view (Fig. 121 B); two blue-purpleish dorsal scuta on abdomen, anterior scutum thinner than porterior scutum (Fig. 119 A).

MALE (IBSP 108072): Total length 8; Carapace, long 3.875; wide 3.75. Carapace anterior part tapering and posterior part triangular. Eyes. Anterior eye row slightly procurved, posterior row recurved (Fig. 119 B). With few short and weak bristles between AME-clypeus, between ALE–ALP, between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others

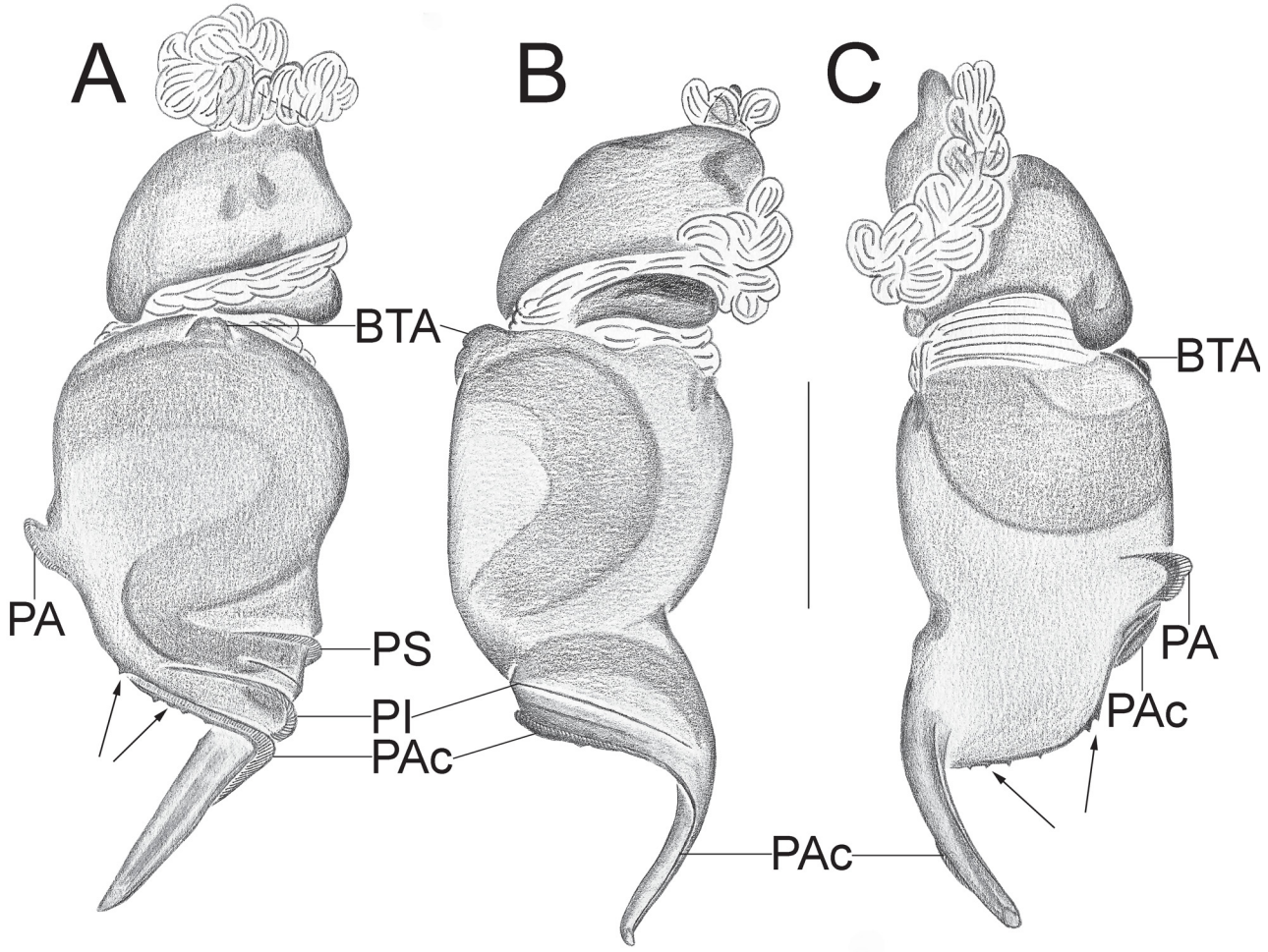


FIGURE 121. *Actinopus emas* sp. nov., male: A–C IBSP 188072: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated area. Scale line: 0.5 mm.

(Fig. 119 C). Rastellum protuberant, inverted, digitiform, V-shaped, hirsute, with thorns on border of apex (Fig. 119 E–F). Chelicerae with two denticles along prolateral row of teeth. Prolateral row with nine megateeth. Retrolateral row with five megateeth (Fig. 119 D). Patella and tibia III with distal crown of well-developed thorns, on patella III interrupted in middle and on tibia III not interrupted in middle (Fig. 120 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 120 A, C). Tibia IV without spines on dorsal surface (Fig. 120 D). Ventral scopulae occupying 50% of tarsus I, 70% of II and 100% of III and IV. Scopula of tarsi I and II with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact, with 10% of metatarsus I and II filled by scopula. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish brown; Abdomen pale bluish-brown (Fig. 119 A). **Eyes: Diameters:** PME 0.2, PLE 0.2, ALE 0.24, AME 0.12; MOQ: Length 0.64, front width 1.64, back width 1.52; **Interdistances:** PME–PME 0.84, PLE–PME 0.04, AME–AME 0.16, ALE–AME 0.4, ALE–PLE 0.24, AME–PME 0.8. **Ocular area:** OAL 2.62, OAW 2.25, and IF 1.12. **Body:** Clypeus: 0.12; Fovea: 1.62; Labium: long 0.75; wide 0.62; Chelicerae: long 1.62; wide 1.75; Sternum: long 2.37, 3.75; wide 1.75. Abdomen: long 3.62 8.5; wide 2.87. **Leg measurements:** I: Fe 4/ Pa 1.62/ Ti 2.5/ Me 3.37/ Ta 2.12/ total 13.62. II: 7/ 3.12/ 5.62/ 6.25/ 3.12/ 25.12. III: 4/ 1.62/ 2.75/ 3.5/ 2.12/ 14. IV: 3.37/ 1.5/ 2.12/ 3.75/ 2.12; 12.87. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v4-6-5, d0, p0-0-1, r0-0-2; Me v3-7-3, d0, p1-2-2, r0-0-1; ta v0-3-4, d0, p0-1-2, r0-2-4. II—Fe v0, d0, p0, r0; Pa v0-0-2, d0, p0, r0; ti v0-4-3, d0, p0, r0-5-4; Me v3-7-7, d0, p1-2-1, r0-2-3; ta v1-2-6, d0, p1-2-1, r1-1-1. III—Fe v0, d0, p0, r0; Pa v0, d4-6-27, p0-0-2, r0-0-2; ti v0, d1-

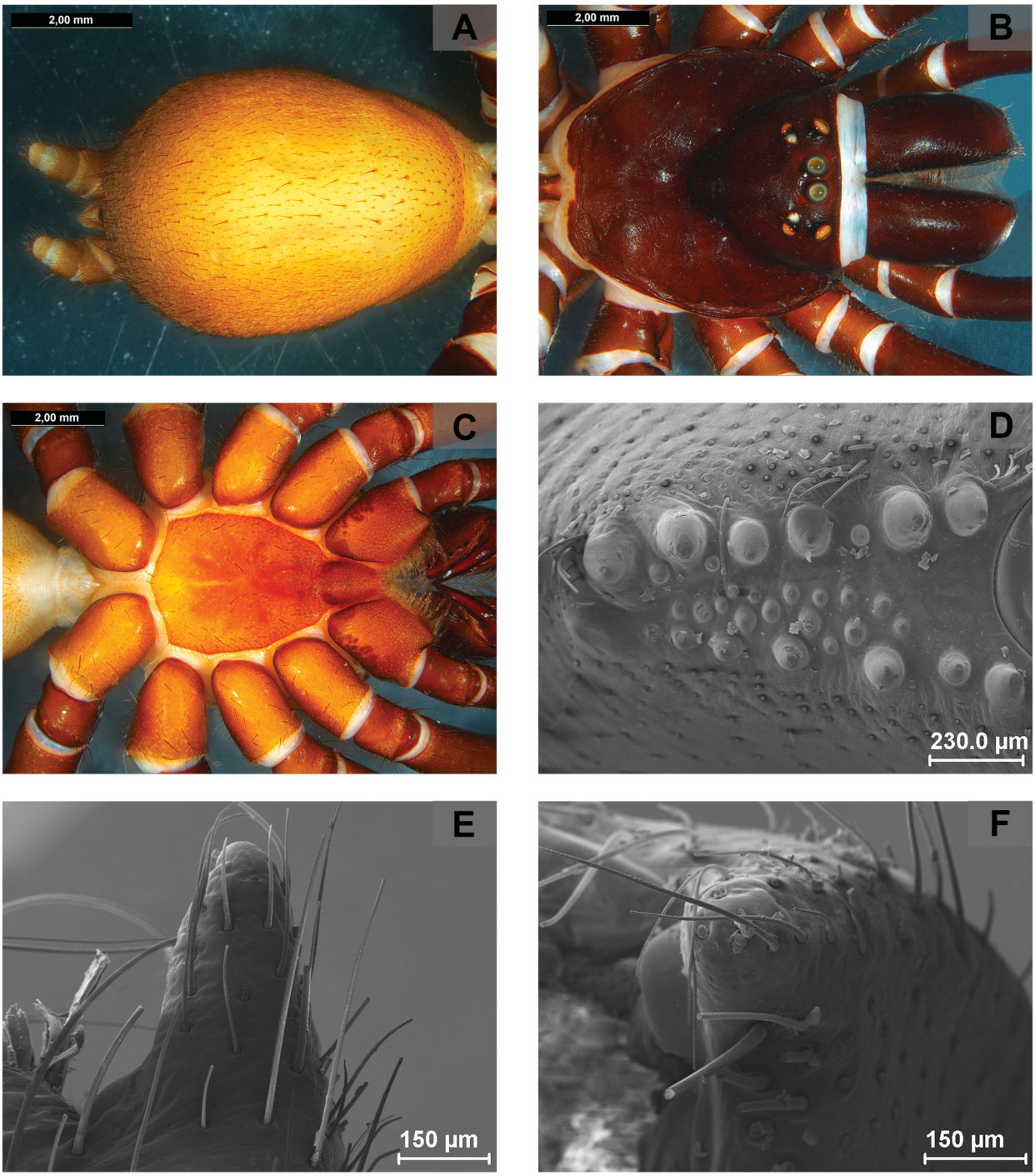


FIGURE 122. *Actinopus bocaina* sp. nov., male: A–F CAD 326 (Automontage photos) and UFMG 1606 (MEV Images): A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

0-12, p1-1-2, r0-1-2; Me v1-3-3, d0-1-2, p1-0-2, r1-0-1; ta v0, d0, p0-3-4, r0-4-6; IV—Fe v0, d0, p0, r0; Pa v0, d20-10-5, p0, r0; ti v0-0-1, d0, p0, r0; Me v0-0-1, d0, p0-0-1, r0-0-1; ta v0, d0, p0-1-5, r0. **Palp:** BTA developed, placed medially on prolateral tegular surface, embolus with three keels (PAc, PS and PI) notable on prolateral, dorsal and retrolateral views. PS less developed than PI, PAc evident on prolateral, dorsal and retrolateral views. Serrated area represented by a row, continuous to PAc. Tegulum thin and elongated, PA pronounced, continuous to PAc; tegulum with a small lateral swelling above PA (Fig. 121 A–C).

Distribution. BRAZIL. Goiás: Mineiros (Map 6).

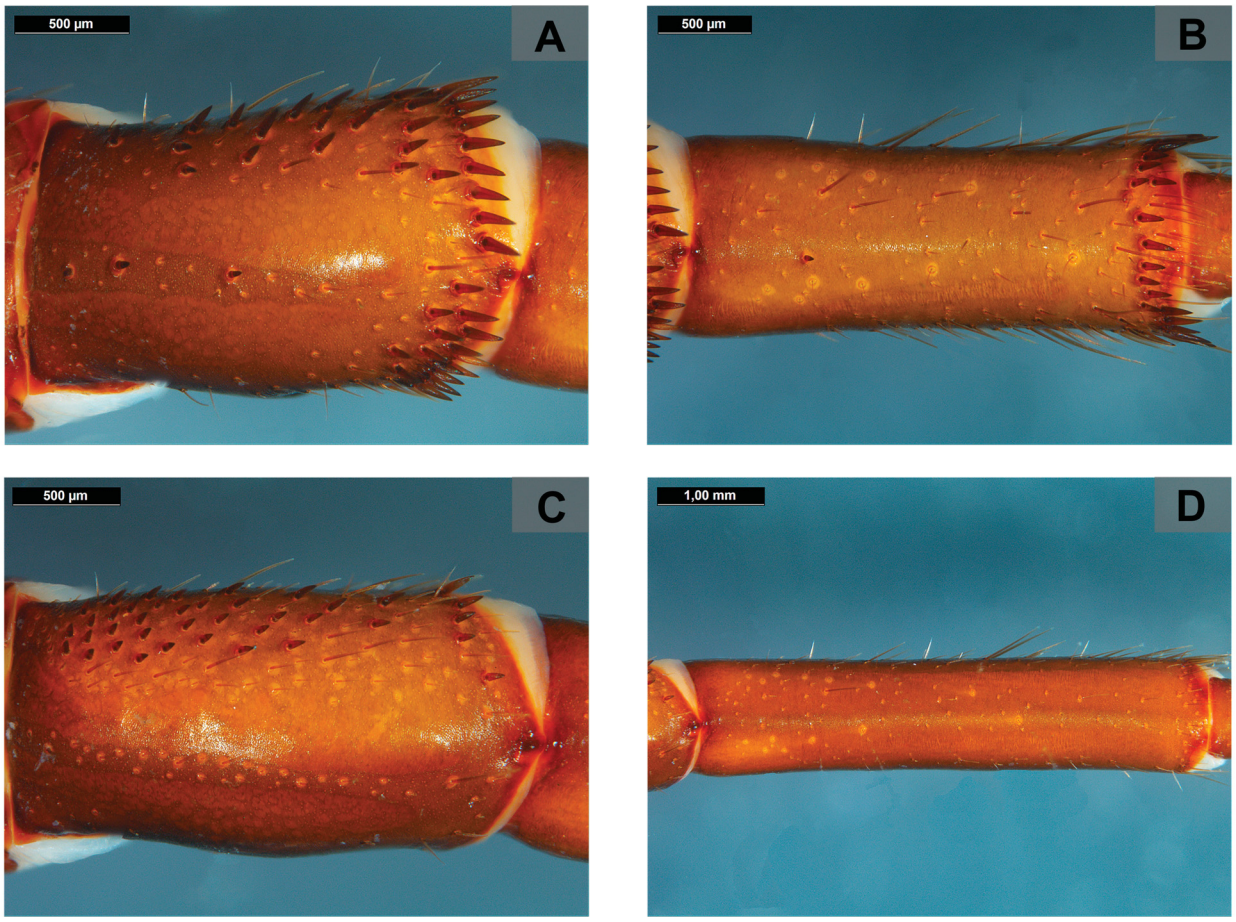


FIGURE 123. *Actinopus bocaina* sp. nov., male: A–D CAD 326: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

***Actinopus bocaina* sp. nov.**
Figs 122–124, Map 6

Type material. Holotype male from [18° 9' 15" S 43° 20' 50" W], Parque Estadual do Rio Preto (PERP), São Gonçalo do Rio Preto, Minas Gerais, Brazil, D. Moura leg. (CAD 326). **Paratypes:** BRAZIL. Minas Gerais: São Gonçalo do Rio Preto, Parque Estadual do Rio Preto (PERP), [18° 9' 15" S 43° 20' 50"1 W], 1♂, x.2010, D. Moura leg. (CAD 421); 20–25.X.2010, G. Monteiro, F. Sá, W. F. Silva & J. P. L. Guadanucci leg. (CAD 244); Antônio Dias, [19° 50' S 43° 19' W], Usina Hidroelétrica Guilman-Amorim, 6♂, 27.vi.2009, R. Quadros leg. (UFMG 1606, 1♂ removed for SEM); Belo Horizonte, Parque Municipal das Mangabeiras, 19° 56' 38.98" S 43° 54' 1.07" W, 1♂, 20–22.i.2009, H. H. Santos *et al.* leg. (UFMG 8113); santa Bárbara, Fazenda Bocaina, 19° 58' S 42° 9' W, 2♂, 1.i.2010, M. F. Vasconcelos leg. (UFMG 11730); serra do Baú, 19° 58' 3.49" S 43° 25' 43.93" W, 2♂, 25.x–4.xi.2008, B. V. S. Pimenta & M. W. E. Faria leg. (UFMG 8420); Povoado de Paiol, 20° 02' 23" S 43° 34' 29" W, 1♂, 24–30.x.2008, B. V. S. Pimenta & M. W. E. Faria leg. (UFMG 5389).

Etymology. The specific name is a toponymic after Fazenda Bocaina, one of the localities in which paratypes were collected.

Diagnosis. Males of *A. bocaina* resemble those of *A. paranensis* (Fig. 115 A–C), *A. pusillus* (Fig. 118 A–C) and *A. emas* (Fig. 121 A–C) by PA continuous to PAc. They resemble those of all species of the group *crassipes*, except *A. laventana* (Fig. 129 A–C) and *A. paranensis*, by BTA placed medially on prolateral tegular surface. They resemble those of all species of group *crassipes*, except *A. crassipes* (Fig. 107 A–C), by the serrated area distal to PAc, continuous to proximal area of PAc. They resemble those of *A. crassipes* and *A. emas* by the lateral swelling above PA (Fig. 124 A–C). They resemble those of *A. paranensis*, *A. pusillus* and *A. laventana* by the palpal tibia paler than other articles. They resemble those of *A. laventana* by the presence of smooth roughness on basal labium and maxillae (Fig. 122 C). They differ from those of all other species of the group by the quadrate

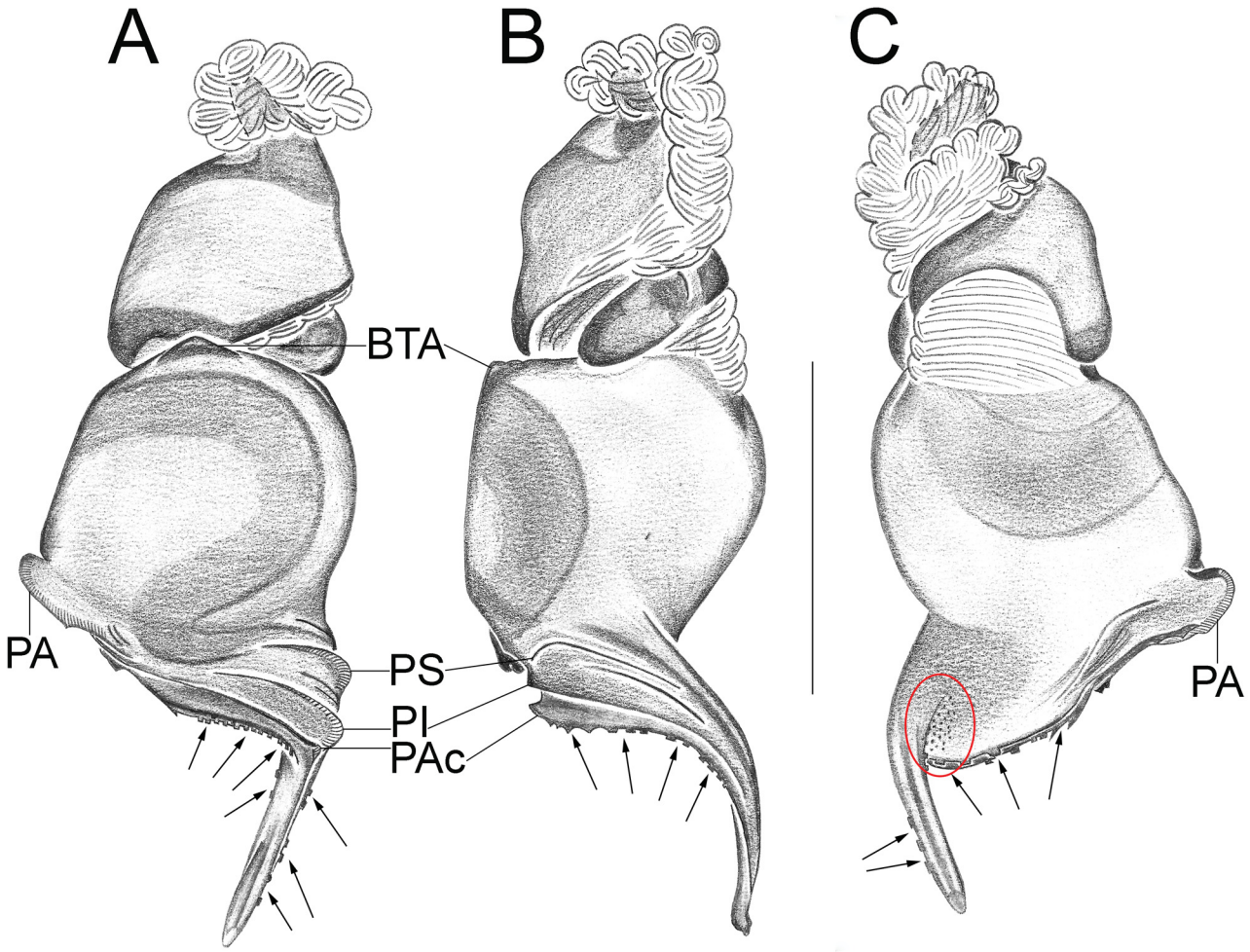


FIGURE 124. *Actinopus bocaina* sp. nov.: A–C CAD 326: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated area; Red Circle: Reduced cusps. Scale line: 1 mm.

cusps below PAc and along embolus on all views; tegular surface with several cusps imeddiately above embolar base on retrolateral view (Fig. 124 A–C).

MALE (CAD 326): Total length 13.87; Carapace, long 5.5; wide 4.37. Carapace rounded. Anterior eye row slightly procurved, posterior row recurved (Fig. 122 B). With one short bristles between AME-clypeus. With one bristle between ALE–ALP and few weak and short bristles between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 122 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines apically (Fig. 122 E–F). Smooth roughness on basal labium and maxillae (Fig. 122 C). Chelicerae with 15 denticles along prolateral row of teeth. Prolateral row with six megateeth and one basal teeth. Retrolateral row with six megateeth and one denticle between the second distal and third distal megateeth and to denticles between three basala (Fig. 122 D). Patella and tibia III with distal crown of well-developed thorns, not interrupted in middle (Fig. 123 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 123 A, C). Tibia IV without spines on dorsal surface (Fig. 123 D). Ventral pseudoscopulae occupying 40% of tarsus I, 60% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish brown; tibia of palp yellow; Abdomen pale brown (Fig. 122 A). **Eyes: Diameters:** PME 0.2, PLE 0.28, ALE 0.36, AME 0.32; MOQ: Length 1.16, front width 2.4, back width 2; **Interdistances:** PME–PME 1.32, PLE–PME 0.08, AME–AME 0.16, ALE–AME 0.52, ALE–PLE 0.4, AME–PME 0.4. **Ocular area:** OAL 5.25, OAW 3.12, and

IF 2.12. **Body:** Clypeus: 0.125; Fovea: 1.5; Labium: long 1.25; wide 1; Chelicerae: long 2.62; wide 1.5; Sternum: long 3.75; wide 3. Abdomen: long 6.25; wide 4.37. **Leg measurements:** I: Fe 6.12/ Pa 2.5/ Ti 3.37/ Me 4.75/ Ta 2.62/ total 19.37. II: 4.75/ 2.5/ 3.37/ 4.25/ 2.5/ 17.37. III: 4.12/ 2.37/ 2.5/ 4.5/ 2.75/ 16.25. IV: 5.75/ 2.5/ 4.75/ 5/ 3/ 21. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0, r0; Me v1-0-1, d0, p0-0-2, r0; ta v0, d0, p0-1-2, r0-3-5. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-0-3, d0, p0, r0-0-3; Me v0, d0, p0-3-3, r1-3-5; ta v1-2-3, d0, p3-4-6, r1-3-6. III—Fe v0, d0, p0, r0; Pa v0, d6-8-30, p1-0-2, r0-0-5; ti v0, d1-0-18, p0-0-1, r0-0-4; Me v0-0-3, d1-0-0, p0-0-2, r0-0-2; ta v0-0-2, d0, p0-4-6, r0-3-7; IV—Fe v0, d0, p0, r0; Pa v0, d17-13-8, p0-0-1, r0; ti v2-2-4, d0, p0, r0; Me v2-4-3, d0, p0-2-3, r0-0-1; ta v0-0-4, d0, p2-5-10, r0-3-7. **Palp:** BTA developed, placed medially on prolateral tegular surface, embolus with three keels (PAc, PS and PI) notable on prolateral and dorsal views. PS less developed than PI, PAc evident on prolateral and dorsal views. Tegulum thin, elongated,

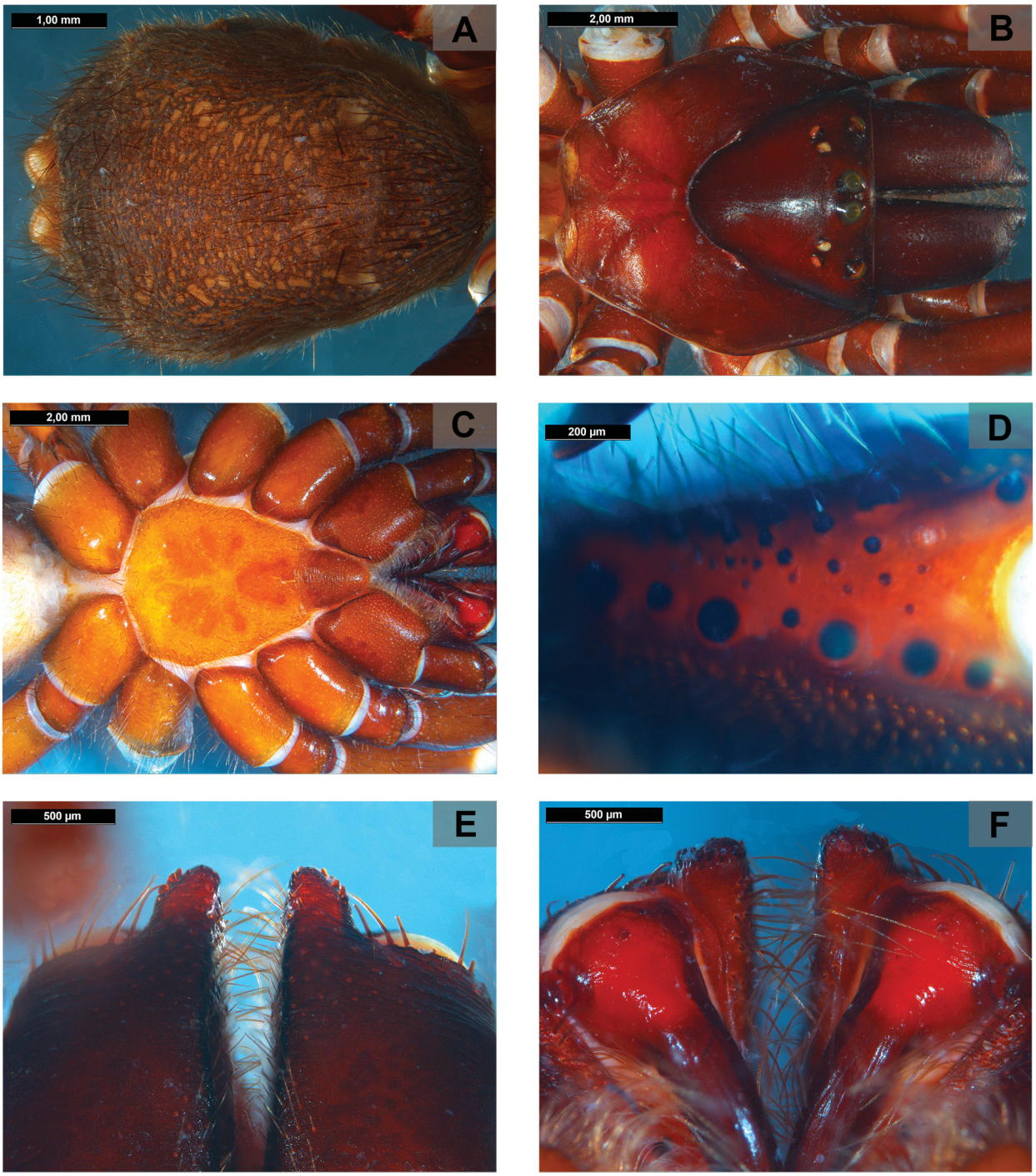


FIGURE 125. *Actinopus laventana* sp. nov., male: A–F LZI M135: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

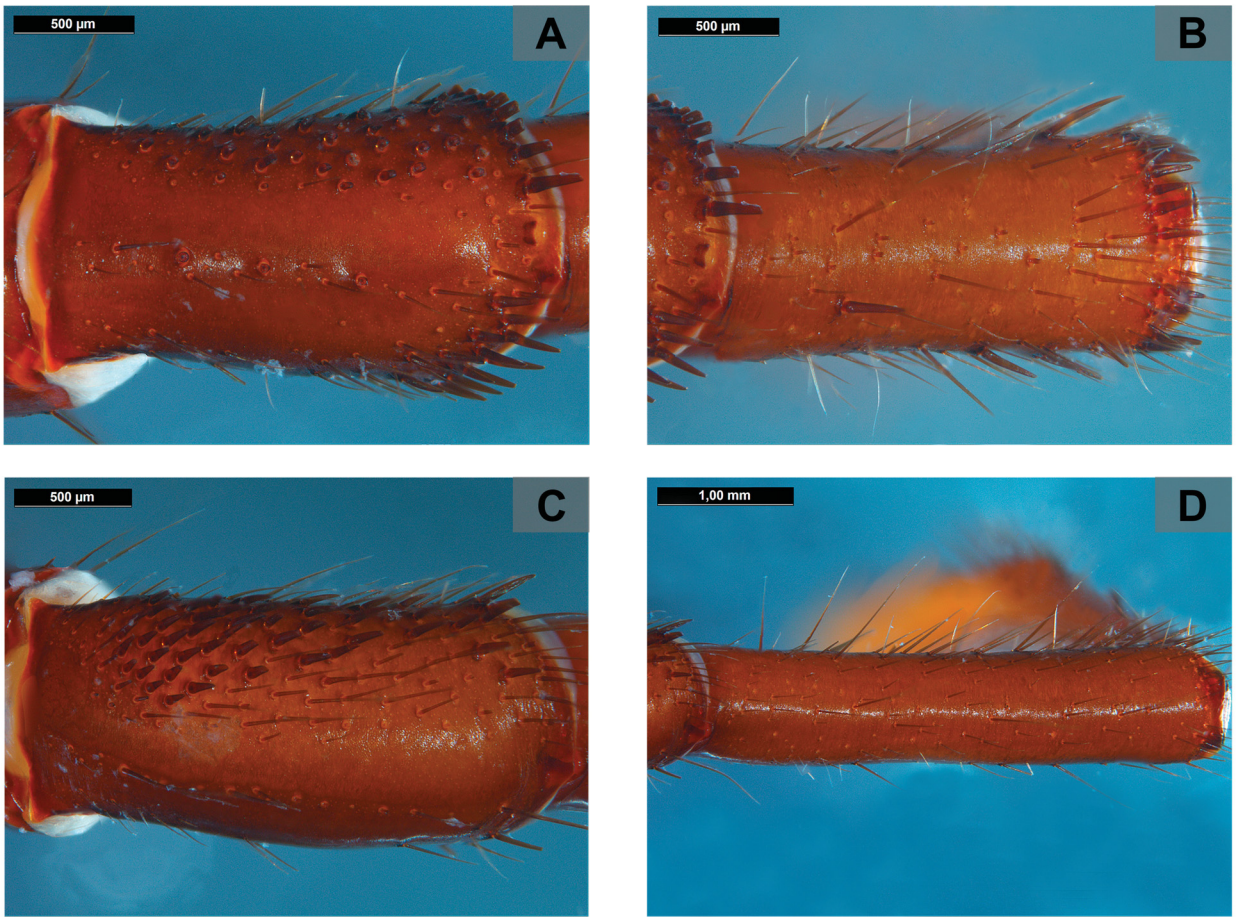


FIGURE 126. *Actinopus laventana* sp. nov., male: A–D LZI M135: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

PA pronounced and continuous to PAc, lateral swelling above PA present (Fig. 124 A–C).

Distribution. BRAZIL. Minas Gerais: São Gonçalo do Rio Preto, Antônio Dias, Belo Horizonte, Santa Bárbara (Map 6).

Actinopus laventana sp. nov.

Figs 125–129, Map 6

Type material. Holotype male from [38º 08' 21.58" S 61º 47' 38.90" W], Sierra de La Ventana, Buenos Aires, Argentina, N. Ferreti (LZI M135). **Paratypes:** URUGUAY. Rocha: La Coronilla, 34' S 53º 51' W, 1♂, 12.iv.1986, L. A. de Gambardella leg. (FCE-MY 542). Tacuarembó: [31º 44' S 55º 59' W], Ruta 31, Km 146, 1♀, 16.ii.2011, L. M. de Oca, F. Costa & F. Pérez-Miles leg. (FCE-MY 977); ARGENTINA. Buenos Aires: Sierra de La Ventana, 38º 08' 21.58" S 61º 47' 38.90" W, 1♀, 4.ix.2009, S. Copperi leg. (LZI M138).

Etymology. The specific name is a noun in apposition from the type locality name.

Diagnosis. Males of *A. laventana* resemble those of *A. crassipes* (Fig. 107 A–C) and *A. dubiomaculatus* (Fig. 112 A–C) by PA continuous to PI. They resemble those of all species of group *crassipes*, except *A. crassipes*, by the serrated area distal to PAc, continuous to proximal area of PAc. They resemble those of *A. dubiomaculatus*, *A. paranensis* (Fig. 115 A–C), *A. pusillus* (Fig. 118 A–C) and *A. gerschiapelliarum* (Ríos-Tamayo & Goloboff, 2018, fig. 18 E–G) by the absence of lateral swelling above PA (Fig. 129 A–C). They resemble those of *A. paranensis, A. pusillus* and *A. emas* by the palpal tibia being paler than other articles. Males resemble males of *A. bocaina* by the maxillae and base of labium being slightly rugose (Fig. 125 C). They differ from those of all species of the group *crassipes* by BTA displaced ventrally on prolateral tegular surface; PA well developed and ventrally displaced from the lateral border of tegulum in prolateral view (Fig. 129 A–C); females of *A. laventana* (Fig. 129 D) differ from *A. dubiomaculatus* (Fig. 112 D–H) by receptacles with lateral swelling; dorsal abdominal scutum absent (Fig. 125 A).

MALE (LZI M135): Total length 10.25; Carapace,

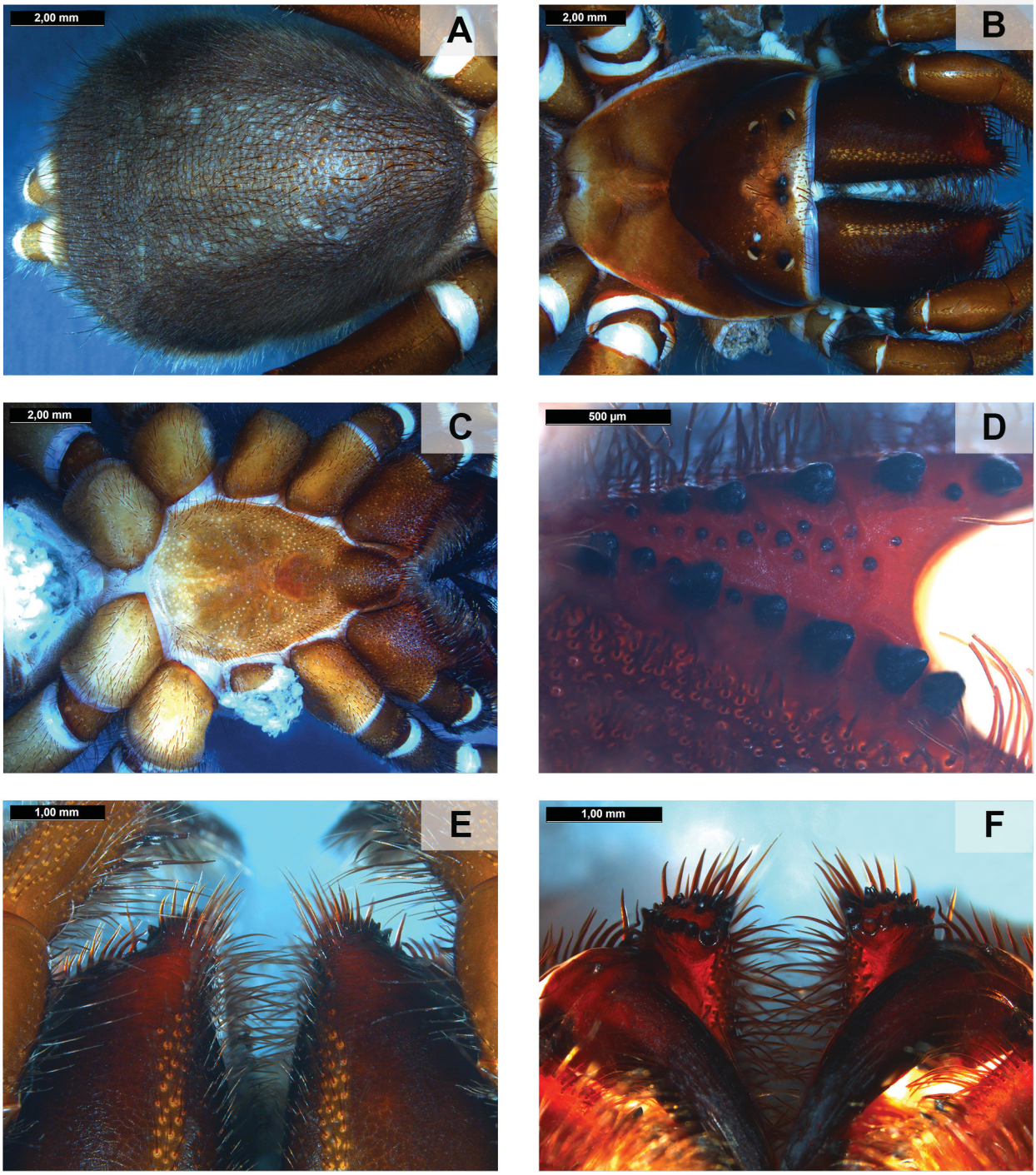


FIGURE 127. *Actinopus laventana* sp. nov., female: A–F FCE-MY 977: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

long 5; wide 4.75. Carapace anterior part tapering. Anterior eye row slightly procurved, posterior row recurved (Fig. 125 B). Without bristles between AME-clypeus. With one bristle between ALE–ALP and few short and weak bristles between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with ten sigilla fused medially, two distal sigilla more fused than others and to basal less fused. With smooth corrugated area on basal labium and maxillae (Fig. 125 C). Rastellum protuberant, inverted V-shaped, hirsute, with a row of spines apically (Fig. 125 E–F). Chelicerae with twenty denticles widespread on subunguinal sulci. Prolateral row with seven megateeth. Retrolateral row with six megateeth and one tooth in the middle of megateeth row (Fig. 125 D). Patella and tibia III with distal crown of well-developed thorns, interrupted in middle (Fig. 126 A–B). Patellae III and

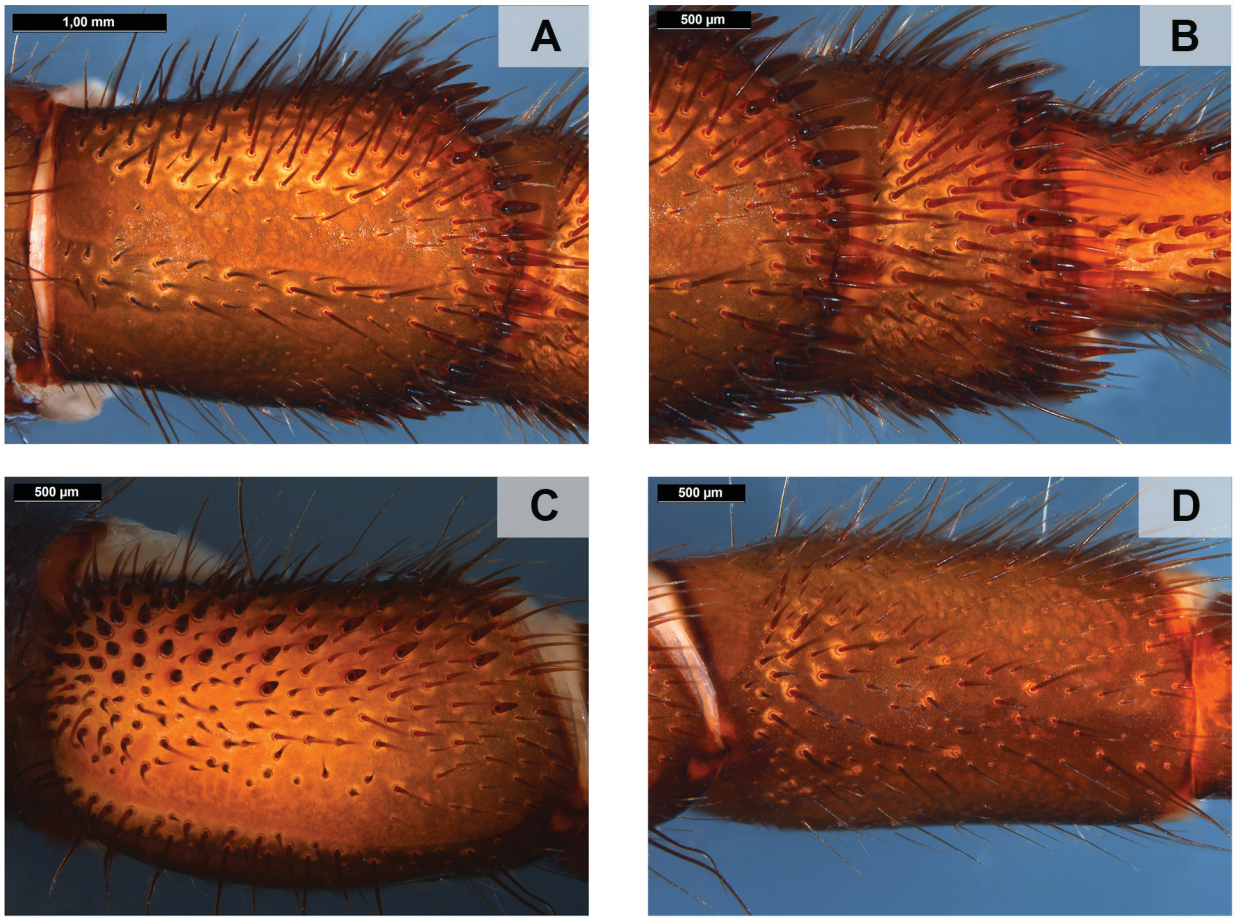


FIGURE 128. *Actinopus laventana* sp. nov., female: A–D FCE-MY 977: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

IV with spines on prolaterodorsal face (Fig. 126 A, C). Tibia IV without spines on dorsal surface (Fig. 126 D). Ventral pseudoscopulae occupying 50% of tarsus I, 70% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish brown; Abdomen pale brown with many small spots of pigmentation on dorsal surface (Fig. 125 A). **Eyes: Diameters:** PME 0.2, PLE 0.24, ALE 0.4, AME 0.28; MOQ: Length 0.84, front width 2.52, back width 2.2; **Interdistances:** PME–PME 1.32, PLE–PME 0.08, AME–AME 0.2, ALE–AME 0.72, ALE–PLE 0.4, AME–PME 0.48. **Ocular area:** OAL 3.37, OAW 2.87, and IF 1.5. **Body:** Clypeus: 0.12; Fovea: 1.37; Labium: long 1.12; wide 0.87; Chelicerae: long 1.87; wide 1.37; Sternum: long 3.12; wide 2.87. Abdomen: long 4.75; wide 3.75. **Leg measurements:** I: Fe 4.5/ Pa 2.12/ Ti 3.12/ Me 3.75/ Ta 2.25/ total 15.75. II: 4.75/ 1.87/ 2.37/ 3.75/ 2.25/ 15. III: 3.5/ 2.12/ 1.87/ 3.75/ 2.25/ 13.5. IV: 4.12/ 1.37/ 3/ 4.25/ 2.5/ 15.25. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v3-7-5, d0, p0-1-3, r0-0-2; Me v4-4-2, d0, p1-1-2, r3-4-4; ta v0-2-2, d0, p1-2-2, r3-5-5. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v3-4-8, d0, p0, r0-1-5; Me v6-7-7, d0, p1-2-3, r1-4-4; ta v1-2-3, d0, p2-1-3, r2-6-7. III—Fe v0, d0, p0, r0; Pa v0, d7-13-34, p0, r0-0-3; ti v0-0-4, d1-0-11, p0-0-2, r0-0-5; Me v0-5-6, d1-1-2, p2-2-2, r2-2-5; ta v0-1-1, d0, p1-1-2, r0-0-2; IV—Fe v0, d0, p0, r0; Pa v0, d14-19-12, p0, r0; ti v0-0-2, d0, p1-4-7, r0; Me v0-0-3, d0, p0-4-8, r0-0-1; ta v0, d0, p1-1-1, r1-3-2. **Palp:** BTA developed, displaced ventrally in relation to a middle longitudinal line along prolateral tegular surface, embolus with three keels (PAc, PS and PI) notable on prolateral and dorsal views. PS more developed than PI, PAc evident on prolateral, dorsal and retrolateral views. Serrated area in a row along PAc and embolus on all views; tegulum thin, elongated, PA well developed and ventrally displaced from the lateral border of tegulum in prolateral view (Fig. 129 A–C).

FEMALE (FCE-MY 977): Total length 17.12; Carapace, long 6.62; wide 6.62. Carapace anterior part square and posterior part triangular. Anterior eye row

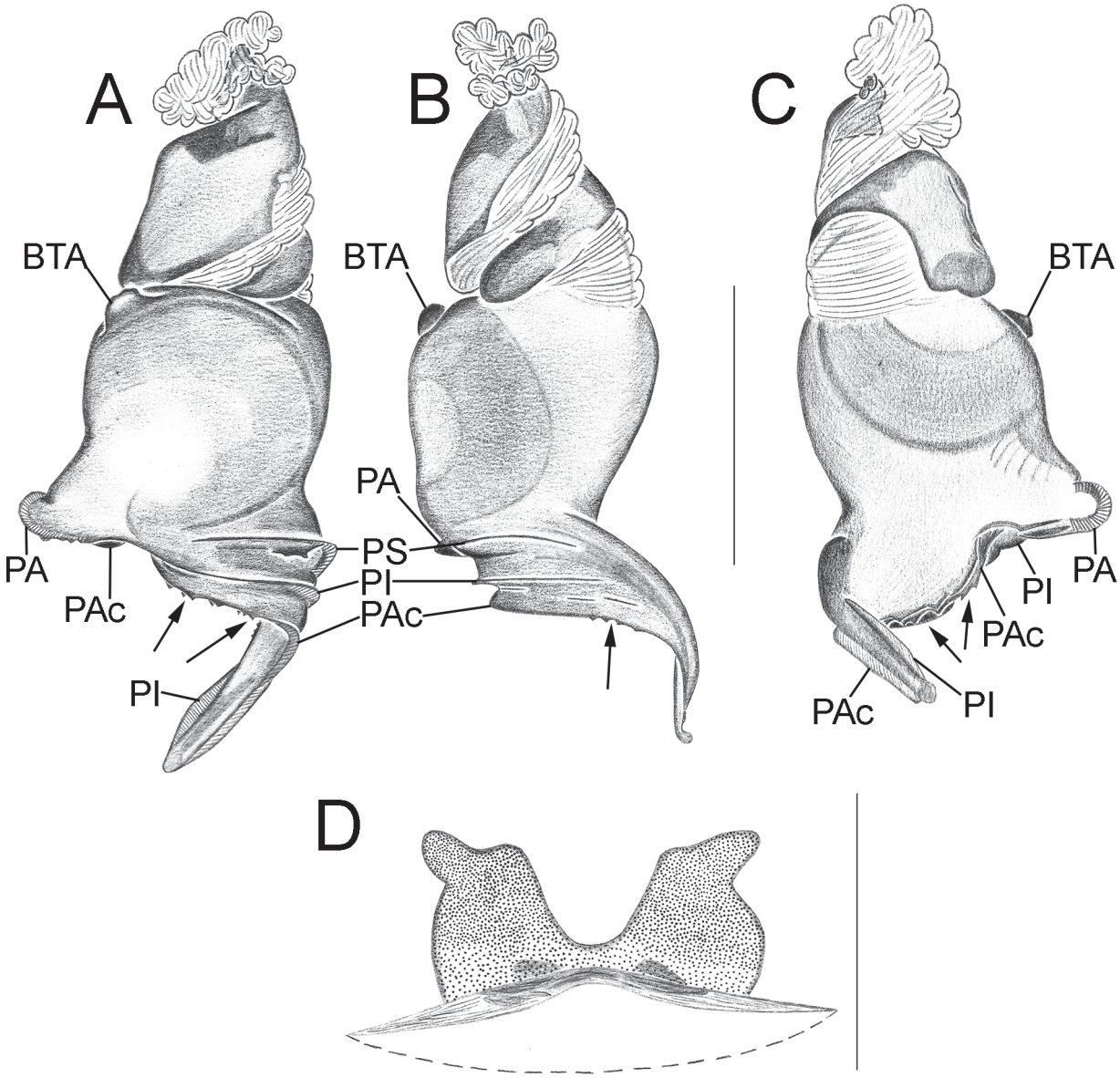


FIGURE 129. *Actinopus laventana* sp. nov., male: A–C LZI M135: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated area. Paratype, female: D FCE-MY 977: D. Spermathecae, dorsal view. Scales lines: 1 mm.

procurved, posterior row slightly recurved (Fig. 127 B). Many long bristles between AME-clypeus, between PLE–ALE, between posterior eyes-fovea and between lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused to each other than others (Fig. 127 C). Rastellum protuberant, subquadrate, hirsute, with a row of short spines on the edge of rastellum and o lot of short spines covering the dorsal rastellum (Fig. 127 E–F). Chelicerae with 16 denticles along prolateral row of teeth. Prolateral row with five megateeth and three teeth, two basal to megateeth and one between two distal megateeth. Retrolateral row with six megateeth and three teeth between three basal megateeth (Fig. 127 D). Patella III and tibiae III with distal developed crown of thorns (Fig. 128 A–B). Patella IV with prolaterodorsal short spines along extension of article (Fig. 128 C). Tibia IV without spines and with long bristles along prolaterodorsal surface (Fig. 128 D). Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi, tarsi and palp yellowish brown; Abdomen pale brown with a small spots of unpigmented area widespread on dorsal view (Fig. 127 A). 13 labial cuspules, 65 on right maxilla and 59 on left. **Eyes: Diameters:** PME 0.28, PLE 0.4, ALE 0.44, AME 0.16; MOQ: Length 1.2, front

width 4.08, back width 3.48; **Interdistances:** PME–PME 2.16, PLE–PME 0.32, AME–AME 0.24, ALE–AME 1.4, ALE–PLE 0.64, AME–PME 1. **Ocular area:** OAL 6, OAW 3.87, and IF 2.87. **Body:** Clypeus: 0.5; Fovea: 3.25; labium: long 1.5; wide 1.5; Chelicerae: long 4.12; wide 2.75; sternum: long 4.37; wide 4.12. Abdomen: long 9.87; wide 7.25. **Leg measurements:** I: Fe 3.5/ Pa 2.37/ Ti 1.87/ Me 1.75/ Ta 0.75/ total 10.25. II–III: 3.62/ 3/1.2/ 2.5/ 1/ 11.37. IV: 4.62/ 3.12/ 2.5/ 3/ 1.12/ 14.37. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p1-1-4, r3-4-2; Me v0-0-2, d0, p4-5-8, r10-9-5; ta v0-0-4, d0, p4-3-2, r4-6-8. II—Without both leg II. III—Fe v0, d0, p0, r0; Pa v0, d0-0-34, p0-0-2, r0-0-19; ti v0, d1-0-16, p0-0-1, r2-7-13; Me v0-0-5, d29-15-12, p0, r1-3-7; ta v17-9-9, d0-0-4, p3-0-2, r3-6-9; IV—Fe v0, d0, p0, r0; Pa v0, d20-15-10, p0, r0; ti v0, d0, p0, r0; Me v0, d0-0-1, p0-2-1, r0; ta v7-6-8, d0, p4-6-7, r0-0-3. **Spermathecae:** Represented by two bilobed seminal receptacles, each one longer than wide, with short duct. External lobes longer than internal lobes. Pore distribution reaching the base,

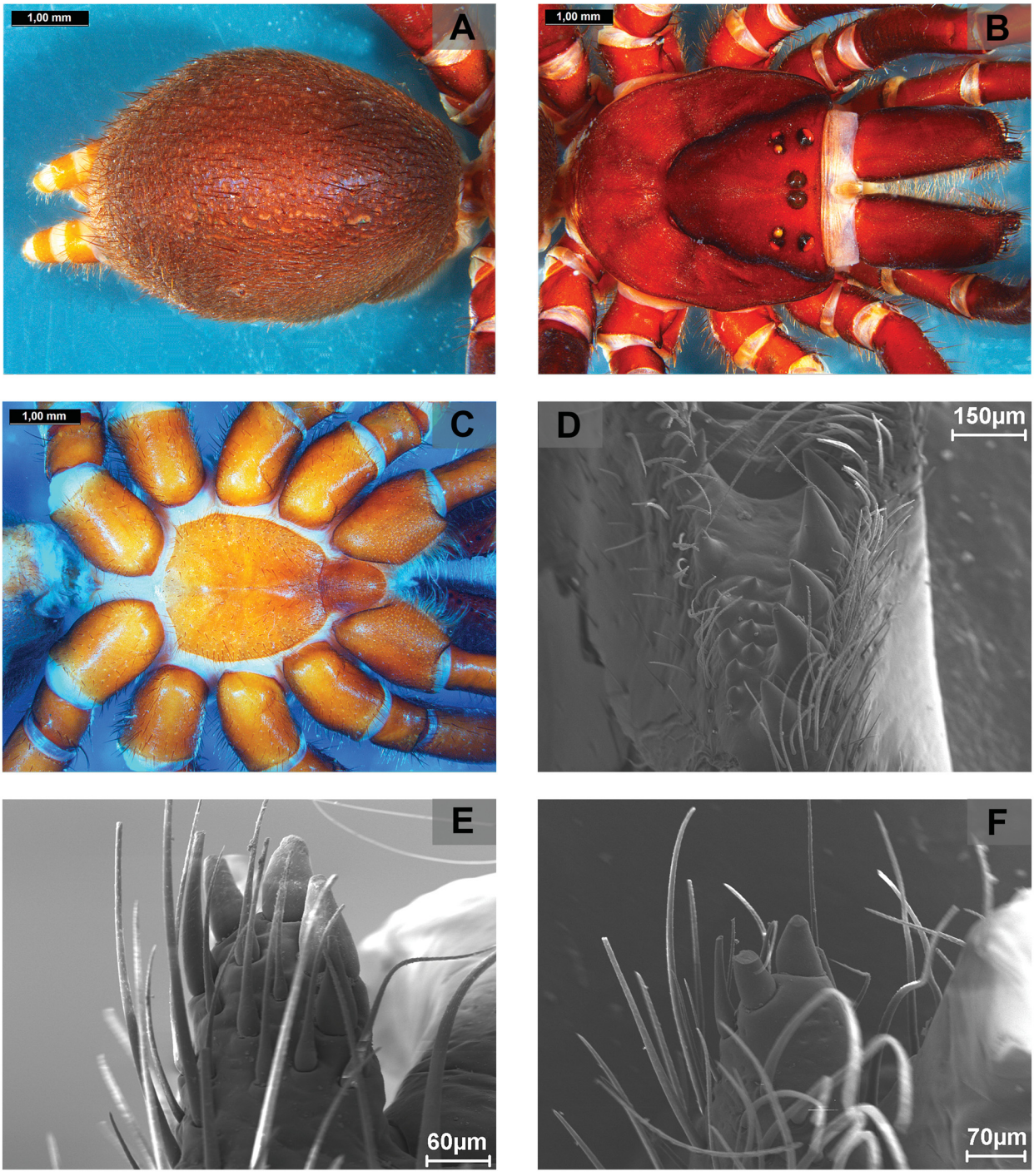


FIGURE 130. *Actinopus gerschiapelliarum* Ríos-Tamayo & Goloboff, 2018, male: A–F MACN-Ar 19837 (Automontage photos) and MACN-Ar 19829 (SEM Images): A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

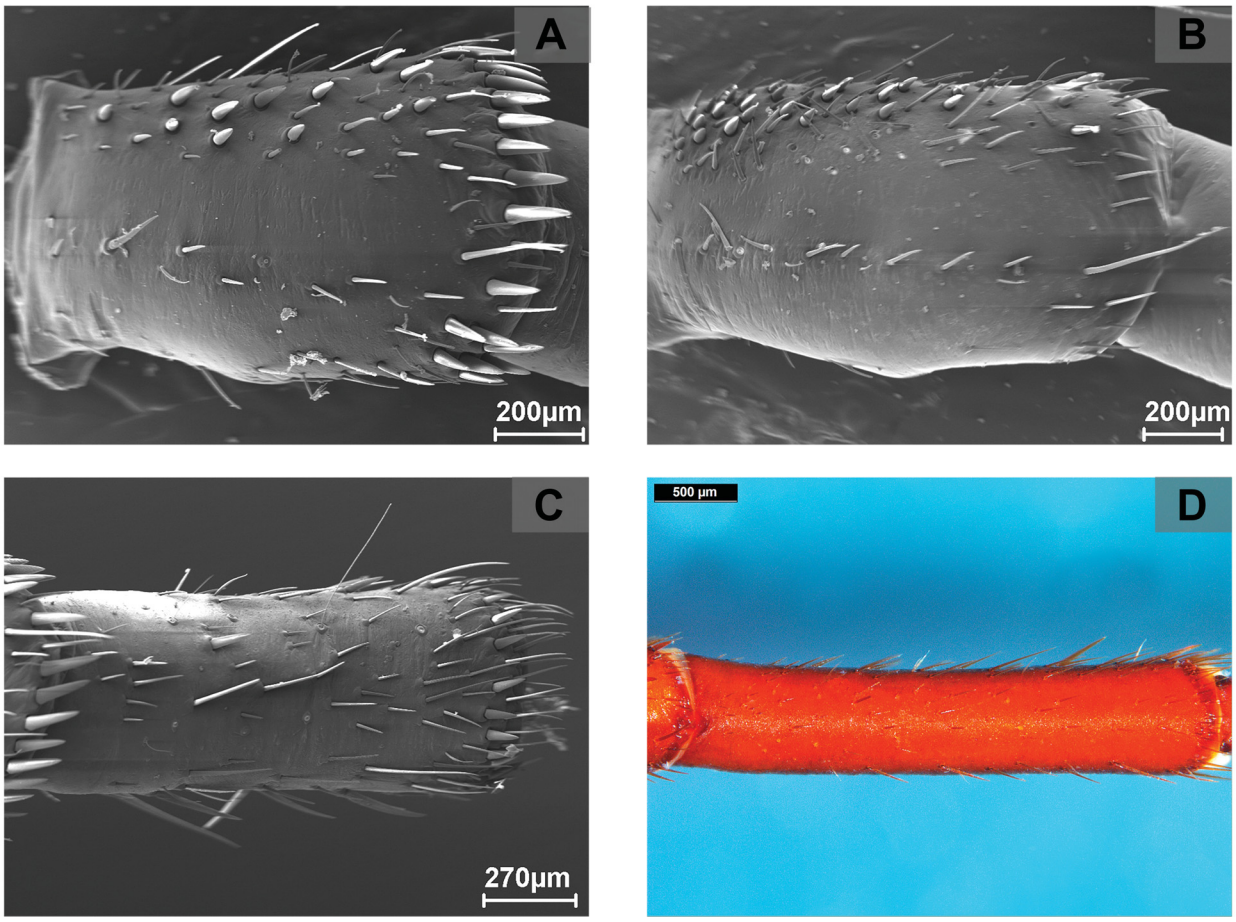


FIGURE 131. *Actinopus gerschiapelliarum* Ríos-Tamayo & Goloboff, 2018, male: A–D MACN-Ar 19837 (Automontage photos) and MACN-Ar 19829 (SEM Images): A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

75% of apical area with a dense distribution of pores and the basal portion with widespread pores. Lateral swelling present on outer surface of each receptacle (Fig. 129 D).

Distribution. URUGUAY. Rocha: La Coronilla; Tacuaembó. ARGENTINA. Buenos Aires: Sierra de La Ventana (Map 6).

Actinopus gerschiapelliarum Ríos-Tamayo & Goloboff, 2018

Figs 130–132, Map 6

Actinopus gerschiapelliarum Ríos-Tamayo & Goloboff, 2018: 40, fig. 18 A–H (holotype ♂, [34 º 10' S 58º 57' W], Campana, Buenos Aires, 26.ii.1980, P. Goloboff leg., MACN-Ar 31441; not examined); World Spider Catalog, 2020.

Diagnosis. Males of *Actinopus gerschiapelliarum* share with *A. goloboffi* (Ríos, 2014, fig. 1) and differs from all other species of the genus by the discontinuous thoracic fovea, interrupted in middle (Fig. 130 B) and a projection in anterior angle of coxae (Fig. 130 C). They differ from all other species included on the group *crassipes* by the PA continuous to the middle between PI and PAc (Fig. 132 A–B) and the presence of a cusp on embolar base and a tegular cusp below embolar base, as seen on dorsal view (Fig. 132 B); the U-shaped carapace (Fig. 130 B) is also diagnostic.

MALE (MACN-Ar 19837): Total length 9.12; Carapace, long 3.87; wide 3.62. Carapace anterior part tapering, and posterior part in U form. Anterior eye row slightly procurved, posterior row recurved (Fig. 130 B). With seven short bristles and one long bristle between AME-clypeus. One long bristle between ALE–ALP and many short and weak bristles between PE-fovea. Sternum with eight smooth sigilla fused medially (Fig. 130 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines apically (Fig. 130 E–F). Chelicerae with four denticles along prolateral row of teeth. Prolateral row with two megateeth and four denticles in basal part of this row. Retrolateral row with five megateeth and one denticle between two basal megateeth (Fig. 130 D). Patella and tibia III with distal crown of well-

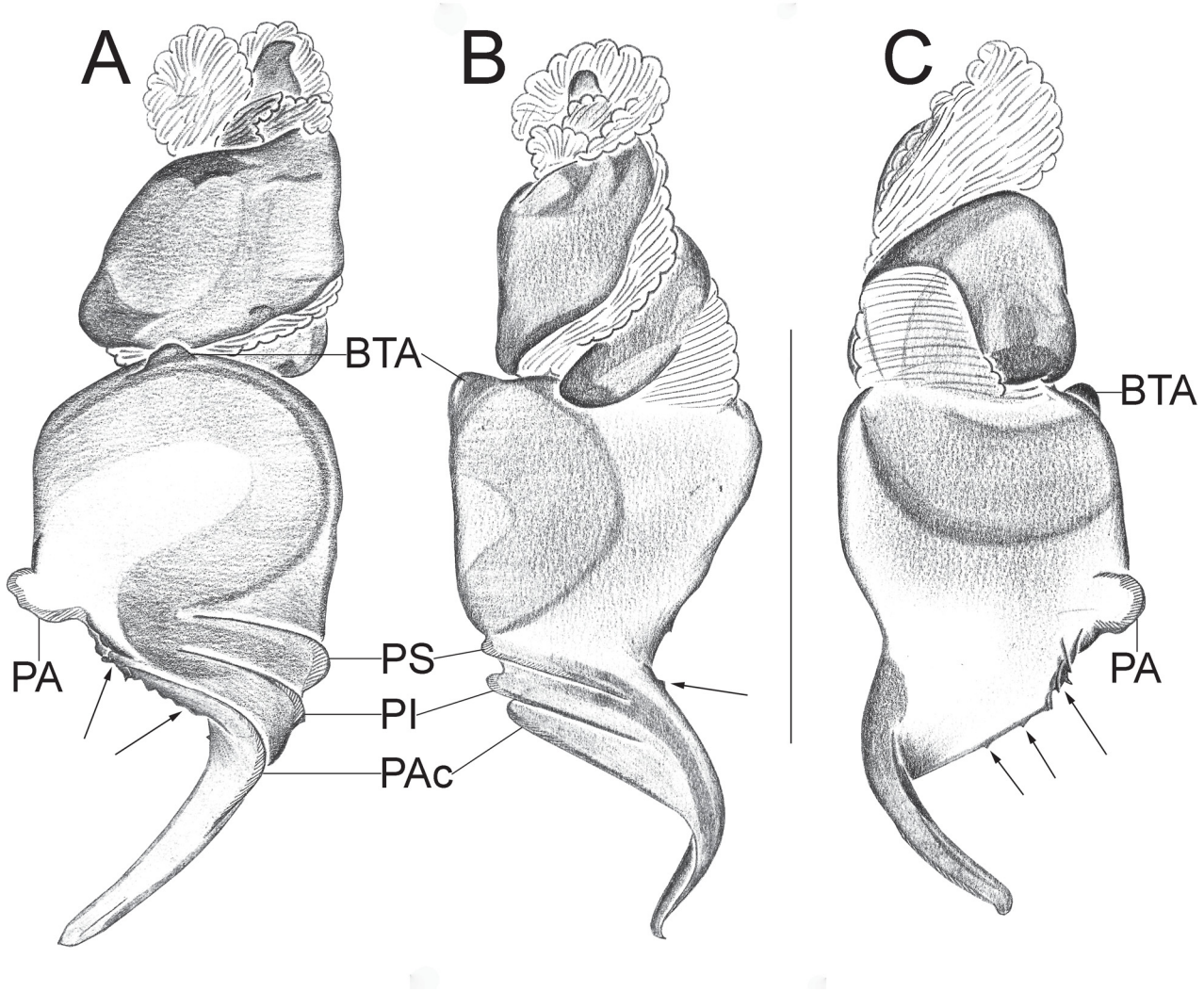


FIGURE 132. *Actinopus gerschiapelliarum* Ríos-Tamayo & Goloboff, 2018, male: A–C MACN-Ar 19837: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated area. Scale line: 1 mm.

developed thorns, interrupted in middle and very weak in the middle of tibia III (Fig. 131 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 131 A, C). Patella IV without spines on dorsal surface (Fig. 131 D). Ventral pseudoscopulae occupying 20% of tarsi I, 30% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact. Carapace and chelicerae reddish brown; sternum, coxae, trochantera, femora, patella, tibiae, metatarsi and tarsi yellowish brown; Patella, tibia of palp and cymbium pale yellow than others articles and abdomen gray (Fig. 130 A). **Eyes: Diameters:** PME 0.15, PLE 0.17, ALE 0.25, AME 0.12; MOQ: Length 0.7, front width 1.9, back width 1.85; **Interdistances:** PME–PME 1.2, PLE–PME 0.12, AME–AME 0.2, ALE–AME 0.57, ALE–PLE 0.35, AME–PME 0.45. **Ocular area:** OAL 2.87, OAW 2.5, and IF 1.25. **Body:** Clypeus: 0.25; Fovea: 1.87; Labium: long 0.87; wide 0.75; Chelicerae: long 2.12; wide 1.12; Sternum: long 2.12; wide 2.12. Abdomen: long 5; wide 3.75. **Leg measurements:** I: Fe 4/ Pa 1.62/ Ti 2.12/ Me 2.87/ Ta 1.37/ total 12. II: 3.75/ 1.62/ 2.12/ 2.37/ 1.87/ 11.75. III: 2.87/ 1.62/ 1.62/ 3.12/ 2.12/ 11.37. IV: 3.87/ 1.87/ 3.12/ 3.37/ 2.25/ 14.5. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-1-3, d0, p0, r0; Me v2-2-5, d0, p1-1-2, r0-0-3; ta v3-5-9, d0, p1-2-2, r0-0-3. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v2-1-3, d0, p0, r0-0-4; Me v4-4-5, d0, p0-1-1, r0-1-5; ta v1-5-7, d0, p1-3-2, r3-3-8. III—Fe v0, d0, p0, r0; Pa v0, d5-10-23, p0-0-2, r1-0-4; ti v0-0-3, d0-0-2, p0-0-2, r0-0-3; Me v2-3-4, d0, p0-1-3, r0-1-4; ta v0, d0, p2-3-3, r1-3-1; IV—Fe v0, d0, p0, r0; Pa v0-0-1, d13-10-5, p5-5-1, r0; ti v1-3-6, d0, p0-0-2, r0; Me v3-1-5, d0, p0-1-3, r0-0-2; ta v0-0-3, d0, p4-6-10, r0-4-5. **Palp:** BTA developed, placed medially on prolateral tegular surface; embolus with three

developed keels (PAc, PI and PS). PA well developed, continuous to a point between PI and PAc. Basal surface of tegulum with a big serrated area; prolateral surface and retrolateral surface (in dorsal view) of embolus with one denticle next to base of embolus; embolar bases thin (Fig. 132 A–C). Patella, tibia and cymbium of palp paler than other articles.

New Records. URUGUAY: Artigas: Arroyo Tres Cruces, 30º 27' S 56º 48' W, 1♂, 16.ii.1955 (FCE-MY 53); 18.ii.1955 (FCE-MY 57); Rivera: Valle Del Platon, [31º 00' 00.00" S 55º 41' 00.00" W], 1♂, 20-26.ii.1966, F. Achaval leg. (MACN-Ar 19825); Paysandú: Santa Rita [32º 16' 14.44" S 58º 04' 52.08" W], 1♂, i. 1948 (MACN-Ar 19837). ARGENTINA: Província Catamarca: Singuil, El Chorro, [27º 45' 48.28" S 65º 49' 54.43" W], 1♂, Partridge & Núnez leg. (MACN-Ar 19829, 1♂ removed for SEM). Província Corrientes: Manantiales, [27º 55' 26.79" S 58º 06' 12.07" W], 1♂, iv.1945, Apóstol leg. (MACN-Ar 19839); Alcorta, Santiago, [28º 46' 59.20" S 58º 41' 42.97" W], 1♂, Berger leg. (MACN-Ar 19828). Província de Córdoba: Valle Hermoso, [31º 06' 57.71" S 64º 28' 54.99" W], 1♂, iii. 1943, J. M. Viana leg. (MACN-Ar 1255); ii.1960, O. de'Ferrariis leg. (AMNH); Córdoba, Barrio Argüello, [31º 21' 00.00" S 64º 15' 00.00" W], 2♂, ii.1943, J. A. De Carlo leg. (MACN-Ar 1945); 1♂4J, xii.1941, M. J. Viana leg. (MACN-Ar 19832); [32º 16' 17.10" S 64º 37' 17" W], "El Sauce", Calamuchita, 1♂, xii.1938, M. J. Viana leg. (MACN-Ar 19822). Província de Santa Fé: Rosário, [32º 57' 02.67" S 60º 39' 59.40" W], 1♂, Williner (MACN-Ar 19833); Província de Buenos Aires: Escobar, [34º 20'24.91" S 58º 47' 05.79" W], 1♂, ix.1980 (MACN-Ar 19840).

Distribution: URUGUAY. Artigas: Tres Cruces; Rivera; Paysandú: Santa Rita; ARGENTINA. Catamarca: Singuil; Corrientes: Manantiales, Santiago Alcorta; Córdoba: Valle Hermoso, Córdoba, San Agustín; santa Fé: Rosário; Buenos Aires: Escobar (Map 6).

Actinopus magnus Ríos-Tamayo & Goloboff, 2018

Actinopus magnus Ríos-Tamayo & Goloboff, 2018: 52, fig. 25 A–G, 45 (holotype ♂, [31º 58' S 64º 33' W], Villa General Belgrano, Córdoba, Argentina, 12.iii.2010, G. Villafarie leg., MACN-Ar 36622; not examined); World Spider Catalog, 2020.

Diagnosis. Males of *A. magnus* (Ríos-Tamayo & Goloboff, 2018, fig. 6 D–F) resemble those of *A. laventana* (Fig. 129 A–C) by the large, distally wide embolus and those of *A. puelche* (Ríos-Tamayo & Goloboff, 2018, fig. 31 D–F) by the BTA medially placed. They differ from those of *A. laventana* by the BTA displaced ventrally and from those of *A. puelche* by more developed PA. Additionally, they resemble *A. laventana*, *A. patagonia* (Ríos-Tamayo & Goloboff, 2018, fig. 29 E–G), and *A. puelche* by the shape of the embolus with three keels in prolateral view and a developed serrated area. They resemble those of *A. patagonia* and *A. puelche* by PA continuous to PAc, and differ from *A. laventana* by PA continuous to PI.

Description. See Ríos-Tamayo & Goloboff (2018: 52).

Distribution. ARGENTINA: Córdoba.

Actinopus puelche Ríos-Tamayo & Goloboff, 2018

Actinopus puelche Ríos-Tamayo & Goloboff, 2018: 62, fig. 31 A–G, 45 (holotype ♂, [38º 08' S 61º 48' W], Sierra de La Ventana, Buenos Aires, Argentina, 18.iv.2009, G. Pompozzi leg., MACN-Ar 36611, not examined); World Spider Catalog, 2020.

Diagnosis. Males of *A. puelche* (Ríos-Tamayo & Goloboff, 2018, fig. 62 D–F) resembles *A. magnus* (Ríos-Tamayo & Goloboff, 2018, fig. 6 D–F) by the BTA medialy placed, differing by the embolus distally wide, as in *A. laventana* (Fig. 129 A–C), from which they Males differ from those of PA originating at PAc. Additionally, they resemble *A. patagonia* (Ríos-Tamayo & Goloboff, 2018, fig. 29 E–G) by PA continuous to PAc and *A. laventana*, *A. patagonia* by the shape of the embolus with three keels in prolateral view and a developed serrated area.

Description. See Ríos-Tamayo & Goloboff (2018: 62).

Distribution. ARGENTINA: Buenos Aires. URUGUAY: Rocha.

Group *osbournei*

Diagnosis. The species in the group *osbournei* are recognized by the small total length; legs with metatarsi and tarsi paler than other articles; abdomen without scutum; sigilla converging to middle of sternum but separated; embolus with three keels; tegulum thin and elongated; BTA developed and placed medially on prolateral tegular surface; PA continuous to PAc.

Species included. *Actinopus osbournei* sp. nov.; *Actinopus dioi* n. sp; and *Actinopus patagonia* Ríos-Tamayo & Goloboff, 2018.

Actinopus osbournei sp. nov.

Figs 133–135, Map 7

Type material. Holotype male from [29º 47' 15.98" S 57º 03' 43.35" W], Imbaá, Uruguaiana, Rio Grande do Sul, Brazil, ii.2010, R. Alves leg. (MCTP 8859). **Paratypes:**

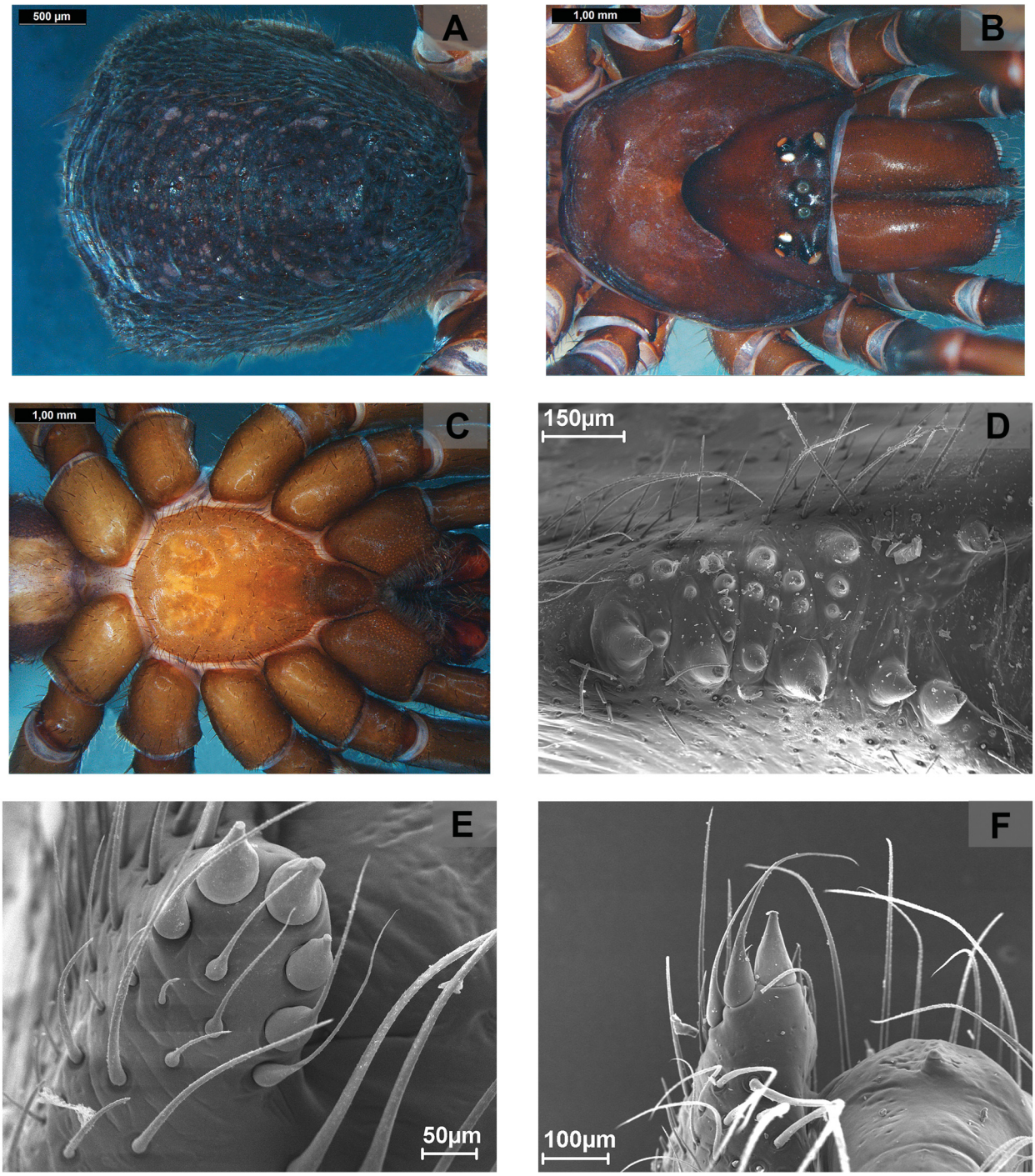


FIGURE 133. *Actinopus osbournei* sp. nov., male: A–F MCTP 8859 (Automontage photos) and MCTP 8850 (SEM Images): A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

BRAZIL. Rio Grande do Sul: Uruguaiana, Imbaá, [29º 47' 15.98" S 57º 03' 43.35" W], 1♂, i. 2009, R. Alves (MCTP 8848, 8849, 8855, 8856, 8858, 8875); 24.iv.2009, R. Alves leg. (MCTP 8848); ii.2010, R. Alves leg. (MCTP 8861, 8862); 2♂, i. 2009, R. Alves (MCTP 8851, 8852, 8853); ii.2010, R. Alves leg. (MCTP 8860, 8863, 8864); 3♂, i. 2009, R. Alves (MCTP 8854); 4♂, i. 2009, R. Alves (MCTP 8850, 2♂ removed for SEM).

Etymology. The specific name is in honor of musician John Michael Osbourne or Ozzy Osbourne, the founder of heavy metal, affiliated to a band called Black Sabbath, in addition to his solo career.

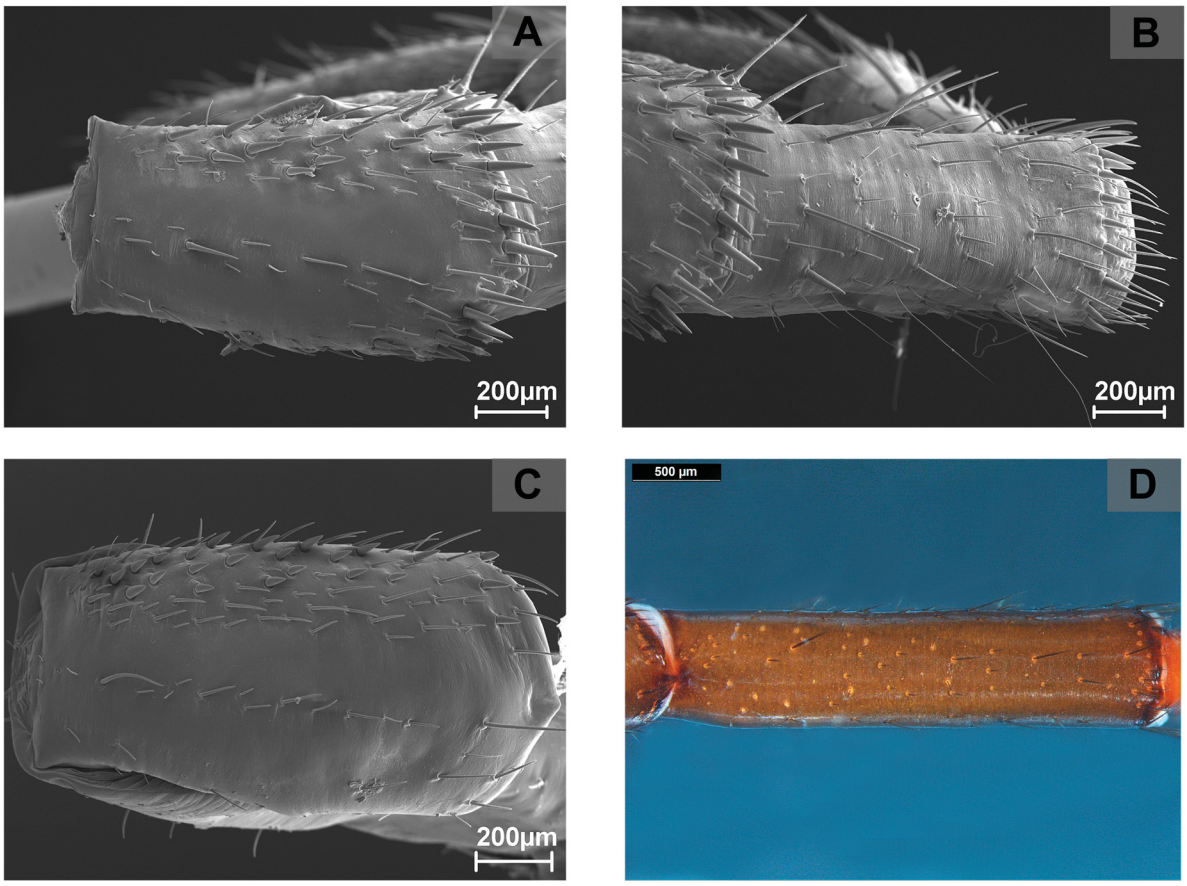
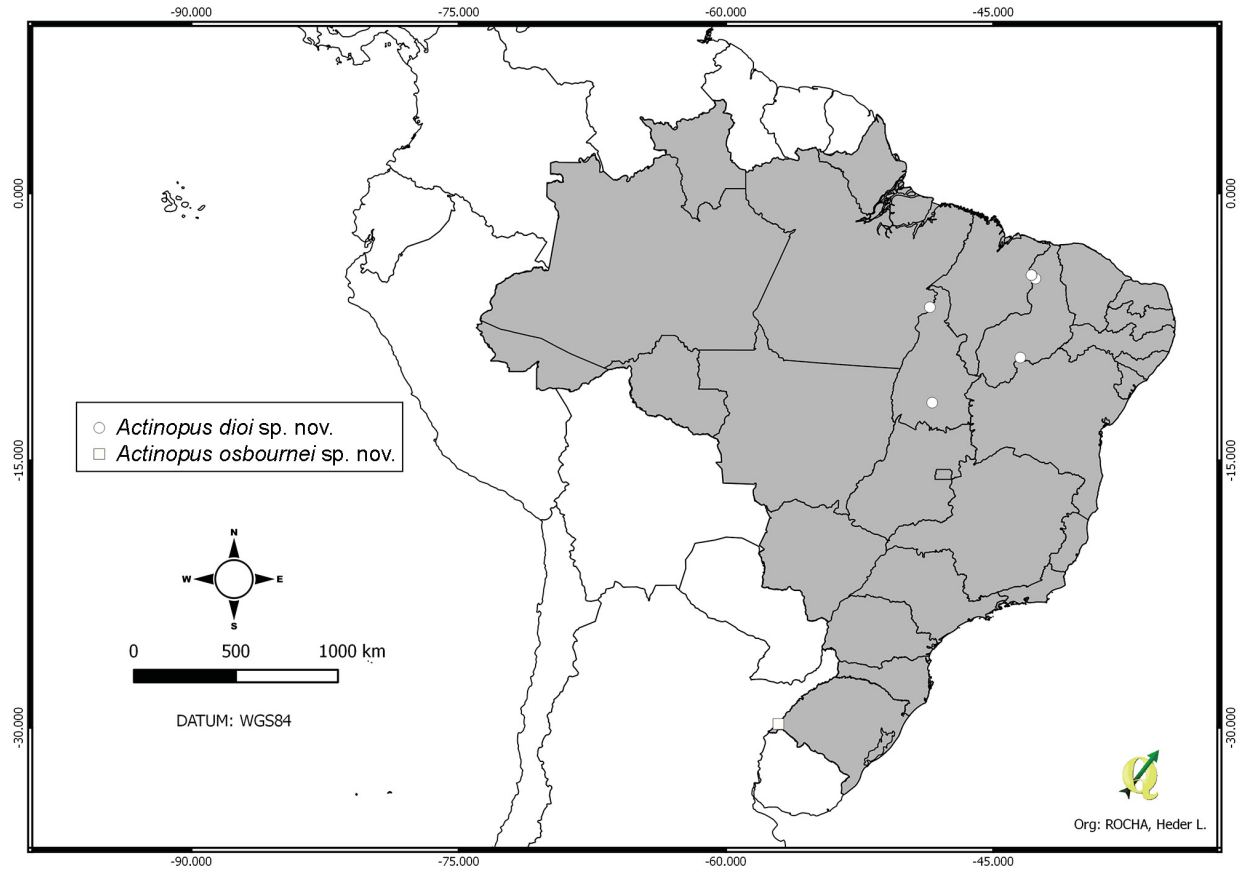


FIGURE 134. *Actinopus osbournei* sp. nov., male: A–D MCTP 8859 (Automontage photos) and MCTP 8850 (SEM Images): A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.



MAP 7. Distribution map of *Actinopus dioi* sp. nov. and *Actinopus osbournei* sp. nov.

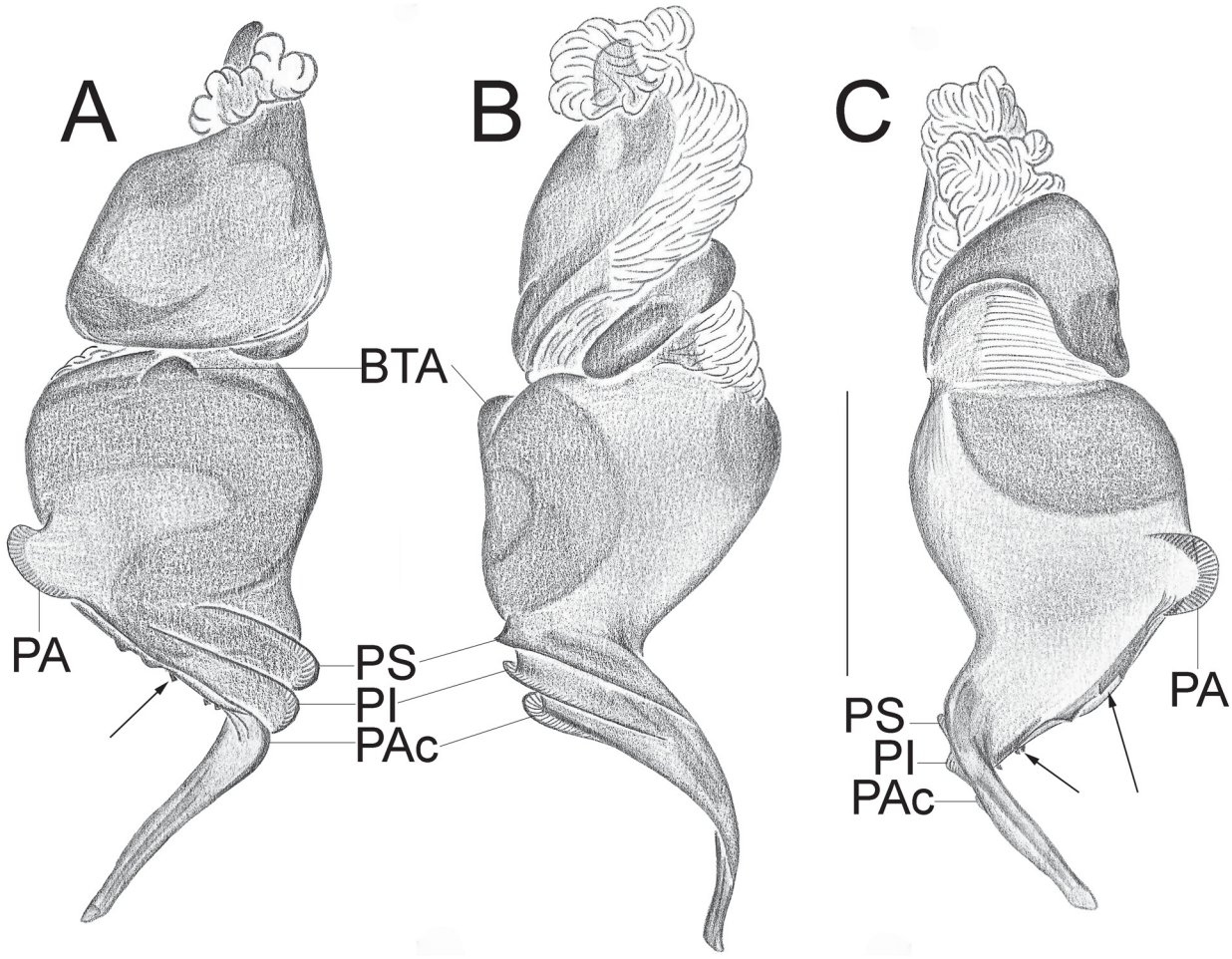


FIGURE 135. *Actinopus osbournei* sp. nov., male: A–C MCTP 8859: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated area. Scale line: 1 mm.

Diagnosis. Males of *A. osbournei* differs from those of *A. dioi* (Fig. 115 A–C) by PA developed; tegulum shorter; cusps of serrated area present below PAc; and thinner embolus (Fig. 135 A–C).

MALE (MCTP 8859): Total length 6.83; Carapace, long 3.5; wide 3.25. Carapace rounded. Anterior eye row slightly procurved, posterior row recurved (Fig. 133 B). With few weak short bristles between AME-clypeus, between ALE–ALP, between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla converging to the middle, but separated, two basal sigilla bigger and more fused than others (Fig. 133 C). Rastellum protuberant, digitiform, hirsute, with spines apically (Fig. 133 E–F). Chelicerae with nine denticles along prolateral row of teeth. Prolateral row with five megateeth and one basal tooth. Retrolateral row with five megateeth and three denticles, two between the three basal and two basal megateeth and one between the two basal megateeth (Fig. 133 D). Patella and tibia III with distal crown of well-developed thorns, not interrupted in middle (Fig. 134 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 134 A, C). Tibia IV without spines on dorsal surface (Fig. 134 D). Ventral pseudoscopulae occupying 50% of tarsus I, 80% of II and 90% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae and tibiae yellowish brown; Metatarsi and tarsi yellowish brown, paler than other articles; Abdomen gray with small spots of unpigmentation on dorsal surface (Fig. 133 A). **Eyes: Diameters:** PME 0.16, PLE 0.16, ALE 0.28, AME 0.12; MOQ: Length 0.59, front width 1.62, back width 0.5; **Interdistances:** PME–PME 0.84, PLE–PME 0.09, AME–AME 0.16, ALE–AME 0.44, ALE–PLE 0.28, AME–PME 0.28. **Ocular area:** OAL 2.2, OAW 2, and IF 1.6. **Body:** Clypeus: 0.17; Fovea: 1.33; Labium: long 0.75; wide 0.67; Chelicerae: long 1.25; wide 0.83; Sternum: long 2.33; wide 2. Abdomen: long 3.33; wide 2.58. **Leg**

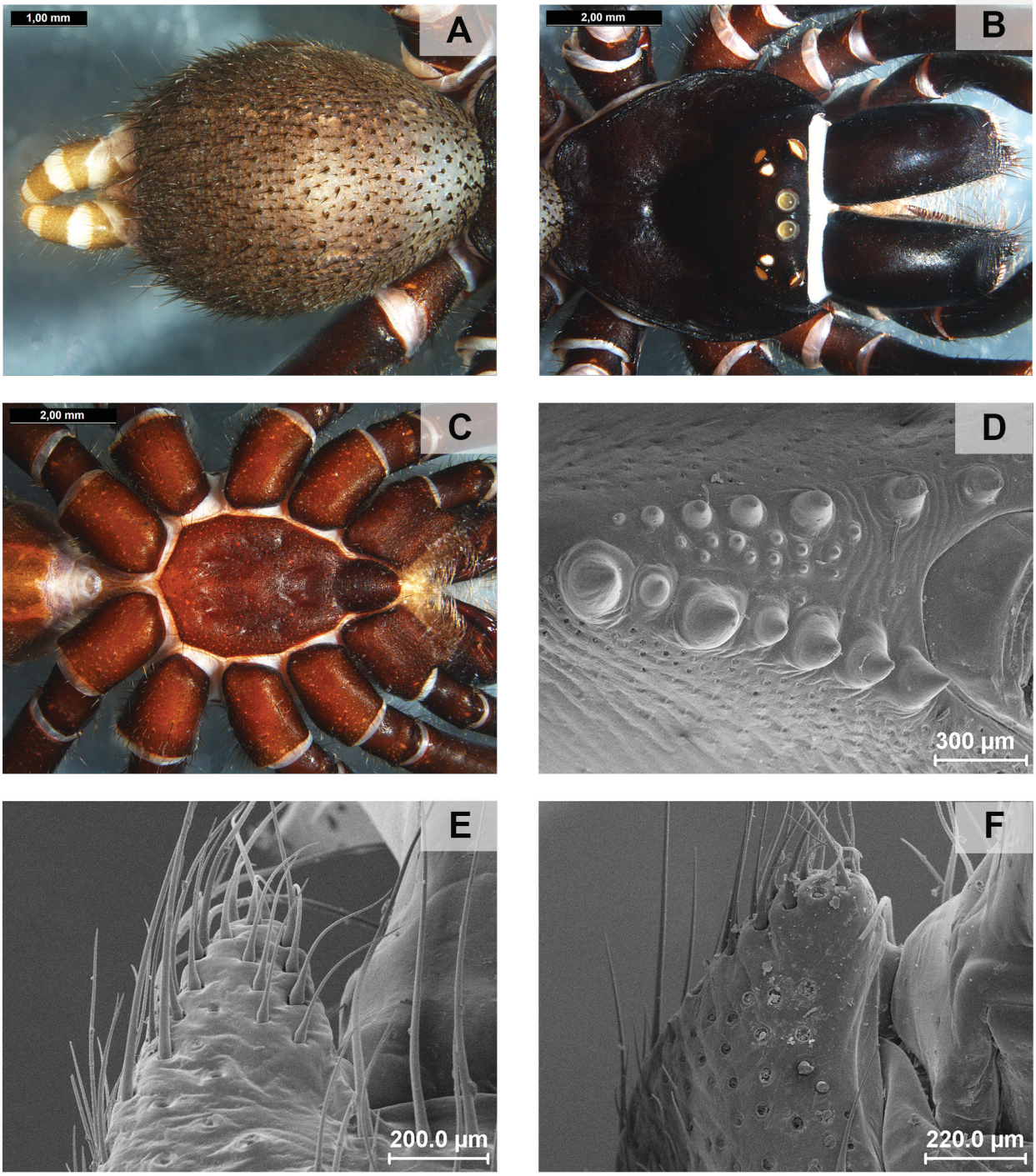


FIGURE 136. *Actinopus dioi* sp. nov., male: A–F MPEG (Automontage photos) and MPEG (SEM Images): A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

measurements: I: Fe 3.58/ Pa 1.5/ Ti 2.08/ Me 2.58/ Ta 1.75/ total 11.5. II: 3.17/ 1.42/ 1.92/ 2.58/ 1.67/ 10.75. III: 2.58/ 1.5/ 1.5/ 2.58/ 1.83/ 10. IV: 3.5/ 1.67/ 2.75/ 2.5/ 2/ 12.42. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v2-2-7, d0, p0, r0-0-2; Me v4-7-8, d0, p0-3-2, r0; ta v1-2-3, d0, p1-1-3, r0. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v2-4-5, d0, p0, r0; Me v5-7-9, d0, p0, r0; ta v3-3-7, d0, p0-1-0, r0. III—Fe v0, d0, p0, r0; Pa v0, d4-8-19, p0-0-1, r0-0-1; ti v0, d1-0-12, p0-0-2, r0-1-3; Me v1-1-3, d0, p0-1-1, r0-1-3; ta v0, d0, p0, r0; IV—Fe v0, d0, p0, r0; Pa v0, d14-7-5, p0-0-1, r0; ti v0-0-2, d0, p0, r0-0-1; Me v2-1-3, d0, p0-1-1, r0-0-1; ta v0, d0, p0, r0. **Palp:** PA developed, embolus with three keels (PAc, PI and PS). BTA developed and placed medially on prolateral tegular surface; serrated area developed represented by many cusps below PAc in prolateral view; thin and elongated

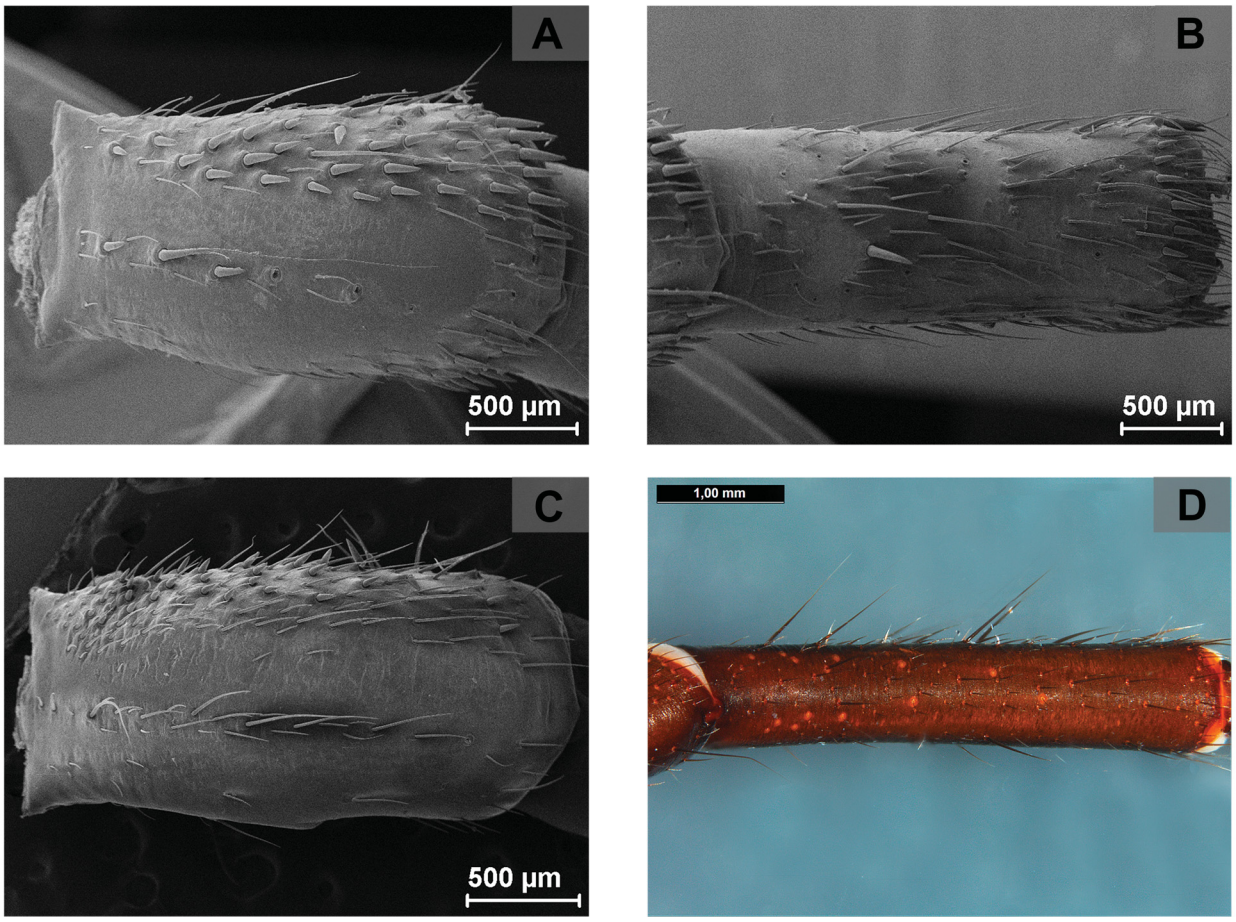


FIGURE 137. *Actinopus dioi* sp. nov., male: A–D MPEG (Automontage photos) and MPEG (SEM Images): A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

tegulum and thin embolar base. PS length on dorsal view reaching embolar edge (Fig. 135 A–C).

Distribution. BRAZIL. Rio Grande do Sul: Uruguaiana (Map 7).

Actinopus dioi sp. nov.

Figs 136–138, Map 7

Type material. Holotype male from [06° 23'36" S 48° 33' 41" W], Serra das Andorinhas, São Geraldo do Araguaia, Pará, Brazil, 27.X–07.xi.2011, T. C. S. Ávila-Pires, M. S. Hoogmoed & A. C. M. Dourado leg. (MPEG, 1♂ removed for SEM). **Paratypes:** BRAZIL. Piauí: José de Freitas, Fazenda Nazareth, Plot 1, 04º 47' 06.2" S 042º 38' 16.3" W, 1♂, 31.i.2004, V. O. Costa leg. (MPEG 2243, 2244); União, [04° 35' S 42° 51' W], Área da Empresa COMVAPI LTDA, 1♂ (MPEG). Tocantins: Ipueira, 11º 45' S 48º 26' W, 1♂, 28.x–04.xi.2001, I. Knyzak & R. Martins leg. (IBSP 111677, 111678, 111679, 111680, 111681).

Etymology. The specific name is in honor of musician Ronald James Padavona or Ronnie James Dio, one of Black Sabbath vocals, affiliated to several bands of heavy metal in addition to his solo career.

Diagnosis. Males of *A. dioi* differ from those of *A. osbournei* (Fig. 135 A–C) by the palpal tibia paler than other articles; PA inconspicuous; tegulum longer; cusps of serrated area present along length of embolus; embolus flattened (Fig. 138 A–C).

MALE (MPEG): Total length 9.5; Carapace, long 4.58; wide 4.66. Carapace anterior part tapering. Anterior eye row slightly procurved, posterior row recurved (Fig. 136 B). With one long bristle and many short/weak bristles forming a row on the border of clypeus. With few, short and weak bristles between ALE–ALP, between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla converging to the middle, but separated, two basal sigilla bigger and more fused than others (Fig. 136 C). Rastellum protuberant, digitiform, hirsute, without spines apically (Fig. 136 E–F). Chelicerae with 12 denticles along prolateral row of teeth. Prolateral

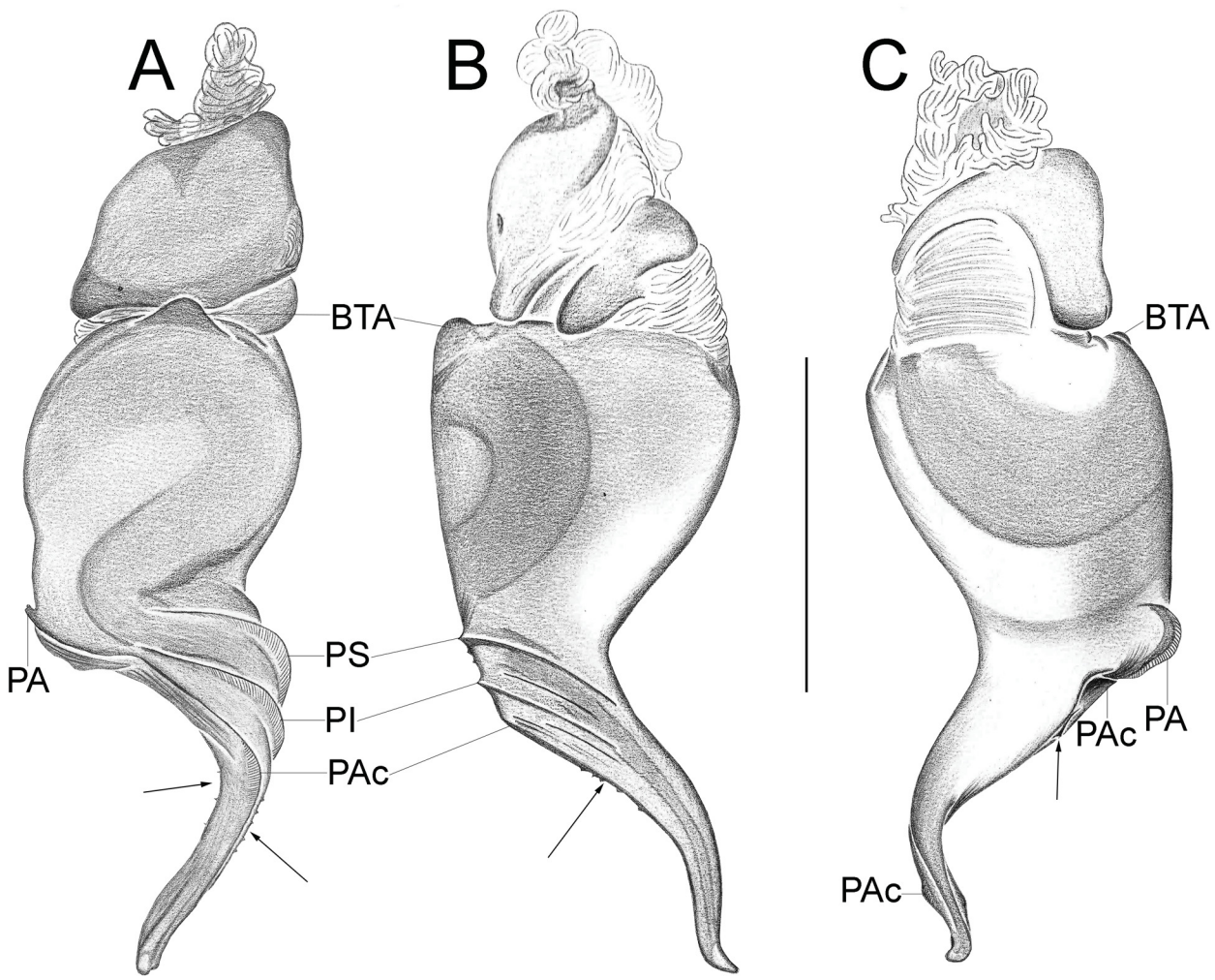


FIGURE 138. *Actinopus dioi* sp. nov., male: A–C MPEG: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated area. Scale line: 1 mm.

row with five megateeth and two teeth on basal portion. Retrolateral row with seven megateeth (Fig. 136 D). Patella and tibia III with distal crown of well-developed thorns, on patella III interrupted in middle and on tibia III not interrupted in middle (Fig. 137 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 137 A, C). Tibia IV without spines on dorsal surface and two rows of filiform trichobothria on dorsal surface (Fig. 137 D). Ventral pseudoscopulae occupying 50% of tarsus I, 70% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae and tibiae dark brown; Metatarsi and tarsi dark brown, paler than other articles; Abdomen gray (Fig. 136 A). **Eyes: Diameters:** PME 0.25, PLE 0.34, ALE 0.41, AME 0.31; MOQ: Length 0.87, front width 2.62, back width 2.31; **Interdistances:** PME–PME 1.41, PLE–PME 0.09, AME–AME 0.16, ALE–AME 0.69, ALE–PLE 0.37, AME–PME 0.41. **Ocular area:** OAL 3.67, OAW 2.67, and IF 2.42. **Body:** Clypeus: 0.17; Fovea: 2; Labium: long 1.08; wide 1; Chelicerae: long 2.92; wide 1.58; Sternum: long 3.33; wide 2.67. Abdomen: long 4.67; wide 3.67. **Leg measurements:** I: Fe 5/ Pa 2.25/ Ti 3.33/ Me 4.17/ Ta 2.42/ total 17.17. II: 4.83/ 2.08/ 3.25/ 4.25/ 2.42/ 16.83. III: 3.33/ 2.25/ 2.08/ 4.17/ 2.33/ 14.17. IV: 5.17/ 2.25/ 4.33/ 4.67/ 2.58/ 19. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v1-2-5, d0, p0-0-2, r0-0-1; Me v5-5-5, d0, p3-5-5, r4-5-5; ta v1-1-2, d0, p1-3-2, r2-3-4. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-6-8, d0, p0-0-1, r0-0-4; Me v3-6-6, d0, p1-4-5, r0-2-3; ta v1-1-6, d0, p3-3-2, r0-1-3. III—Fe v0, d0, p0, r0; Pa v0, d7-12-21, p0-0-1, r0-0-2; ti v0-0-3, d0-1-16, p0-0-2, r0-1-5; Me v3-3-3, d0-1-3, p4-4-3, r3-3-6; ta v0-0-4, d0, p1-2-3, r1-3-2; IV—Fe v0, d0, p0, r0; Pa

v0, d17-9-2, p0, r0; ti v0, d0, p0, r0-0-1; Me v0-0-2, d0-0-1, p0-0-1, r0-0-1; ta v0-3-1, d0, p0-0-4, r1-1-1. **Palp:** PA developed, embolus with three keels (PAc, PI and PS). BTA developed and placed medially on prolateral tegular surface; serrated area developed, represented by many cusps below PAc in prolateral view; thin and elongated tegulum, thin embolar base. PS reaching the embolar edge on dorsal view (Fig. 138 A–C).

Distribution. BRAZIL. Piauí: José de Freitas, União, Caracol; tocantins: Ipueira; and Pará: São Geraldo do Araguaia (Map 7).

Examined material. BRAZIL. Piauí: União, [04° 35' S 42° 51' W], Área da Empresa COMVAPI LTDA, 2♂, 2006, J. Queiroz leg. (CHNUFPI 29); Caracol, Parque Nacional da Serra das Confusões, PPBio Semiárido, 09° 13' 16" S 43° 29' 21" W, 1♂, x.2006, P. R. R. Silva *et al.* leg. (CHNUFPI 6, 25, 194).

Actinopus patagonia Ríos-Tamayo & Goloboff, 2018

Actinopus patagonia Ríos-Tamayo & Goloboff, 2018: 59, fig. 29 A–H, 30 A–E, 45 (holotype ♂, [38º 48' S 62º 57' W], Salina Las Barrancas, Buenos Aires, Argentina, iv.1960, MACN-Ar 27097; paratype ♀, [42º 28' S 63º 37' W], Caleta Valdés (Península de Valdés), Isla de los Guanacos, Buenos Aires, Argentina, xii.1981, P. Domíngues and P. Goloboff, MACN-Ar 27100; not examined); World Spider Catalog, 2020.

Diagnosis. Males of *A. patagonia* (Ríos-Tamayo & Goloboff, 2018, fig. 29 A–H) resembles *A. osbournei* (Fig. 133 C), *A. dioi* (Fig. 136 C) and all species of group *goloboffi* (Ríos, 2014, figs 1–12; Ríos-Tamayo & Goloboff, 2018, fig 38 A–G, 39 A–H, 40 A–D) by two basal and two proximal sigilla merged on the middle of portions basal and proximal of sternum. They differ from those of group *goloboffi* by absence of central depression on the middle of sternum. They resemble those of the two species of group *goloboffi* (Fig. 135 A–C, Fig. 138 A–C) by the position of BTA on the tegulum and three keels in prolateral view of the tegulum. Differs from *A. osbournei* and *A. dioi* by wider embolus and PA developed; differs from *A. dioi* by elongated shape of the copulatory bulb. The females differs from *A. gerschiapelliarum* (Ríos-Tamayo & Goloboff, 2018, fig. 19 C–D) by a smaller constriction below external lobes on each receptacle and by presence of pores on all the length of receptacles.

Description. See Ríos-Tamayo & Goloboff (2018: 59).

Distribution. ARGENTINA: Buenos Aires. URUGUAY: Rocha.

Group *tutu*

Diagnosis. The species in the group *tutu* are recognized by the small total length; embolus with three keels; serrated area on prolateral embolus small or, when large, represented by sparse small denticles; patterns of coloration on legs and palp, when present, inconspicuous.

Species included. *Actinopus tutu* sp. nov.; *Actinopus azaghal* n. sp; *Actinopus itacolomi* sp. nov.; *Actinopus longipalpis* C. L. Koch, 1842; *Actinopus pindapoy* sp. nov., *A. argenteus* Ríos-Tamayo & Goloboff, 2018; *A. pampa* Ríos-Tamayo & Goloboff, 2018; *Actinopus ariasi* Ríos-Tamayo & Goloboff, 2018; *Actinopus cordobensis* Ríos-Tamayo & Goloboff, 2018; and *Actinopus coylei* Ríos-Tamayo & Goloboff, 2018.

Actinopus tutu sp. nov.

Figs 139–143, Map 8

Type material. Holotype male from [19° 37' 44.67" S 43° 58' 57.98" W], Lagoa Santa, Minas Gerais, Brazil, 02.x.2000, M. Rodrigues leg. (UFMG 585). **Paratypes:** BRAZIL. Minas Gerais: Itacarambi, Parque Nacional Cavernas do Peruaçu, 15° 9' 9" S 44° 14' 30" W, 1♂, 17–22.x.2010, G. F. B. P. Ferreira leg. (UFMG 9316); são Gonçalo do Rio Preto, Parque Estadual do Rio Preto (PERP), [18° 9' 15"S 43° 20' 50"W], 1♂, 20–25.x.2010, G. Monteiro, F. Sá, W. F. Silva & J. P. L. Guadanucci leg. (CAD 265); Diamantina, Bairro São Pedro, área de camping, 18º 14' 6.2" S 43º 36' 14.6" W, 1♂, 14–16.x.2012, U. Oliveira *et al.* leg. (UFMG 13835); Ibiá, 19° 28' 44" S 46° 32' 21" W, 8♂, 11.x.2011, P. H. Martins leg. (UFMG 11333); santana do Riacho, Parque Nacional da Serra do Cipó, 19° 37' 0" S 43° 21' 0" W, 1♂, 19–20.ix.2009, B. T. Faleiro leg. (UFMG 3376); Confins, Aeroporto Internacional Trancredo Neves, 19º 37' 59" S 43º 58' 6" W, 1♂, 19.ix.2014, C. V. Nascimento (UFMG 15902); lagoa Santa, Condomínio Vivendas, 19º 38' 39"S 43º 54' 36"W, 1♂, 14.ix.2013, I. L. F. Magalhães leg. (UFMG 18862); santa Luzia, [19° 46' 01.93" S 43° 51' 08.56" W], 3♂, 09.x.2004 (UFMG 1729); Belo Horizonte, Bairro Braúnas, [19° 50' 44° 0' S 19° 50' S 44° 0' W], 1♂, 18.ix.2008, M. Loureiro leg. (UFMG 5813, removed for SEM); Parque Ecológico da Lagoa do Nado, [19° 50' 7" S 43° 57' 34" W], 1♂, 06.x.2004, M. De Maria *et al*. leg. (UFMG 1301); 19° 52' 0" S 43° 58' 0" W, Estação Ecológica da Universidade Federal de Minas Gerais (UFMG), 1♂, 28.viii.2000, E. S. S. Álvares leg. (UFMG 591); x.2000, E. S. S. Álvares leg. (IBSP 110735); 22.v.2010, I. L. F. Magalhães *et al*. leg. (UFMG 7543); 24.iv.2009, I. L. F. Magalhães *et al*. leg. (UFMG 3419); Reserva da Universidade Federal de Minas Gerais, Campus da Pampulha, 1♂, viii.2000,

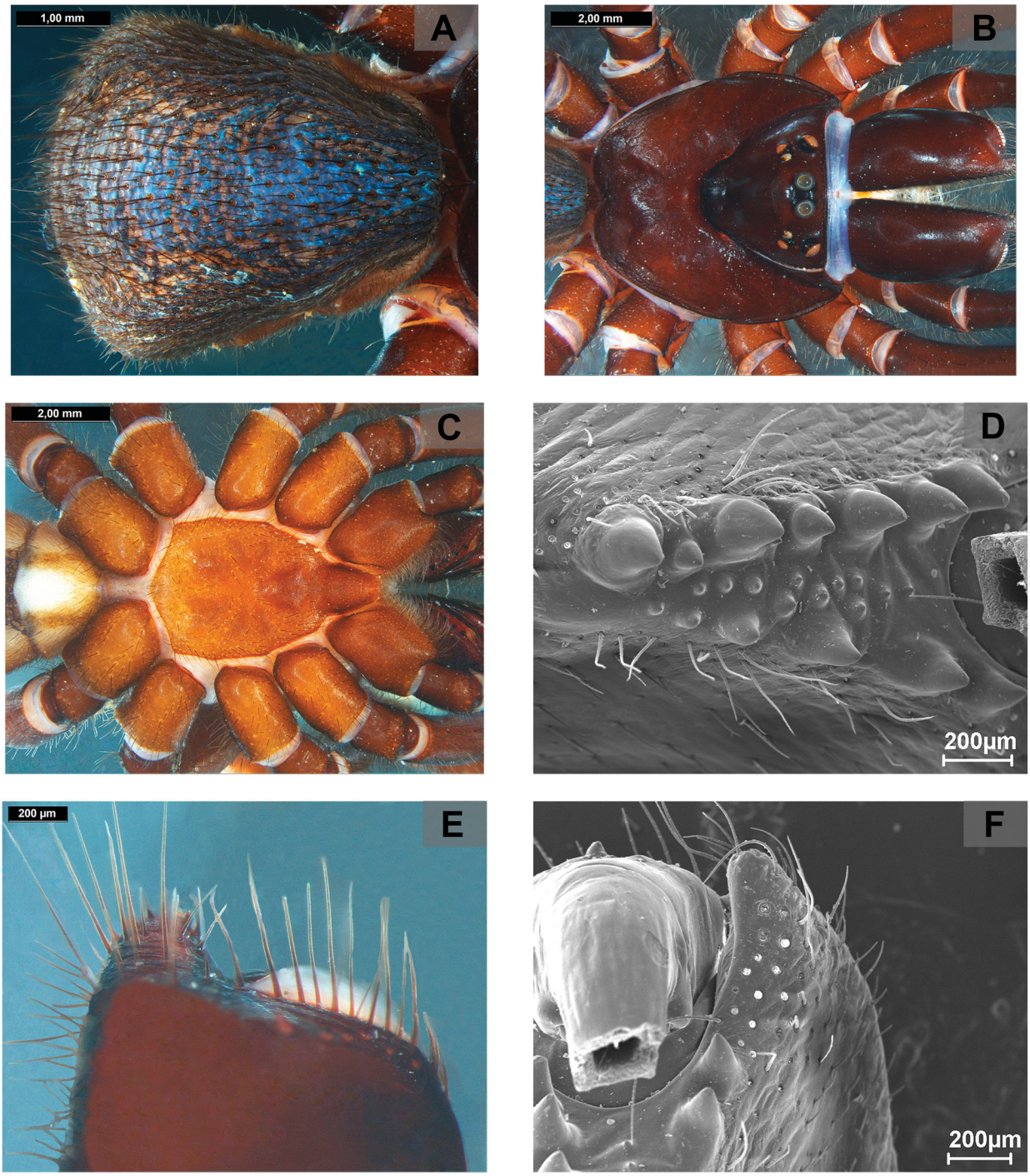


FIGURE 139. *Actinopus tutu* sp. nov., male: A–F UFMG 585 (Automontage photos) and IBSP 110494 (SEM Images): A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

E. S. S. Álvares leg. (IBSP 114450); C. S. Azevedo, E. P. Machado, E. S. S. Álvares & M. Maria leg. (IBSP 110734); ix.2003, E. S. S. Álvares leg. (IBSP 114443, 114444); Campus da Universidade Federal de Minas Gerais (UFMG), 1♂, x.1994 (UFMG 580), 1°.x.2003, E. O. Machado leg. (UFMG 1627); 30.ix.2005, C. Leal & M. Bertelli leg. (UFMG 1611); 22.ix.2009 (UFMG 3960); 2♂, 22.ix.2009, I. L. F. Magalhães (UFMG 3958); Instituto de Ciências Biológicas (ICB), Campus da Universidade Federal de Minas Gerais (UFMG), 1♂, vii.1999 (UFMG 586); ix.1999 (UFMG 577); 11.x.1999, E. S. S. Álvares leg. (UFMG 588); 02.x.2000, A. H. Wieloch leg. (UFMG 582); 04.x.2001, L. C. Parreira leg. (UFMG 8795); 16.x.2006, G. H. F. Azevedo leg. (UFMG 6287); Creche, 1♂, 14.vii.1999 (UFMG 587); Faculdade de Educação, 1♂, 15.ix.2015, R. B. Oliveira Filho leg.

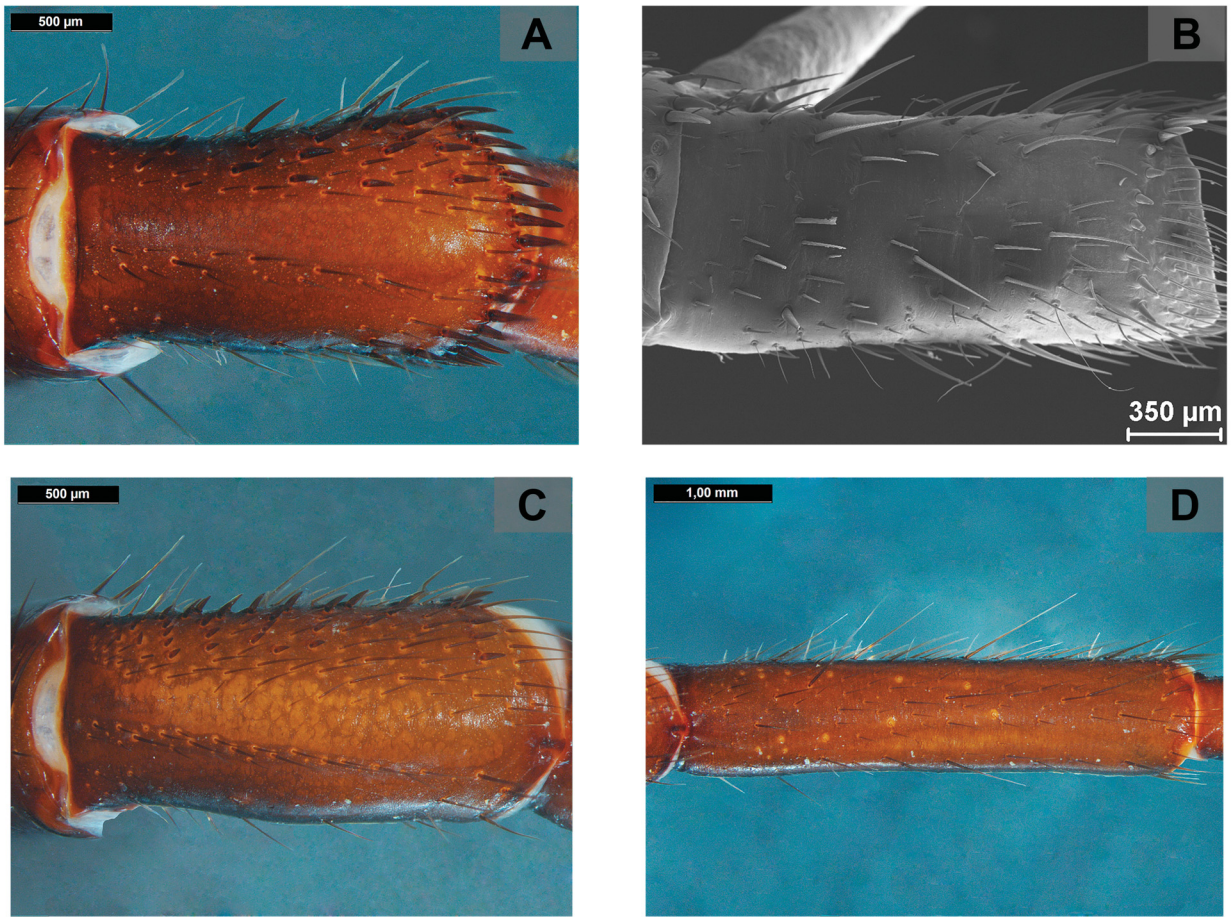


FIGURE 140. *Actinopus tutu* sp. nov., male: A–D UFMG 585 (Automontage photos) and IBSP 110494 (SEM Images): A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

(UFMG 18867); Bairro Álvaro Camargos, 19º 54' 51" S 44º 0' 27" W, 1♂, 28.ix.2016, L. O. Marques leg. (UFMG 20085); Bairro Bom Retiro, Betim, [19° 56' 02.71" S 44° 11' 38.30" W], 3♂, 10.vii.2000, J. A. N. Nogueira leg. (UFMG 592); Contagem, Condomínio Estância do Hibisco, 19º 54' 27.06" S 44º 5' 40.58" W, 1♂, 25.x.2015, R. B. Oliveira Filho leg. (UFMG 19375); 28.iv.2013, P. H. Martins leg. (UFMG 13654); Contagem, 19° 56' 36" S 44° 3' 22" W, 2♂, 29.ix.2010, C. F. Beneves leg. (UFMG 6340); Jardim Zoológico, [19º 56' 51.87" S 43º 59' 57.85" W], 1♂, 29.viii.2000, C. S. Azevedo (UFMG 584); Nova Lima, Reserva Particular do Patrimônio Natural Mata Samuel de Paula, 20° 0' S 43° 52' W, 1♂, 12.x.2006, J. P. P. Pena-Barbosa *et al*. leg. (UFMG 5647); Ouro Preto, Engenheiro Correia, 20º 22' 16.47" S 43º 46' 46.51" W, 8♂, 6.ix.2015, A. Vilarinho leg. (UFMG 18855); Estação Ecológica Tripuí, [20° 23' 45" S 43° 34' 33" W], 1♂, 2001, H. Guimarães (IBSP 114445, 114448). Espírito Santo: São Mateus, Linhares, [19° 23' 20.60" S 40° 3' 50.82" W], 1♀, i.1998, A. D. Brescovit *et al*. leg. (IBSP 110494). Mato Grosso do Sul: Três Lagoas, Horto Barra da Moeda, 21° 1' 26" S 51° 48' 48" W, 1♂, 17.v.2009, M. Uehara-Prado leg. (UFMG 3207); 3♂, 17.v.2009, M. Uehara-Prado leg. (UFMG 3208). São Paulo: Ubatuba, [23° 26' S 45° 05' W], 1♂, 17.i.1961, M. M. Silva leg. (MZSP 22118).

Etymology. The specific name refers to a tipical dish from the State of Minas Gerais, tutu à mineira.

Diagnosis. Males of *Actinopus tutu* resemble those of *A. longipalpis* (Fig. 156 A–C), *A. azaghal* (Fig. 148 A–C) and *A. itacolomi* (Fig. 153 A–C) by the presence of three keels in prolateral view of embolus, small total length and inconspicuous patterns of coloration on legs and palp, when present. They resemble those of *A. pindapoy* (Fig. 159 A–C) and *A. azaghal* by PA continuous to PI. They resemble those of *A. azaghal* by a small-serrated area present only in the proximal part of embolus. They differ from those of *A. itacolomi* by the thinner embolus and absence of a tegular swelling above PA. Females of *A. tutu* resemble those of other species of *Actinopus*, as *A. trinotatus* (Fig. 220 A), *A. wallacei* (Fig. 225 A) and *A. pampulha* (Fig. 49 D) by the presence of two receptacles,

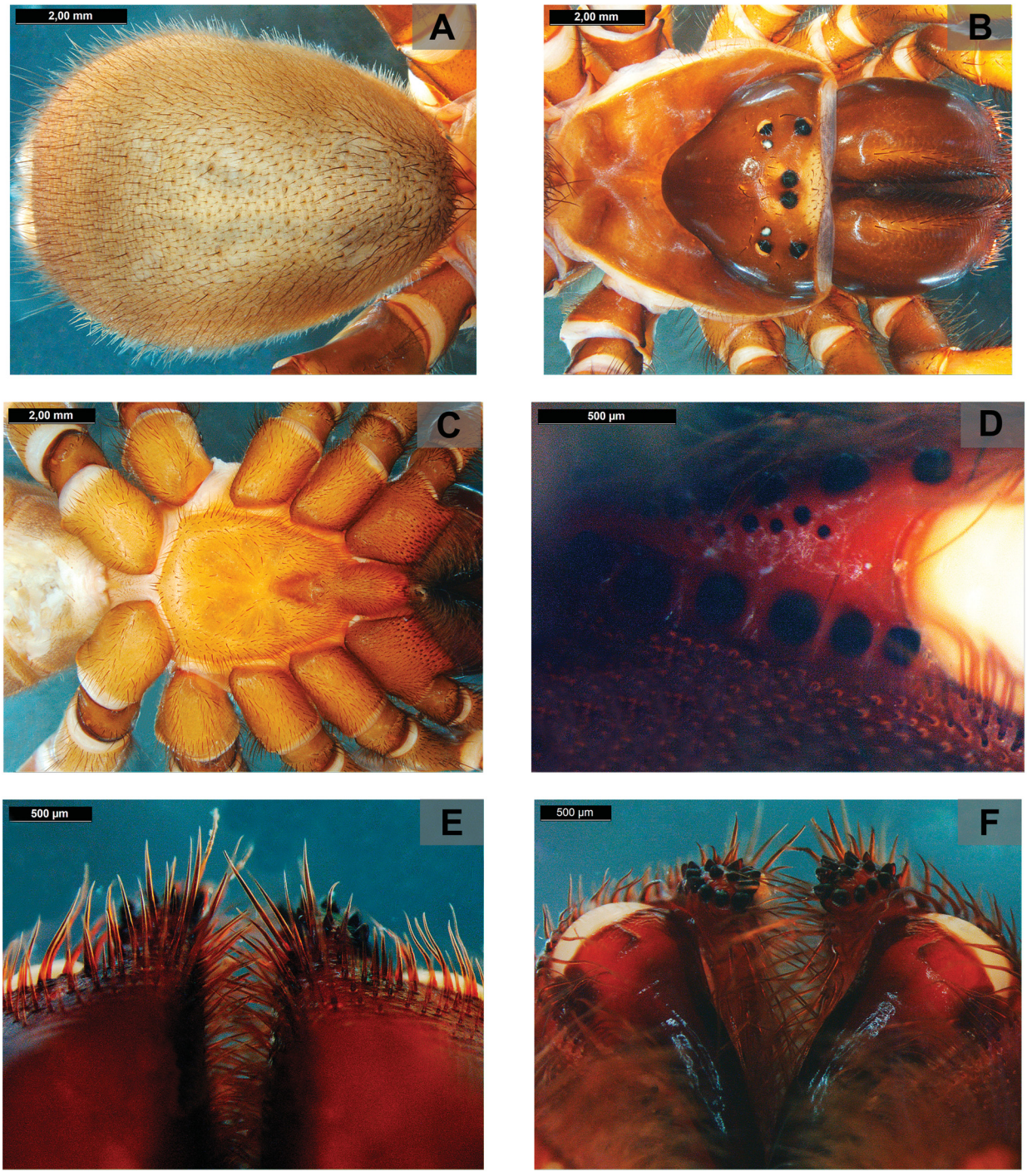


FIGURE 141. *Actinopus tutu* sp. nov., female: A–F UFMG 5647: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

with two or three lobes. They differ from those of *A. pampulha* and *A. wallacei* by the presence of lateral swelling on each receptacle and from *A. pampulha* and *A. trinotatus* by a pore distribution that reaches 75% on each receptacle.

MALE (UFMG 585): Total length 9.62; Carapace, long 5.12; wide 4.87. Carapace anterior part tapering. Anterior eye row slightly procurved, posterior row recurved (Fig. 139 B). With a row of short and weak bristles on border of clypeus. With few bristles between ALE–ALP, between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 139 C). Rastellum protuberant, inverted V-shaped, hirsute,

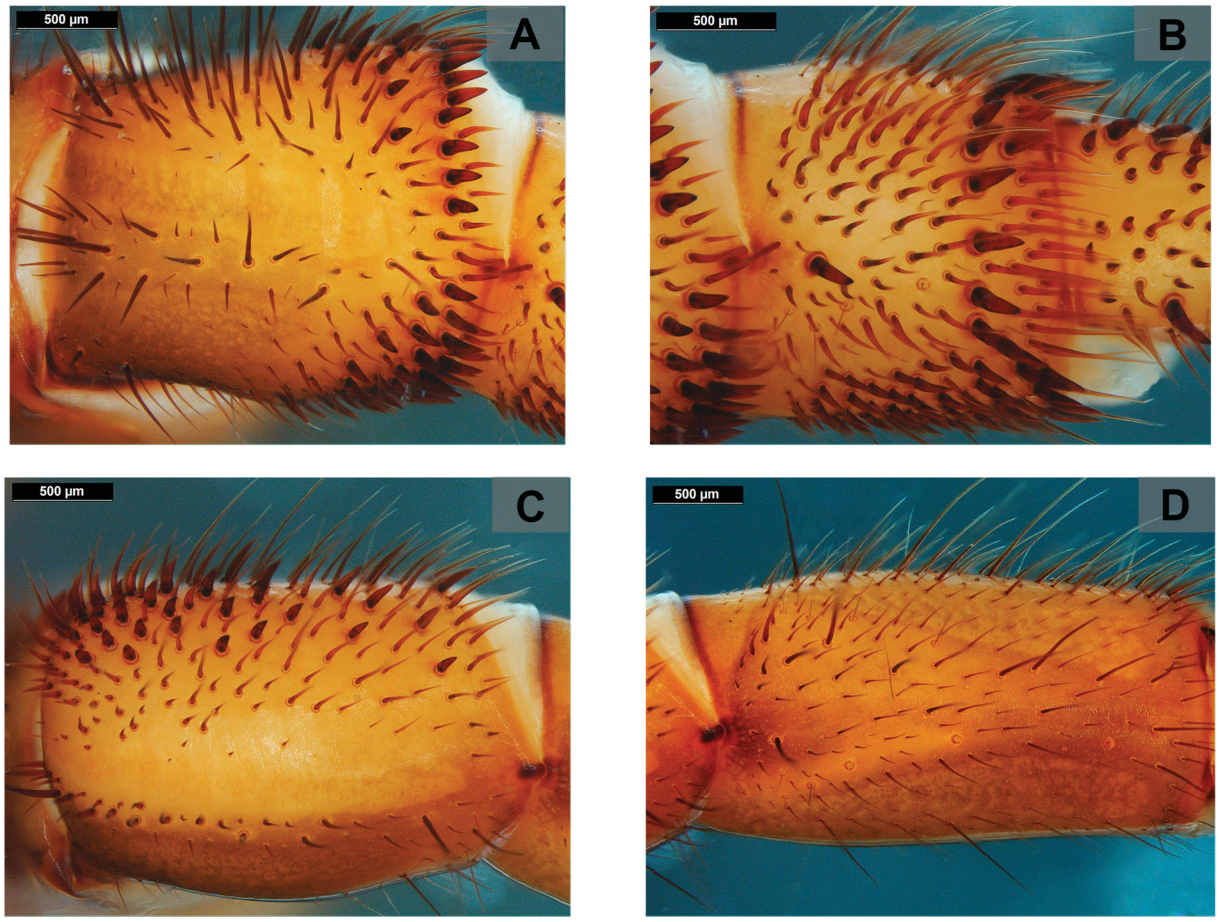


FIGURE 142. *Actinopus tutu* sp. nov., female: A–D UFMG 5647: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

without spines apically (Fig. 139 E–F). Chelicerae with 12 denticles along prolateral row of teeth. Prolateral row with five megateeth and one basal tooth. Retrolateral row with seven megateeth (Fig. 139 D). Patella and tibia III with distal crown of well-developed thorns, on patella III interrupted in middle and on tibia III not interrupted in middle (Fig. 140 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 140 A, C). Tibia IV without spines on dorsal surface with two visible rows of filiforms trichobothria (Fig. 140 D). Ventral pseudoscopulae occupying 10% of tarsus I, 30% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish brown; tibia of palp orangish brown, paler than other articles; Abdomen pale gray with a bluish spots on dorsal surface (Fig. 139 A). **Eyes: Diameters:** PME 0.2, PLE 0.28, ALE 0.4, AME 0.28; MOQ: Length 0.88, front width 2.48, back width 1.32; **Interdistances:** PME–PME 1.4, PLE–PME 0.08, AME–AME 0.24, ALE–AME 0.64, ALE–PLE 0.36, AME–PME 0.4. **Ocular area:** OAL 3.12, OAW 2.87, and IF 1.45. **Body:** Clypeus: 0.19; Fovea: 1.87; Labium: long 1.25; wide 1; Chelicerae: long 2.62; wide 1.5; Sternum: long 2.87; wide 3. Abdomen: long 3.87; wide 3.5. **Leg measurements:** I: Fe 5.5/ Pa 2.25/ Ti 3.25/ Me 3.87/ Ta 2.12/ total 17. II: 5.12/ 2.12/ 3/ 3.87/ 2.25/ 16.37. III: 3.75/ 2.25/ 2.25/ 3.87/ 2.5/ 14.62. IV: 5.37/ 2.5/ 4.25/ 4.25/ 2.62/ 19. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v1-3-3, d0, p0-0-3, r1-3-3; Me v2-3-4, d0, p4-3-4, r4-3-3; ta v1-2-4, d0, p2-2-3, r0-0-3. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-7-4, d0, p0-0-2, r2-4-6; Me v3-5-4, d0, p1-3-5, r2-4-3; ta v1-3-4, d0, p2-3-4, r0-0-1. III—Fe v0, d0, p0, r0; Pa v0, d3-10-17, p0-1-1, r0-0-3; ti v0-2-3, d1-0-15, p0-1-1, r0-3-7; Me v0-4-5, d4-1-3, p0-3-3, r0-4-6; ta v0, d0, p0-3-3, r0-0-3; IV—Fe v0, d0, p0, r0; Pa v0, d16-9-10, p0, r0; ti v1-3-3, d0, p0, r0; Me v3-3-4, d0-0-1, p1-2-2, r0-0-2; ta v0, d0, p0-2-0, r0-0-3. **Palp:** PA well developed. Embolus with three keels (PAc, PI and PS). BTA developed, in the middle of tegulum prolateral surface; Prolateral tegulum with cusps next to base of next to base of embolus and one

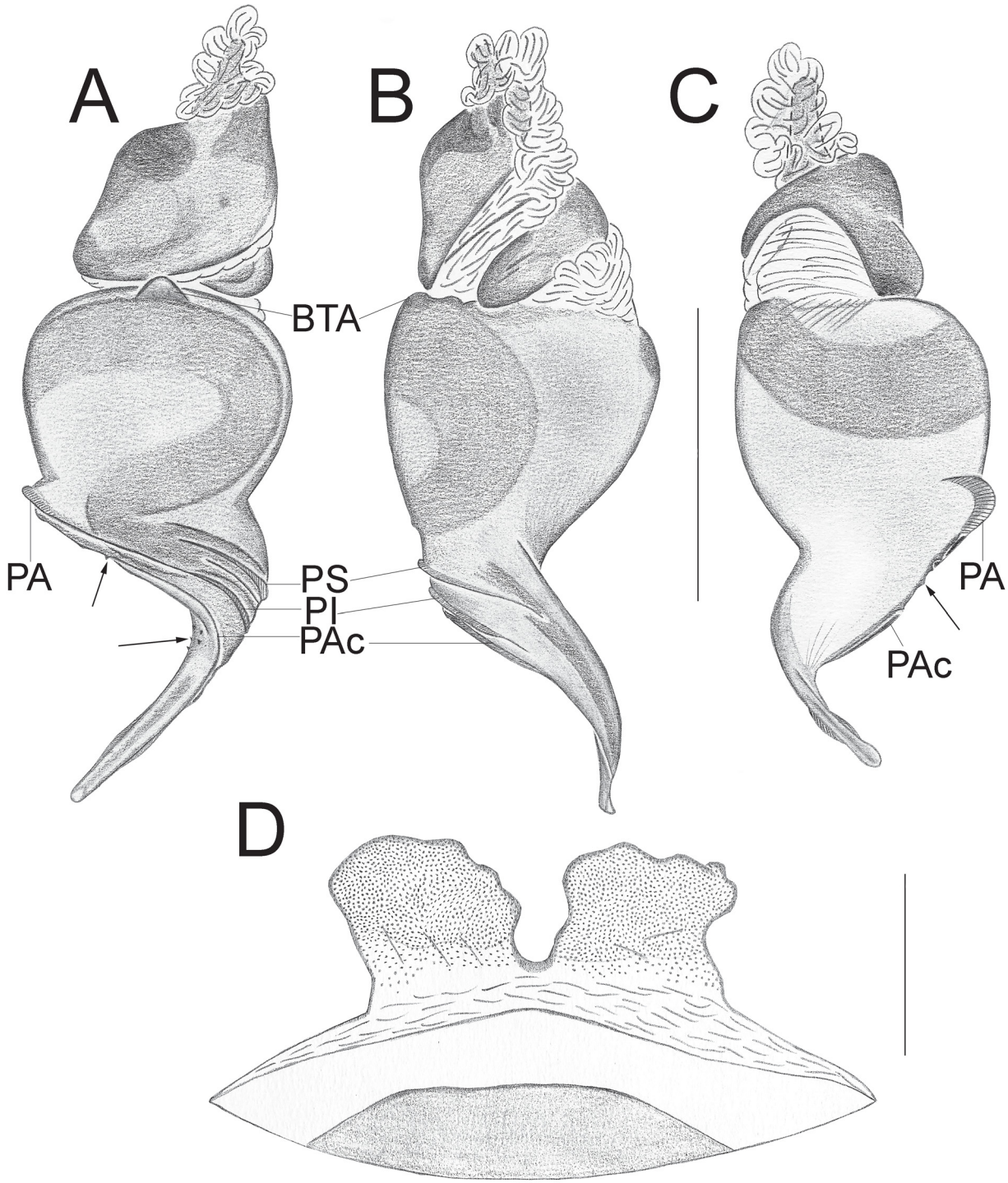
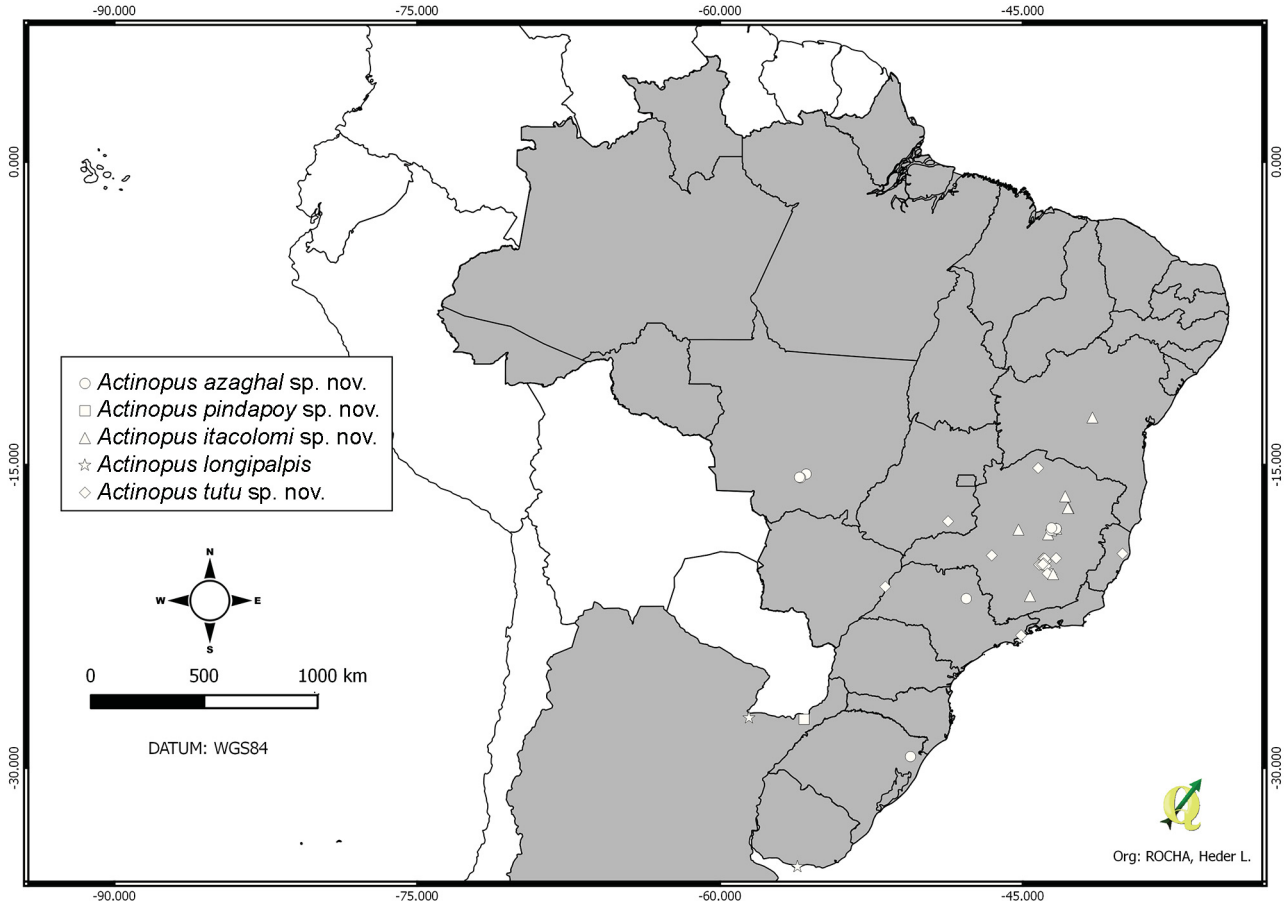


FIGURE 143. *Actinopus tutu* sp. nov., male: A–C UFMG 585: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA**-Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated area. Paratype, female: D UFMG 5647: D. Spermathecae, dorsal view. Scale line: 1 mm.

cusp in middle of width of tegular base; PA continuous to PI; Embolar bases thinner (Fig. 143 A–C).

FEMALE (UFMG 5647): Total length 14.75; Carapace, long 6.37; wide 5.62. Carapace anterior part square and posterior part triangular. Anterior eye row procurved, posterior row slightly recurved (Fig. 141 B). Many short and long bristles between AME-clypeus, one long bristle between PLE–ALE, short and long bristles between posterior eyes-fovea and short bristles between lateral eyes-edge of carapace. Sternum with eight sigilla



MAP 8. Distribution map of *Actinopus pindapoy* sp. nov., *Actinopus longipalpis* C. L. Koch, 1842, *Actinopus itacolomi* sp. nov., *Actinopus azaghal* sp. nov. and *Actinopus tutu* sp. nov.

fused medially, two distal sigilla more fused to each other than others (Fig. 141 C). Rastellum protuberant, subquadrate, hirsute, with a row of short spines on the edge of rastellum and o lot of short spines covering the dorsal rastellum (Fig. 141 E–F). Chelicerae with six denticles along prolateral row of teeth. Prolateral row with five megateeth and one tooth, basal to megateeth. Retrolateral row with six megateeth (Fig. 141 D). Patella III with distal interrupted crown of thorns and tibiae III with distal developed crown of thorns (Fig. 142 A–B). Patella IV with prolaterodorsal short spines along extension of article (Fig. 142 C). Tibia IV without spines and with long bristles on prolaterodorsal surface (Fig. 142 D). Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi, tarsi and palp yellowish brown; Abdomen pale brown (Fig. 141 A). 10 labial cuspules, 77 on right maxilla and 82 on left. **Eyes: Diameters:** PME 0.2, PLE 0.36, ALE 0.4, AME 0.12; MOQ: Length 1.16, front width 3.08, back width 2.92; **Interdistances:** PME–PME 1.72, PLE–PME 0.2, AME–AME 0.36, ALE–AME 0.84, ALE–PLE 0.64, AME–PME 0.68. **Ocular area:** OAL 4.87, OAW 3.87, and IF 4.75. **Body:** Clypeus: 0.5; Fovea: 2.75; Labium: long 1.37; wide 1.25; Chelicerae: long 3.12; wide 2.12; Sternum: long 4; wide 3.37. Abdomen: long 7.87; wide 5.75. **Leg measurements:** I: Fe 3.37/ Pa 2.25/ Ti 1.5/ Me 1.87/ Ta 1.12/ total 10.12. II: 3.37/ 2.25/ 1.5/ 2.12/ 1/ 10.25. III: 3.25/ 2.5/ 1/ 2.25/ 1.12/ 10.12. IV: 4.37/ 2.5/ 2.5/ 2.62/ 1/ 13. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-1-2, d0, p0-1-4, r3-1-2; Me v2-2-2, d0, p4-6-5, r2-8-7; ta v1-2-4, d0, p3-4-2, r4-4-2. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-6-5, d0, p0, r3-8-2; Me v0-2-3, d0, p3-7-4, r1-11-6; ta v2-2-5, d0, p4-4-2, r4-2-4. III—Fe v0, d0, p0, r0; Pa v0, d0-0-24, p0-0-4, r0-3-6; ti v0, d1-0-17, p0-0-2, r4-9-5; Me v0-0-3, d2-6-4, p4-0-0, r0-3-7; ta v13-11-10, d0-4-4, p0-4-5, r2-5-3; IV—Fe v0, d0, p0, r0; Pa v0, d12-9-0, p0, r0; ti v0, d0, p0, r0; Me v0-0-2, d0-0-1, p0-1-1, r0; ta v1-4-12, d0-0-2, p0-5-6, r0-0-2. **Spermathecae:** Represented by two seminal receptacles weakly fused to base, as long as wide, with short duct. Receptacle with two or three irregular lobes with similar length. Pore distribution reaching 75% length in each receptacle; receptacles base without pores. Lateral swelling absent (Fig. 143 D).

Distribution. BRAZIL. Minas Gerais: Lagoa Santa, Itacarambi, Ibiá, Santana do Riacho, Santa Luzia,

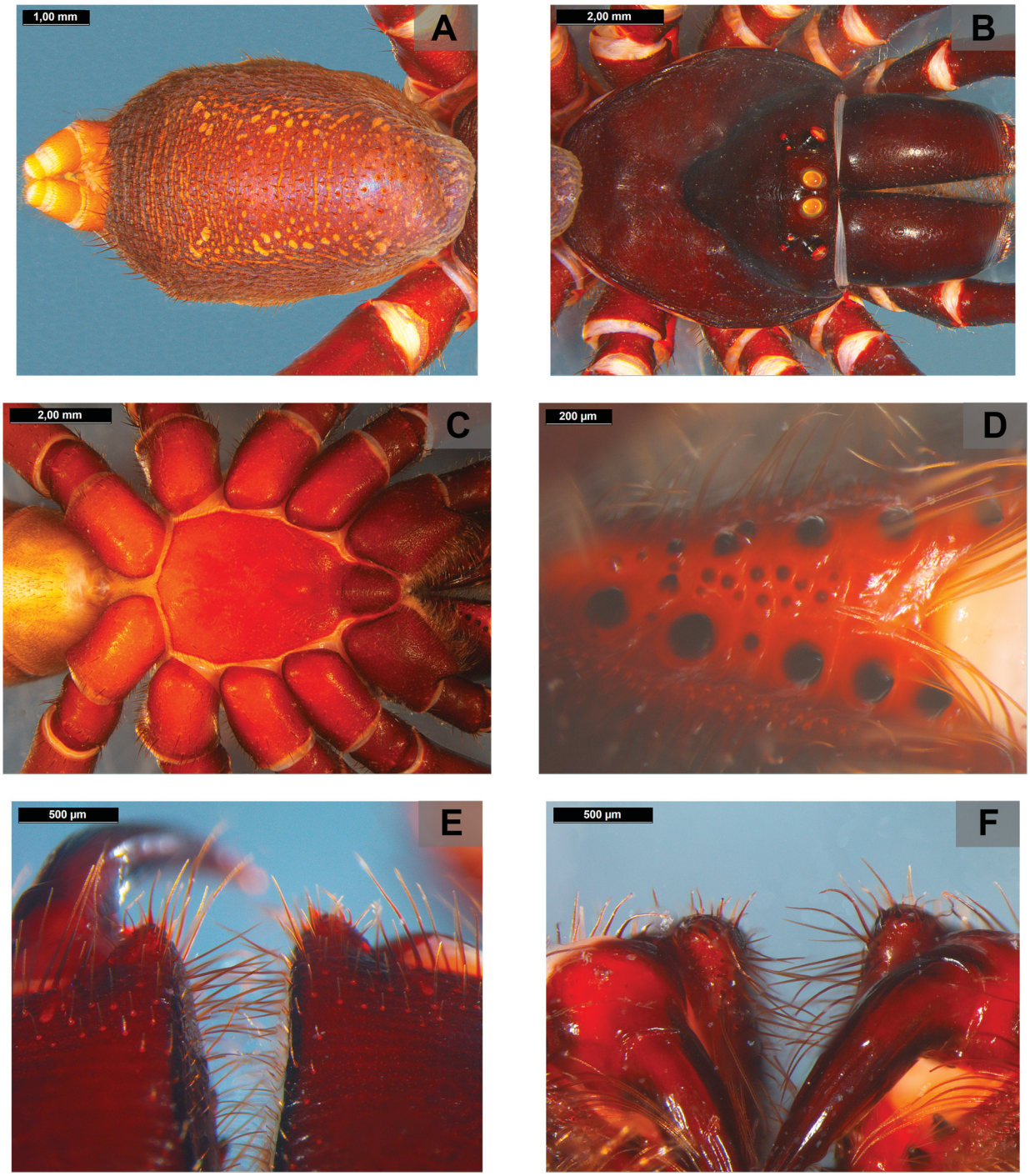


FIGURE 144. *Actinopus azaghal* sp. nov., male: A–F MCTP 11531: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

Diamantina, Confins, Contagem, Belo Horizonte, Nova Lima, Ouro Preto; Espírito Santo: São Mateus; Mato Grosso do Sul: Três Lagoas; Goiás: Rio Quente; and São Paulo: Ubatuba (Map 8).

Material examined (burned in fire). BRAZIL. Goiás: Rio Quente, Caldas Novas, Parque Estadual da Serra de Caldas Novas, 17°47'34" S 48°42'14" W, 8♂, 25–27.ix.2002, G. Machado leg. (IBSP 114451).

***Actinopus azaghal* sp. nov.**
Figs 144–148, Map 8

Type material. Holotype male from [15º 27' S 55º 44' W], Chapada dos Guimarães, Mato Grosso, Brazil, 20–30.xi.2000, C. Strussman leg. (MCTP 11531). **Paratypes:** BRAZIL. Mato Grosso: Cuiabá, Universidade Federal de Mato Grosso (UFMT), [15º 36' 33"S 56º 03' 49"W],

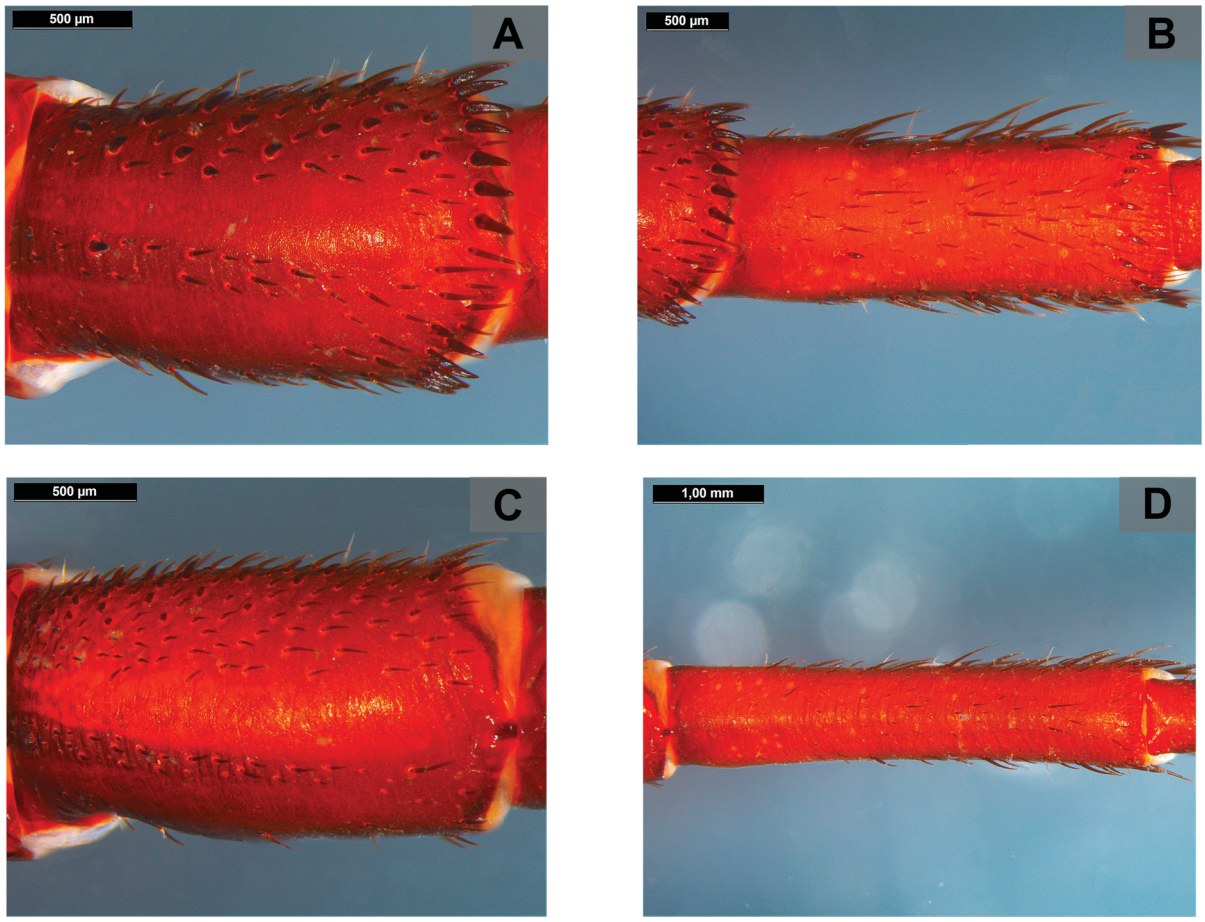


FIGURE 145. *Actinopus azaghal* sp. nov., male: A–D MCTP 11531: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

1♀, 04.vii.2014, M. Meneguzzi leg. (CZUFMT-ARAC); tijucal, [15º 37' 58"S 56º 00' 52"W], 1♂, 27.vii.2012, A. Moraes leg. (CZUFMT-ARAC). Minas Gerais: São Gonçalo do Rio Preto, Parque Estadual do Rio Preto (PERP), 1♂, 25.x.2010, J. P. L. Guadanucci leg. (CAD 332); 20–25.xi.2010, W. F. Silva leg. (CAD 265); x.2011, A. H. Apolinario & J. P. L. Guadanucci leg. (CAD 613); Diamantina, Parque Estadual do Biribiri, [18º 07' 13.19" S 43º 34' 47.69" W], 1♂, 24–29.ix.2012, A. H. Apolinario & J. P. L. Guadanucci leg. (CAD 612); [18º 14' S 43º 36' W], 1♂, x.2009, J. P. L. Guadanucci leg. (CAD 17); v.2012 (CAD 480); São Paulo: Luiz Antônio, Estação Ecológica de Jataí (EEJ), [21º 36' 54" S 47º 48' 02" W], 1♂, 3–7.x.2009, A. G. Cristovão leg. (IBSP 161478); Rio Grande do Sul: São Francisco de Paula, [29º 26' S 50º 34' W], Salto, 2♂, 30.viii.2002, G. M. Petersen leg. (MCTP 13665).

Etymology. Refers to Azaghal (as know as Deive Pazos), producer of a podcast called "Nerdcast", a Brazilian humorist that provide many hours of laughts, essential for the proper development of this work.

Diagnosis. Males of *Actinopus azaghal* resemble those of *A. longipalpis* (Fig. 156 A–C), *A. tutu* (Fig. 143 A–C), *A. pindapoy* (Fig. 159 A–C) and *A. itacolomi* (Fig. 153 A–C) by the presence of three keels in prolateral view of embolus, small total length, and inconspicuous patterns of coloration on legs and palp, when present. They resemble those of *A. tutu* by PA continuous to PAc and a small serrated area only on proximal part of embolus. They differ from those of those of *A. itacolomi* by the thinner embolus and swelling above PA absent. *A. azaghal* is very similar to *A. tutu*, but differs by BTA dorsally displaced in the prolateral tegulum and more pronounced PA. Also differ from *A. argenteus* (Ríos-Tamayo & Goloboff, 2018, fig. 10 G–I) by BTA dorsally displaced, and PS reaching less than half of width of embolus.

MALE (MCTP 11531): Total length 13.62; Carapace, long 5.5; wide 5.37. Carapace rounded. Anterior eye row slightly procurved, posterior row recurved (Fig. 144 B). With few and sparse short bristles between AME-clypeus, between ALE–ALP, between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others

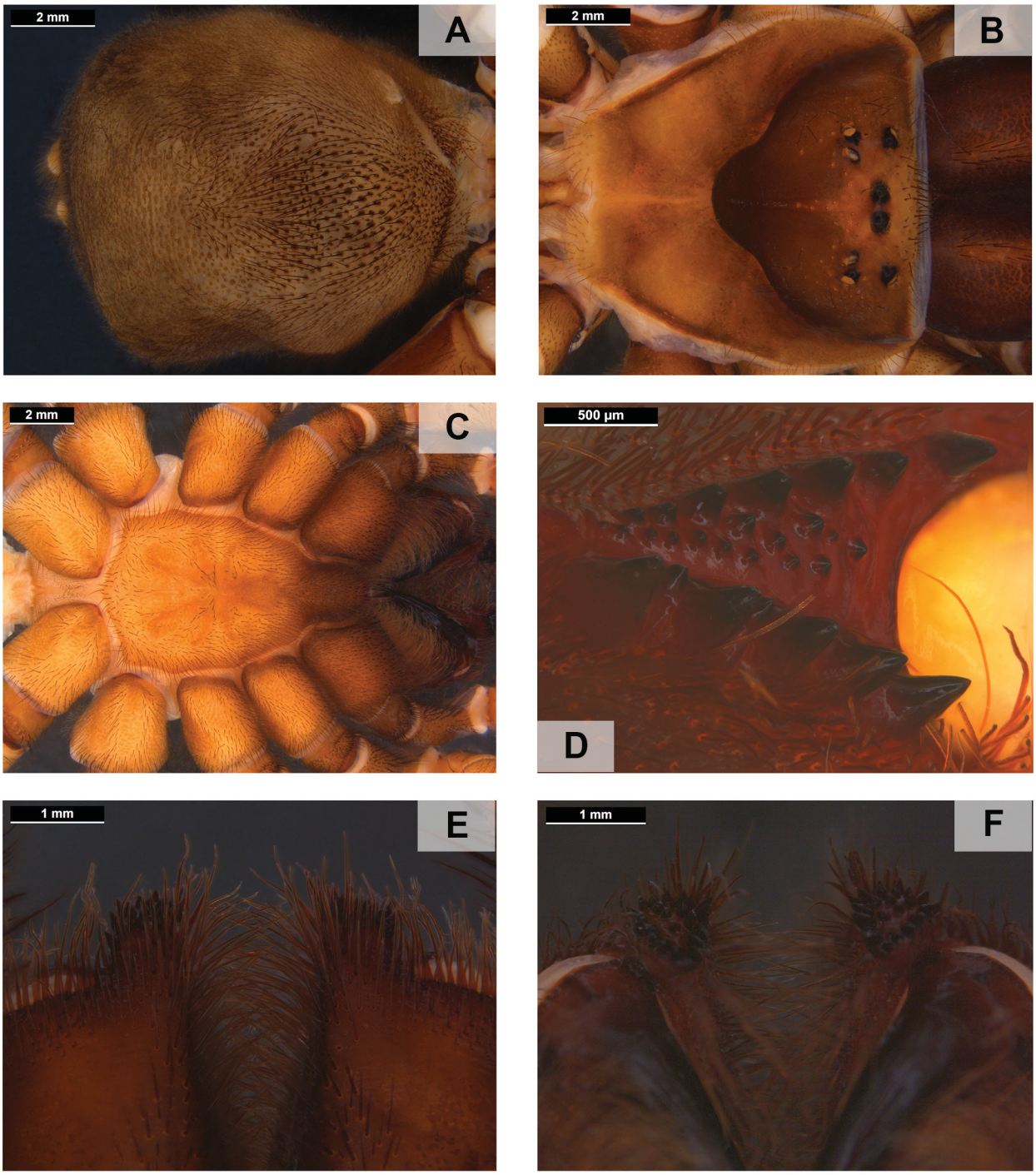


FIGURE 146. *Actinopus azaghal* sp. nov., female: A–F CZUFMT-ARAC: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

(Fig. 144 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines apically (Fig. 144 E–F). Chelicerae with 13 denticles along prolateral row of teeth. Prolateral row with five megateeth and fou teeth on basal portion. Retrolateral row with five megateeth and two denticles, between the three basal megateeth (Fig. 144 D). Patella and tibia III with distal crown of well-developed thorns, on patella III interrupted in middle and on tibia III not interrupted in middle (Fig. 145 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 145 A, C). Tibia IV without spines on dorsal surface (Fig. 145 D). Ventral pseudoscopulae occupying 30% of tarsus I, 50% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi

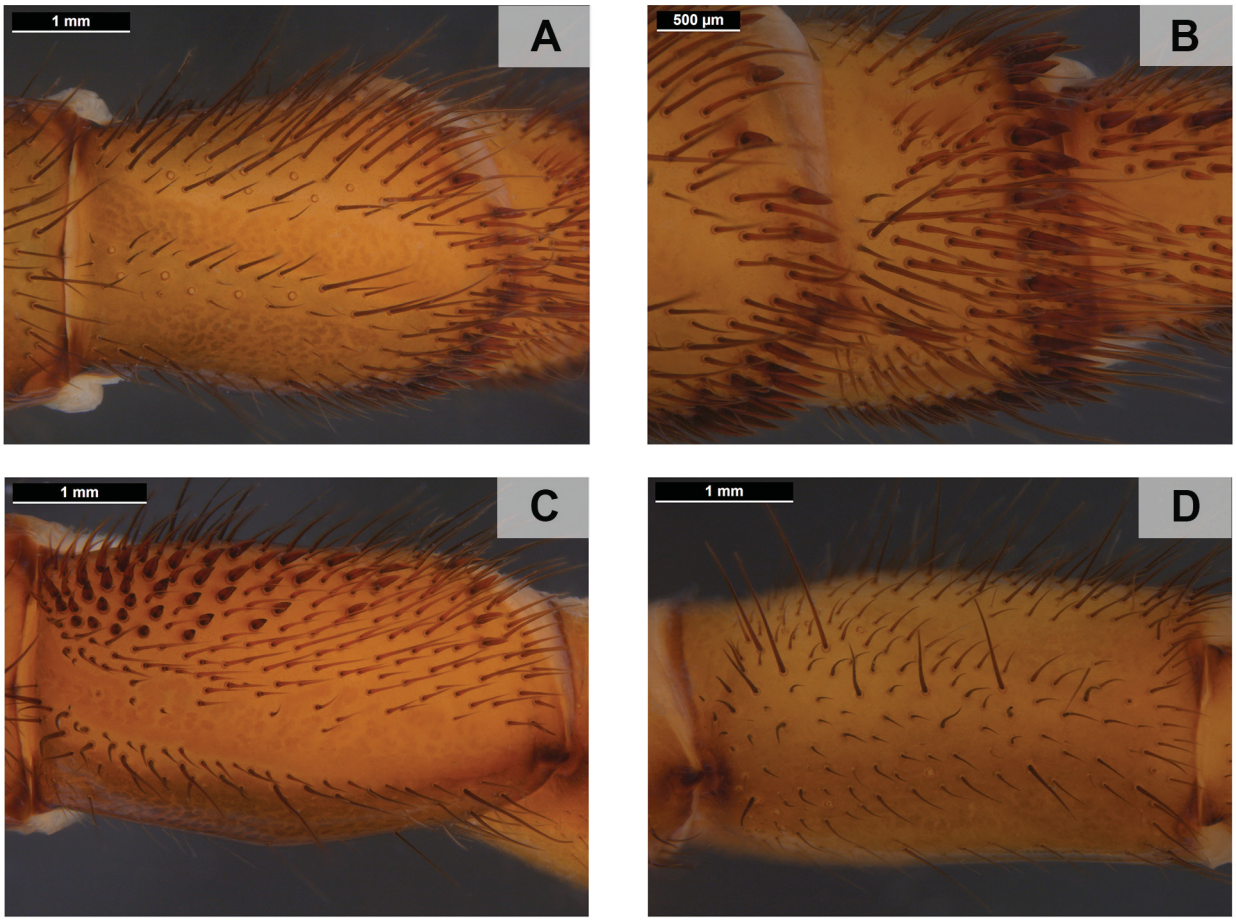


FIGURE 147. *Actinopus azaghal* sp. nov., female: A–D CZUFMT-ARAC: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

and tarsi dark brown; tibia of pall yellowish-dark-brown, paler than other articles. Abdomen pale bluish-gray with many small spots of unpigmentation (Fig. 144 A). **Diameters:** PME 0.12, PLE 0.16, ALE 0.36, AME 0.32; MOQ: Length 0.88, front width 2.56, back width 2.28; **Interdistances:** PME–PME 1.6, PLE–PME 0.12, AME–AME 0.2, ALE–AME 0.68, ALE–PLE 0.48, AME–PME 0.52. **Ocular area:** OAL 3.87, OAW 3.12, and IF 2.37. **Body:** Clypeus: 0.25; Fovea: 1.87; Labium: long 1.12; wide 1; Chelicerae: long 2.75; wide 1.62; Sternum: long 3.62; wide 2.5. Abdomen: long 5.62; wide 3.75. **Leg measurements:** I: Fe 5.5/ Pa 2.5/ Ti 3.25/ Me 4.12/ Ta 2.12/ total 17.5. II: 5.12/ 2.5/ 2.5/ 4.25/ 2.37/ 16.75. III: 4/ 2.37/ 2.5/ 3.75/ 2.75/ 15.37. IV: 5.87/ 2.5/ 4.75/ 4.87/ 2.87/ 20.87. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v1-1-3, d0, p0-0-1, r0; Me v3-4-4, d0, p1-2-2, r1-0-2; ta v0, d0, p0-0-2, r0. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v2-1-3, d0, p0, r1-1-2; Me v3-4-4, d0, p0-0-2, r0; ta v1-0-2, d0, p0-2-2, r0. III—Fe v0, d0, p0, r0; Pa v0, d3-7-18, p0, r0-0-2; ti v0, d1-0-11, p0-0-2, r0-1-4; Me v0-3-4, d0-0-2, p1-0-1, r1-1-2; ta v0, d0, p1-0-3, r0-0-2; IV—Fe v0, d0, p0, r0; Pa v0, d13-10-3, p0, r0; ti v0-0-2, d0, p0, r0; Me v2-2-3, d0, p0-0-1, r0-0-1; ta v0, d0, p0-0-5, r0-0-2. **Palp:** PA well developed. Embolus with three keels (PAc, PI and PS); Prolateral tegulum with three cups next to the base of the embolus; PA continuous to PI; Embolar bases thin (Fig. 148 A–C).

FEMALE (CZUFMT-ARAC): Total length 21.66; Carapace, long 9.16; wide 8.33. Carapace anterior part square and posterior part triangular. Anterior eye row procurved, posterior row slightly recurved (Fig. 146 B). Many short and long bristles between AME-clypeus, one long bristle between PLE–ALE, many long bristles between posterior eyes-fovea and long bristles between lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused to each other than others (Fig. 146 C). Rastellum protuberant, subquadrate, hirsute, with a row of short spines on the edge of rastellum and o lot of short spines covering the dorsal rastellum (Fig. 146 E–F). Chelicerae with fourteen denticles between prolateral and retrolateral row of teeth. Prolateral row with five megateeth and two teeth

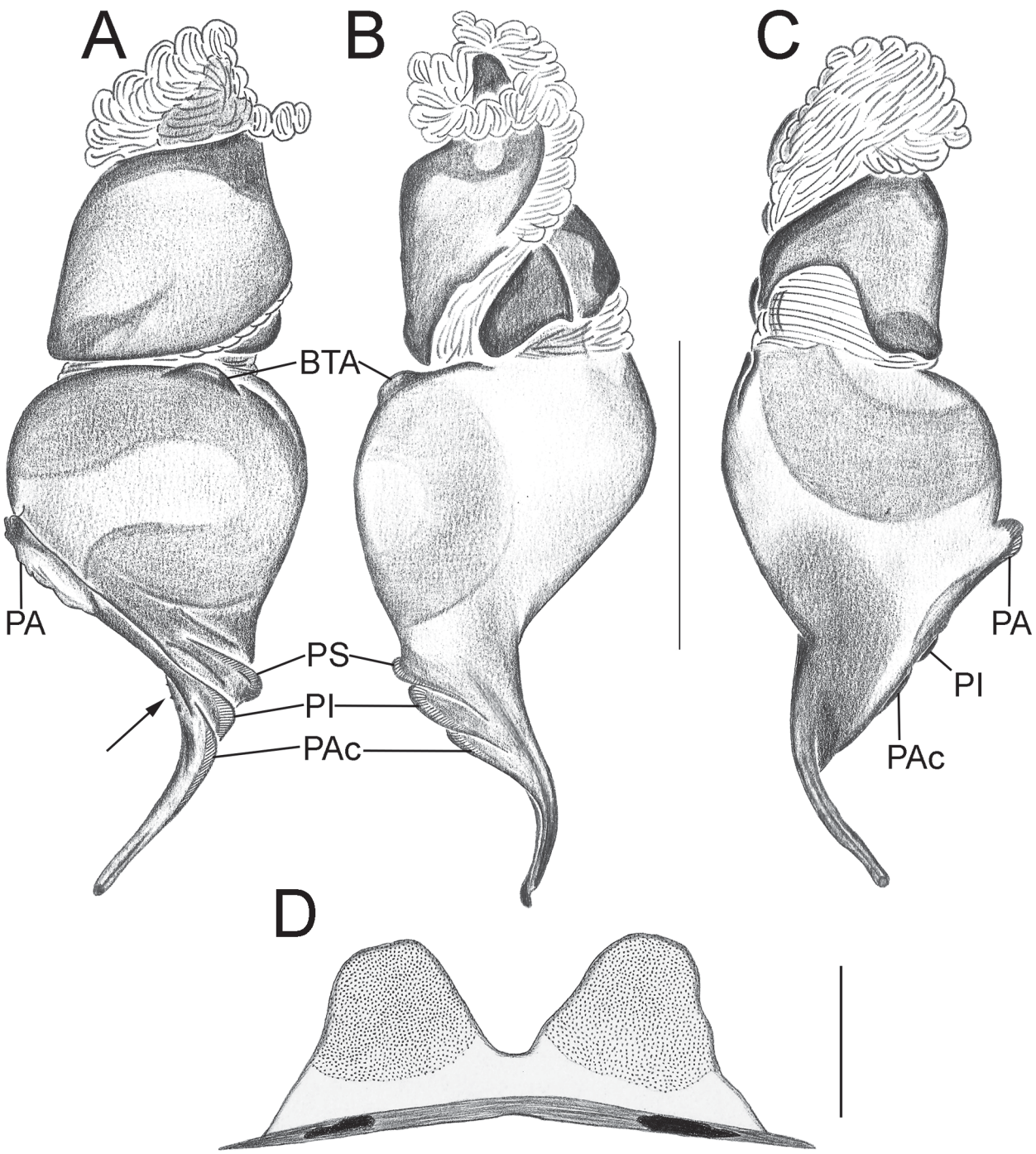


FIGURE 148. *Actinopus azaghal* sp. nov., male: A–C MCTP: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA**-Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrow: Serrated area. Paratype, female: D CZUFMT-ARAC: D. Spermathecae, dorsal view. Scales lines: Male: 1 mm; Female: 0.5 mm.

between the three basal megateeth. Retrolateral row with five megateeth and two basal teeth (Fig. 146 D). Patella III with distal interrupted crown of thorns and tibiae III with distal developed crown of thorns (Fig. 147 A–B). Patella IV with prolaterodorsal short spines along extension of article, these spines are more numerous on basal portion (Fig. 147 C). Tibia IV without spines and with long bristles on prolaterodorsal surface (Fig. 147 D). Carapace and chelicerae pale brown; sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi, tarsi and

palp yellowish brown; Abdomen pale gray (Fig. 146 A). 24 labial cuspules, 98 on right maxilla and 107 on left. Eyes: Diameters: PME 0.48, PLE 0.4, ALE 0.44, AME 0.24; MOQ: Length 1.32, front width 3.68, back width 3.6; Interdistances: PME–PME 2.08, PLE–PME 2.4, AME–AME 0.44, ALE–AME 1.24, ALE–PLE 0.72, AME–PME 0.72. Ocular area: OAL 6.81, OAW 4.87, and IF 3. Body: Clypeus: 0.32; Fovea: 4; Labium: long 1.81; wide 1.75; Chelicerae: long 4.62; wide 3.25; Sternum: long 5.87; wide 4.87. Abdomen: long 10; wide 8.66. Leg measurements: I: Fe 3.16/ Pa 3.33/ Ti 2.16/ Me 3/ Ta 1.5/ total 13.16. II: 5/ 3.33/ 2.16/ 3.16/ 1.33/ 15. III: 3.66/ 3.83/ 1.33/ 3.33/ 1.16/ 13.33. IV: 6.16/ 4/ 3/ 3.83/ 1.16/ 18.16. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v3-4-7, d0, p0-0-3, r5-8-5; Me v2-3-4, d0, p4-6-7, r4-12-8; ta v0-4-1, d0, p3-4-2, r3-3-1. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-3-4, d0, p0, r6-12-07; Me v0-3-4, d0, p1-7-11, r5-20-9; ta v2-3-4, d0, p4-8-2, r5-4-2. III—Fe v0, d0, p0, r0; Pa v0, d0-0-18, p0-0-2, r0-1-5; ti v0, d1-0-16, p0-0-3, r5-8-5; Me v0-0-2, d5-6-4, p0, r0-8-6; ta v11-12-

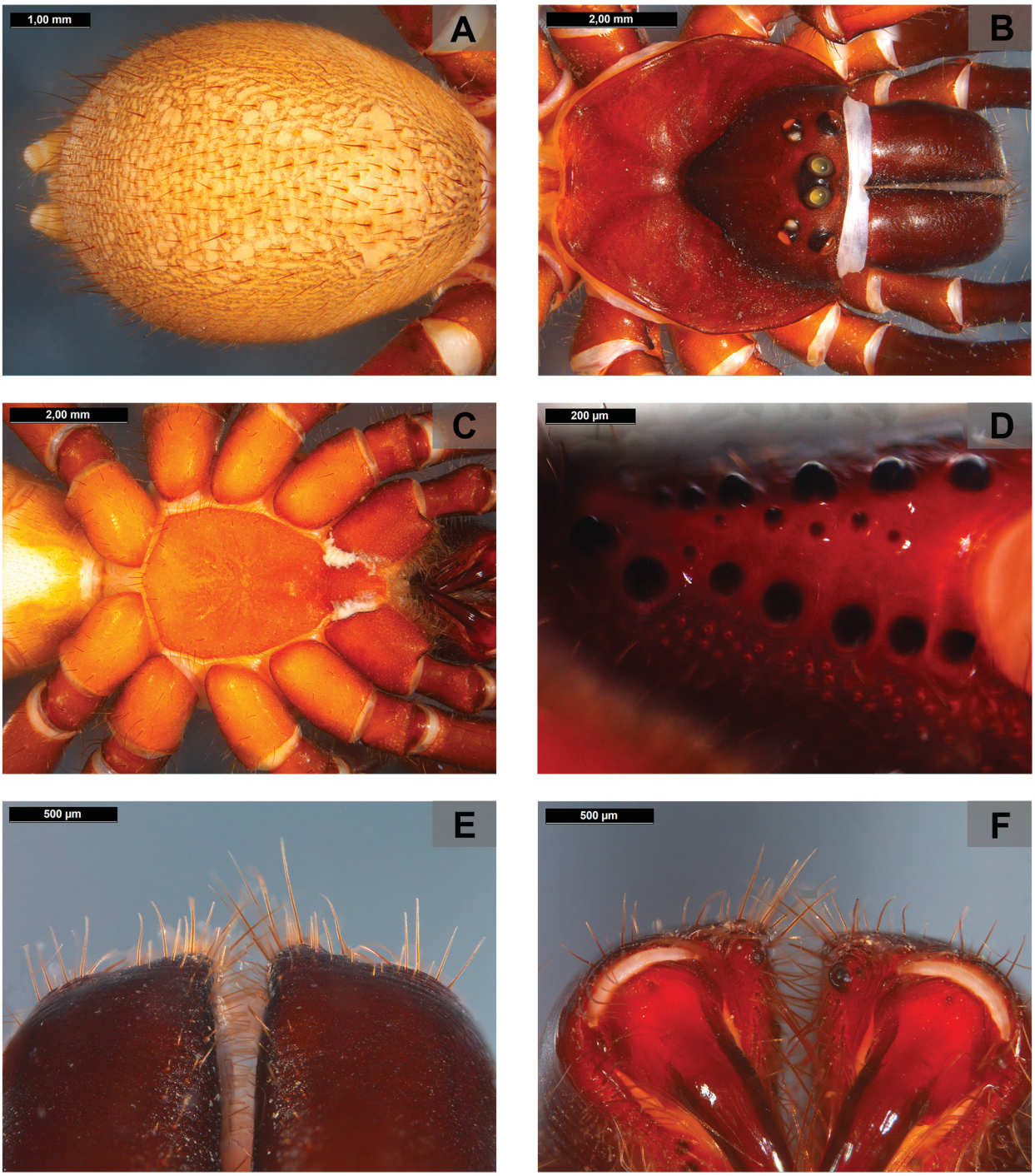


FIGURE 149. *Actinopus itacolomi* sp. nov., male: A–F IBSP: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

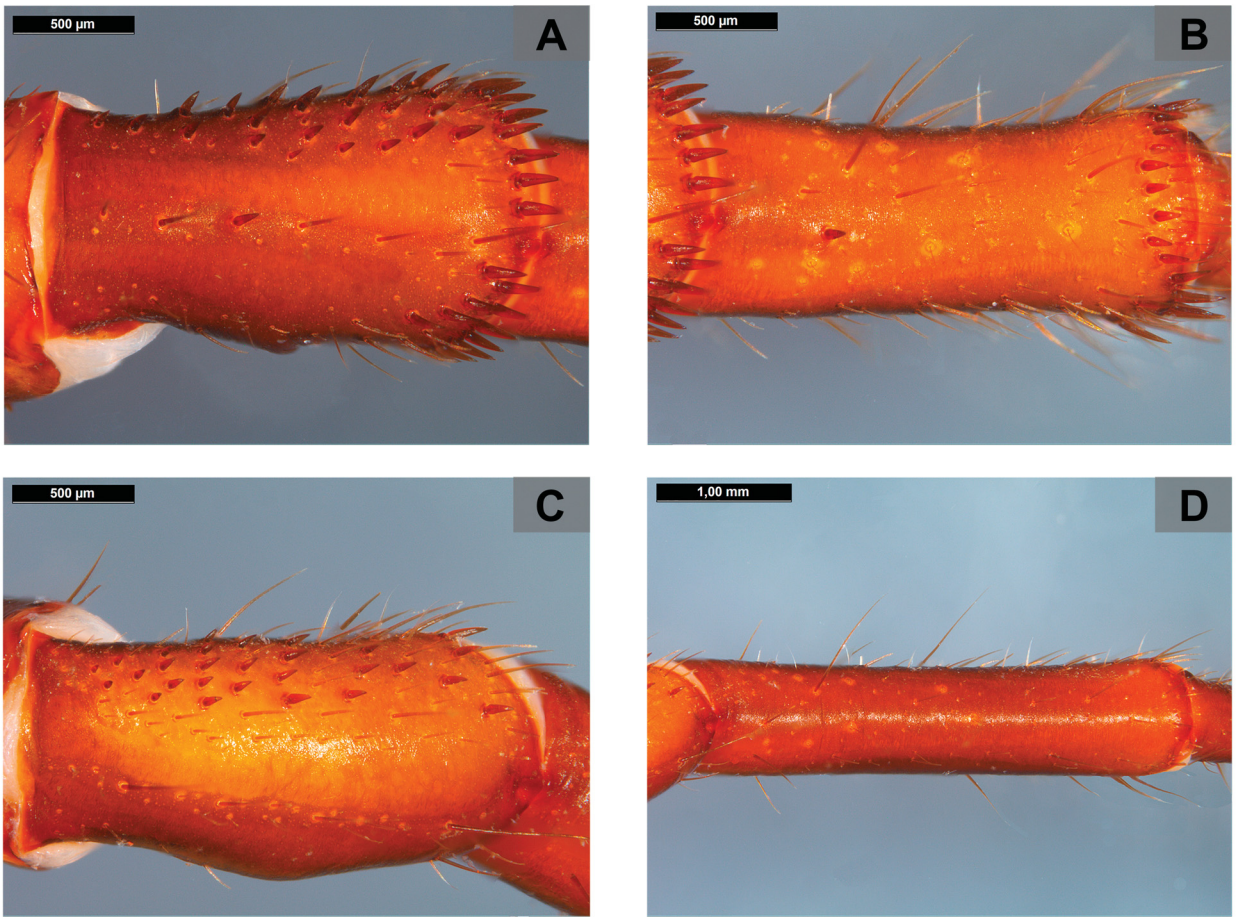


FIGURE 150. *Actinopus itacolomi* sp. nov., male: A–D IBSP: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

31, d1-6-9, p0-2-5, r1-4-4; IV—Fe v0, d0, p0, r0; Pa v0, d18-18-8, p0, r0; ti v0, d0, p0, r0; Me v0-0-3, d0-0-1, p0-1-3, r0; ta v5-11-18, d0, p2-5-10, r0-1-3. **Spermathecae:** Represented by two seminal receptacles weakly fused to base, longer than wide, with short duct. Receptacle with one single lobe. Pore distribution reaching 80% of the length of each receptacle; receptacles base without pores. Lateral swelling absent (Fig. 148 D).

Distribution. BRAZIL. Mato Grosso: Chapada dos Guimarães; Rio Grande do Sul: São Francisco de Paula; são Paulo: Luiz Antônio; and Minas Gerais: São Gonçalo do Rio Preto (Map 8).

Actinopus itacolomi sp. nov.

Figs 149–153, Map 8

Type material. Holotype male from 20° 24.618' S 43° 30.469' W, Parque do Itacolomi, Ouro Preto, Minas Gerais, Brazil, 10–14.i.2005, R. Bertani, C. S. Fukushima, M. P. M. Pavani & R. Martins leg. (IBSP). **Paratypes:** BRAZIL. Bahia: Chapada Diamantina, Gerais da Volta da Serra, Estrada, 1198m, 12° 39' 1.62" S 41° 33' 8.69" W, 1♂, 18.ii.2008 (IBSP). Minas Gerais: Grão Mogol, Parque Estadual de Grão Mogol, 16º 33' 11.6" S 42º 54' 9.68" W, 1♂, 10–24.i.2014, F. Leal leg. (UFMG 14841); leme do Prado, Estação Ecológica de Acauã, Linha de pitfall 1, aceiro em área de mata secundária/Acauã 1, 17º 7' 56.5" S 42º 43' 58.9" W, 1♀, 18–28.ii.2013, P. H. Martins leg (UFMG 18773, UFMG 18774); linha de pitfall, trilha em área de mata com afloramento de cana, próximo a lagoa/AC3-9, 17º 8' 0.7" S 42º 46' 5.1" W, 1♂, 18–28.ii.2013, P. H. Martins leg. (UFMG 18784, UFMG 18785); linha de pitfall, trilha em área de mata com afloramento de cana, próximo a lagoa/AC3-10, 17º 8' 0.7" S 42º 46' 5.1" W, 1♀, 18–28.ii.2013, P. H. Martins leg. (UFMG 18786); sede da Estação, coleta aleatória, área de mata secundária, próxima a ambiente urbano/AC10-1, 17º 7' 56.22" S 42º 46' 7.98" W, 1♀, 18–28.ii.2013, P. H. Martins leg. (UFMG 18807); 2♀, 18–28.ii.2013, P. H. Martins leg. (UFMG 18808); três Marias, [18° 12' S 45° 13' W], 1♂, A. J. Mayhé-Nunes & J. M. Queiroz leg. (IBSP, IBSP); 2♂, A. J. Mayhé-Nunes

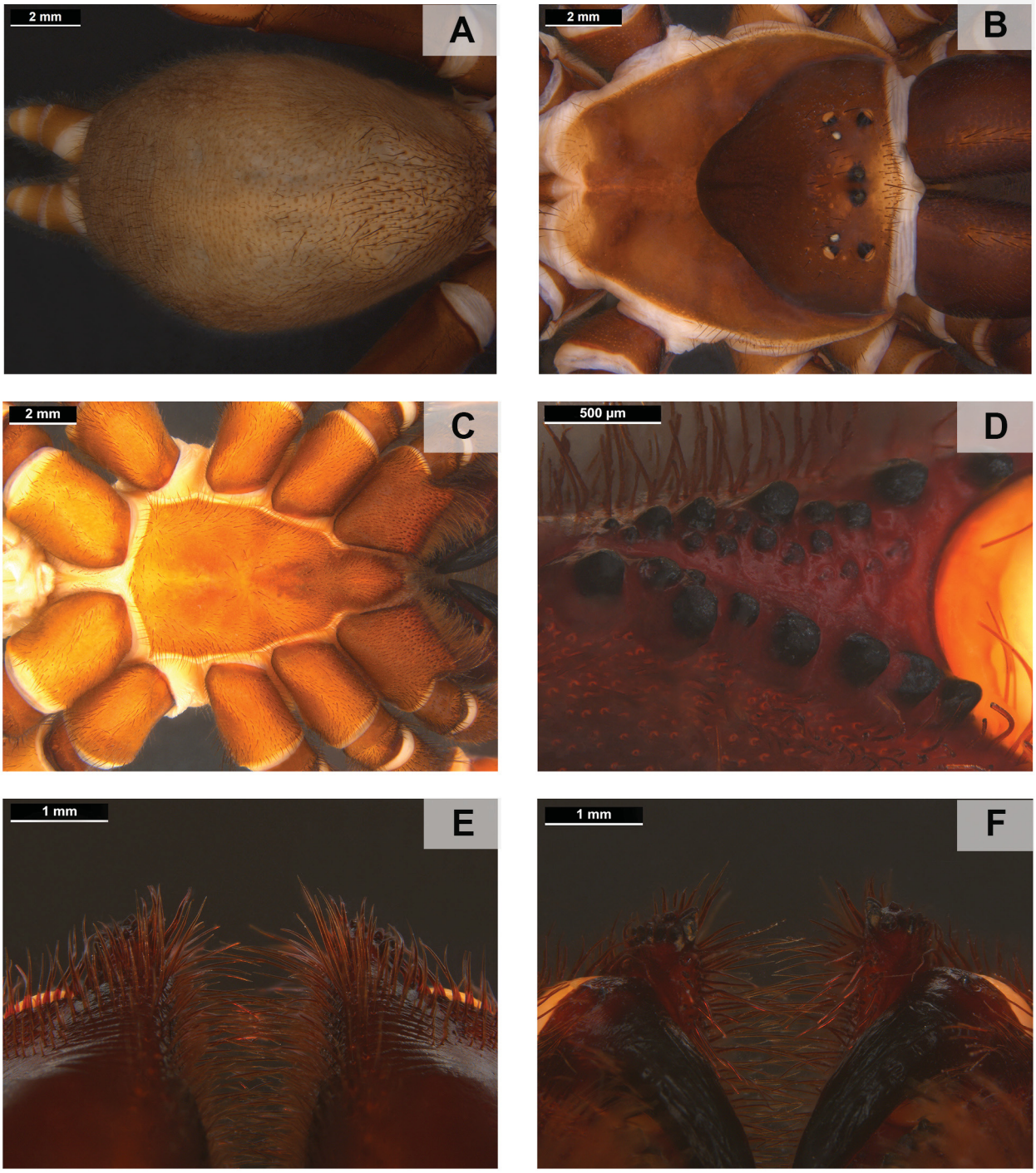


FIGURE 151. *Actinopus itacolomi* sp. nov., female: A–F UFMG 18876: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

& J. M. Queiroz leg. (IBSP); Diamantina, [18° 14' S 43° 36' W], 1♂, 01.iii.2010 (CAD 78); são Gonçalo do Rio Preto, Parque Estadual do Rio Preto (PERP), [18° 9' 15" S 43° 20' 50" W], 1♂, 10.xi.2009, C. Rodrigues (CAD 79); 20–25.x.2010, G. Monteiro, F. Sá, W. F. Silva & J. P. L. Guadanucci leg. (CAD 251); Gouveia, Fazenda Fagundes, 18º 25' 56.42" S 43º 44' 49.56" W, 1♂, 7.i.2013, P. H. Martins leg. (UFMG 19886); Carrancas, Fazenda Chapada, [21º 29' 23" S 44º 38' 43" W], 1♂, 18.i.2008, S. S. P. Almeida leg. (MNRJ 6796).

Etymology. The specific name is a noun in apposition from the type locality name.

Diagnosis. Males of *Actinopus itacolomi* resemble those of *A. longipalpis* (Fig. 156 A–C), *A. tutu* (Fig. 143 A–C) and *A. azaghal* (Fig. 148 A–C) by the presence of three keels in prolateral view of embolus, small total

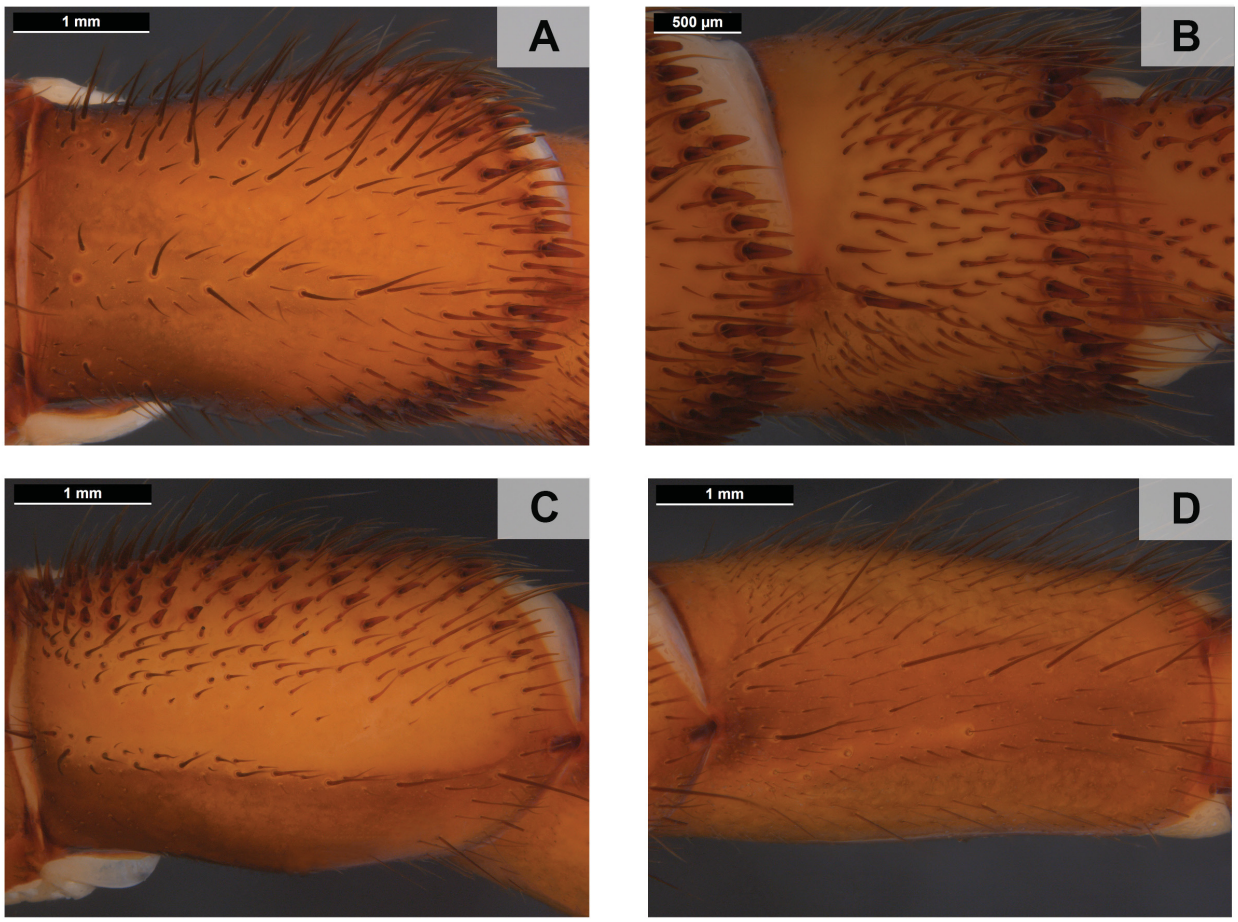


FIGURE 152. *Actinopus itacolomi* sp. nov., female: A–D UFMG 18876: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

length, and inconspicuous patterns of coloration on legs and palp, when present. Differs from *A. longipalpis* by the presence of embolar serrated area. They resemble those of *A. tutu* by BTA inserted medialy in the prolateral tegulum. They differ from those of all those species by the point of origin of PA between PI and PAc; serrated area, along to PAc; tegulum and embolus large; swelling above PA present.

MALE (IBSP): Total length 10.12; Carapace, long 3.87; wide 4.62. Carapace rounded. Anterior eye row slightly procurved, posterior row recurved (Fig. 149 B). With short and weak bristles between AME-clypeus, between ALE–ALP, between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 149 C). Rastellum inconspicuous than others, inverted V-shaped, hirsute, without spines apically (Fig. 149 E–F). Chelicerae with five denticles along Prolateral row and one along retrolateral row. Prolateral row with six megateeth and one basal tooth. Retrolateral row with seven megateeth (Fig. 149 D). Patella and tibia III with distal crown of well-developed thorns, on patella III interrupted in middle and on tibia III not interrupted in middle (Fig. 150 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 150 A, C). Tibia IV without spines on dorsal surface (Fig. 150 D). Ventral pseudoscopulae occupying 50% of tarsus I, 70% of II, 100% of III and IV and 10% of metatarsus IV. Pseudoscopula of tarsi I, tarsi II and metatarsi IV with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish brown; tibia of palp orangish brown, paler than other articles. Abdomen pale brown (Fig. 149 A). **Eyes: Diameters:** PME 0.2, PLE 0.28, ALE 0.36, AME 0.4; MOQ: Length 0.88, front width 2.24, back width 2; **Interdistances:** PME–PME 1.2, PLE–PME 0.04, AME–AME 0.2, ALE–AME 0.6, ALE–PLE 0.44, AME–PME 0.4. **Ocular area:** OAL 3.25, OAW 2.5, and IF 1.75. **Body:** Clypeus: 0.25; Fovea: 1.87; Labium: long 1; wide 0.75; Chelicerae: long 2.12; wide 1.25; Sternum: long 3.12; wide 2.5. Abdomen: long 6.25; wide 4.12. **Leg measurements:** I: Fe 4.75/ Pa 2/ Ti

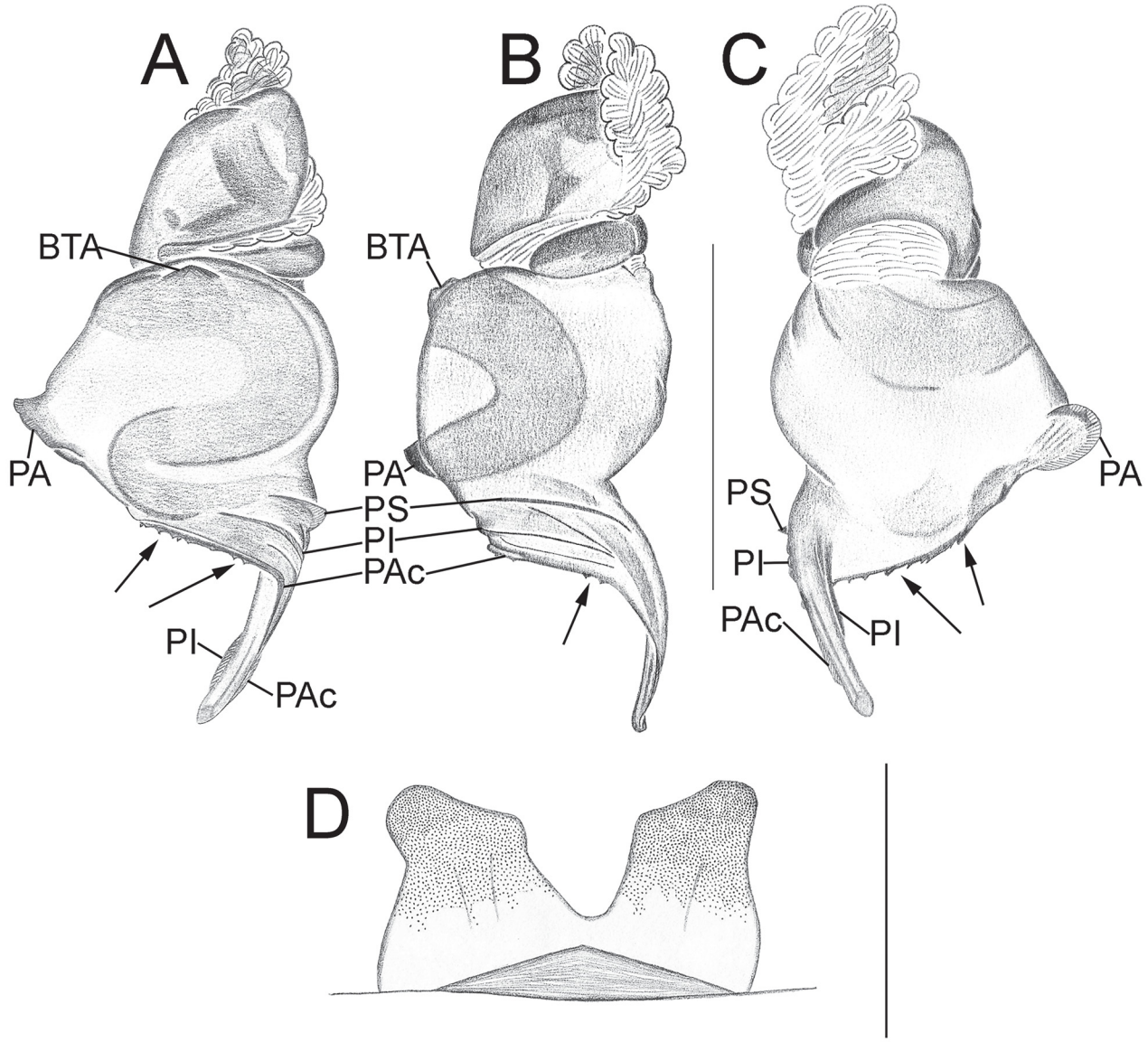


FIGURE 153. *Actinopus itacolomi* sp. nov., male: A–C IBSP: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA**-Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated area. Paratype, female: D UFMG 18876: D. Spermathecae, dorsal view. Scales lines: 1 mm.

3.5/ Me 3.12/ Ta 2/ total 15.37. II: 4.12/ 2/ 2.62/ 3.5/ 2.12/ 14.37. III: 3.5/ 2/ 2.12/ 3.25/ 2.12/ 13. IV: 4.75/ 2.12/ 3.87/ 3.87/ 2.5/ 17.12. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-3-4, d0, p0-0-2, r0-0-1; Me v5-6-4, d0, p2-3-3, r3-4-2; ta v4-3-5, d0, p2-3-2, r0. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-2-5, d0, p0-0-1, r0-0-1; Me v6-4-5, d0, p1-4-3, r2-2-0; ta v6-5-5, d0, p2-4-3, r0. III—Fe v0, d0, p0, r0; Pa v0, d5-11-24, p0-0-1, r0-0-2; ti v0-0-2, d1-0-14, p0-0-1, r0-0-1; Me v3-5-3, d2-1-1, p0-1-2, r1-3-5; ta v0, d0, p0, r0-4-5; IV—Fe v0, d0, p0, r0; Pa v0, d11-11-5, p0, r0; ti v0-0-2, d0, p0, r0; Me v3-2-4, d0, p1-2-2, r0-1-0; ta v0, d0, p2-3-2, r0. **Palp:** PA well developed. Embolus with three keels (PAc, PI and PS). BTA developed, dorsally inserted; Prolateral tegulum with cusps along middle of width of PAc to embolar base; Point of origin of PA between PI and PAc; Embolar base wide (Fig. 153 A–C).

FEMALE (UFMG 18786): Total length 22.5; Carapace, long 8.66; wide 8.33. Carapace anterior part square and posterior part triangular. Anterior eye row procurved, posterior row recurved (Fig. 151 B). Many short and long bristles between AME-clypeus, one long bristle between PLE–ALE, many long bristles between posterior eyes-fovea and few short bristles between lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused to each

other than others (Fig. 151 C). Rastellum protuberant, subquadrate, hirsute, with a row of short spines on the edge of rastellum and o lot of short spines covering the dorsal rastellum (Fig. 151 E–F). Chelicerae with twelve denticles between prolateral and retrolateral row of teeth. Prolateral row with one basal denticle and five megateeth. Retrolateral row with six megateeth and two teeth between three basal megateeth (Fig. 151 D). Patella III with distal crown of thorns and tibiae III with distal developed crown of thorns (Fig. 152 A–B). Patella IV with prolaterodorsal short spines along extension of article, these spines are more numerous on basal portion (Fig. 152 C). Tibia IV without spines and with long bristles on prolaterodorsal surface (Fig. 152 D). Carapace and chelicerae brown, chelicerae with one longitudinal row lighter, yellowish brown; sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi, tarsi and palp reddish brown; Abdomen pale brow (Fig. 151 A). 13 labial cuspules, 98 on right maxilla and 85 on left. Eyes: Diameters: PME 0.24, PLE 0.36, ALE 0.2, AME 0.4; MOQ: Length 1.32, front width 3.84, back width 3.72; Interdistances: PME–PME 2.36, PLE–PME 0.12, AME–AME 0.36, ALE–AME 1.32, ALE–PLE 0.72, AME–PME 0.96. Ocular area: OAL 6.4, OAW 5.1, and IF 3.25. Body: Clypeus: 0.83; Fovea: 3.66; Labium: long 2; wide 1.68; Chelicerae: long 5.66; wide 3; Sternum: long 5.93; wide 5.87. Abdomen: long 12.33; wide 8.5. Leg measurements: I: Fe 7.5/ Pa 5.5/ Ti 3.5/ Me 4.66/ Ta 2.16/ total 23.33. II: 7.66/ 5.33/ 3.66/ 4.83/ 2.66/ 24.16. III: 7.5/ 6.16/ 2.83/ 5.5/ 2.16/ 24.16. IV: 10/ 6.16/ 6/ 6.33/ 2.66/ 31.16. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v2-4-4, d0, p0-4-3, r6-8-5; Me v3-2-5, d0-0-4, p5-9-6, r5-12-9; ta v1-4-3, d0, p5-4-2, r5-3-4. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v4-4-3, d0, p0, r11-7-7; Me v3-4-5, d0, p2-6-4, r1-14-6; ta v2-4-7, d0, p6-4-2, r4-0-2. III—Fe v0, d0, p0, r0; Pa v0, d0-0-35, p0-0-2, r0-1-9; ti v0, d1-0-23, p0-0-3, r0-13-11; Me v0-0-3, d6-9-10, p0, r0; ta v29-16-12, d0-4-5, p3-5-5, r3-7-5; IV—Fe v0, d0, p0, r0; Pa v0, d21-19-7, p0, r0; ti v0, d0, p0, r0; Me v0-0-3, d0-0-1, p0-1-3, r0; ta v5-8-8, d0-0-3, p2-6-6, r0-0-3. **Spermathecae:** Represented by two seminal receptacles weakly fused to base, longer than wide, with short duct. Receptacle with one single lobe, with lateral sides longer than internal sides. Pore distribution reaching 50% of length of each receptacle; receptacle bases without pores. Lateral swelling absent (Fig. 153 D).

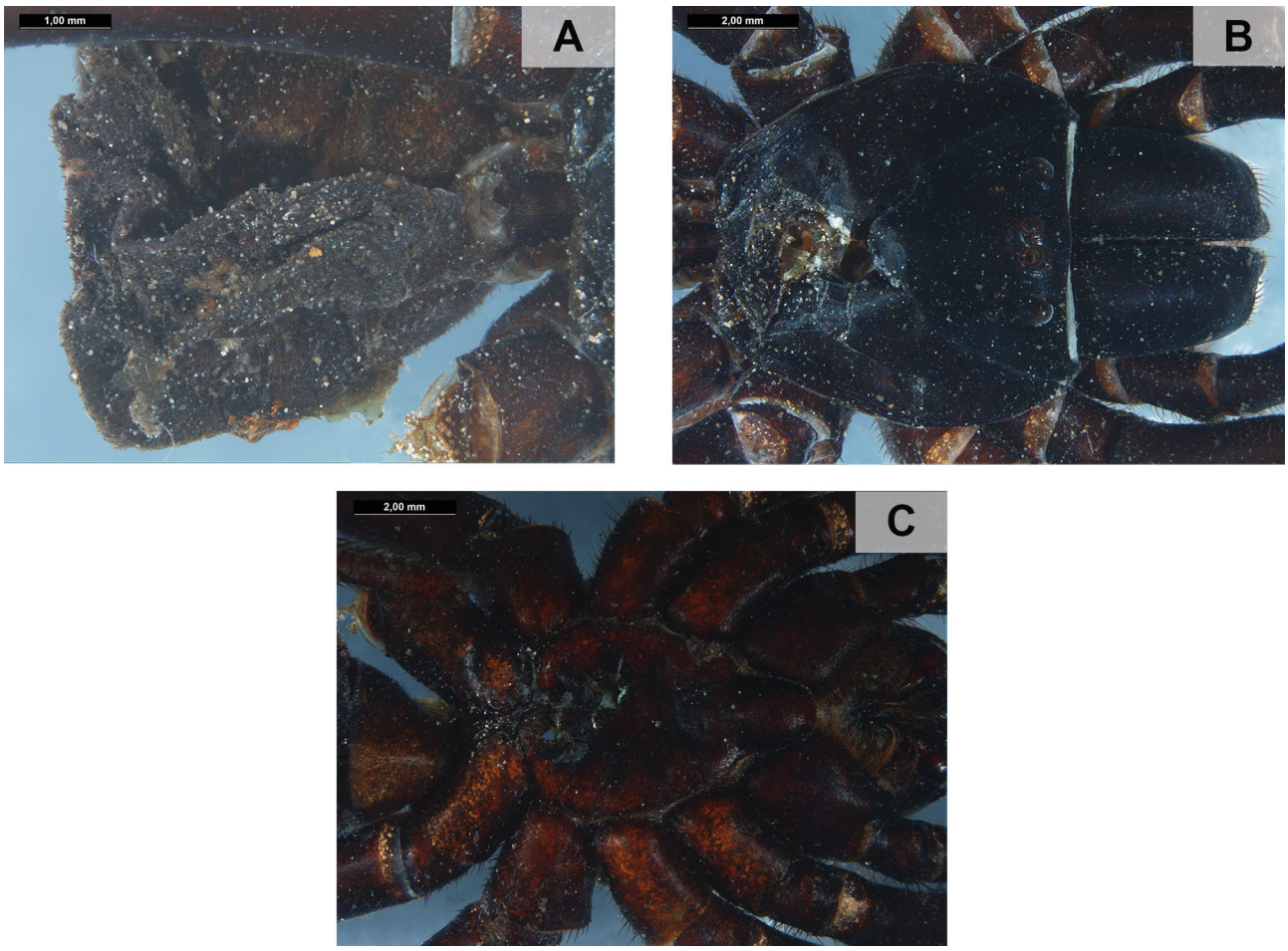


FIGURE 154. *Actinopus longipalpis* C. L. Koch, 1842, holotype, male: A–C ZMB 2107: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral.

VARIATION

FEMALES (n=5): **Eyes: Diameters:** PME 0.16–0.24, PLE 0.24–0.4, ALE 0.16–0.24, AME 0.28–0.4; MOQ: Length 0.92–1.32, front width 2.72–3.84, back width 2.4–3.72; **Interdistances:** PME–PME 1.52–2.36, PLE–PME 0.12–0.2, AME–AME 0.2–0.36, ALE–AME 0.8–0.32, ALE–PLE 0.44–0.72, AME–PME 0.6–0.96. **Ocular area:** OAL 4.1–9.1, OAW 3.3–7.7, and IF 2–3.5. **Body:** Total length: 13.3–22.5; Carapace: long 5.6–7.5; wide 4.8–8.33; Clypeus: 0.5–0.83; Fovea: 2.2–3.66; Labium: long 1.3–2; wide 1–1.68; Chelicerae: long 3.12–5.66; wide 1.93–3; Sternum: long 3.62–5.93; wide 3.06–4.68. Abdomen: long 7.5–12.33; wide 5.2–8,5. **Leg measurements:** I: Fe 3–7.5/ Pa 2–5.5/ Ti 1.33–3.5/ Me 1.66–4.66/ Ta 1–2.16/ total 9–23.33. II: 1.5–7.66/ 1.16–5.33/ 1.33–3.66/ 1.83–4.83/ 1–2.66/ 6.83–24.16. III: 3–7.5/ 2.5–6.16/ 1–2.83/ 1.83–5.5/ 0.83–2.16/ 9,16–24.16. IV: 4–10/ 2.5–6.16/ 2.33–6/ 2.5–6.33/ 1.16–2.66/ 12.5–31.16. Formula 4123.

Distribution. BRAZIL. Minas Gerais: Ouro Preto, Três Marias, São Gonçalo do Rio Preto, Grão Mogol, Leme do Prado, Gouveia, Carrancas; Bahia: Chapada Diamantina (Map 8).

Actinopus longipalpis C. L. Koch, 1842

Figs 154–156, Map 8

Actinopus longipalpis C. L. Koch, 1842: 102, fig. 754 (holotype ♂, [34º 53' 55"S 56º 10' 01"W], Montevideu, Uruguay, ZMB 2107, examined); Ríos-Tamayo & Goloboff, 2018: 49, fig. 23 A–I, 24 A–D, 44; World Spider Catalog, 2020.

Diagnosis. Males of *Actinopus longipalpis* resembles *A. pindapoy* (Fig. 159 A–C) by absence of serrated area on copulatory bulb but Males differ from those of PS longer than PI on dorsal view (Fig. 156 B).

MALE (ZMB 2107): Total length 11.37; Carapace, long 6.62; wide 6.5. Carapace anterior part tapering, subquadrate. Anterior eye row slightly procurved, posterior row recurved (Fig. 154 B). Without bristles between AME-clypeus. Sternum with eight sigilla strongly fused medially (Fig. 154 C). Rastellum protuberant, inverted Vshaped, hirsute, without spines apically (Fig. 156 D–E). Chelicerae with denticles along prolateral row of teeth. Prolateral row with megateeth and denticles. Retrolateral row with megateeth and teeth between megateeth. Patella and tibia III with distal crown of well-developed thorns, not interrupted in middle (Fig. 155 A–B). Patellae III

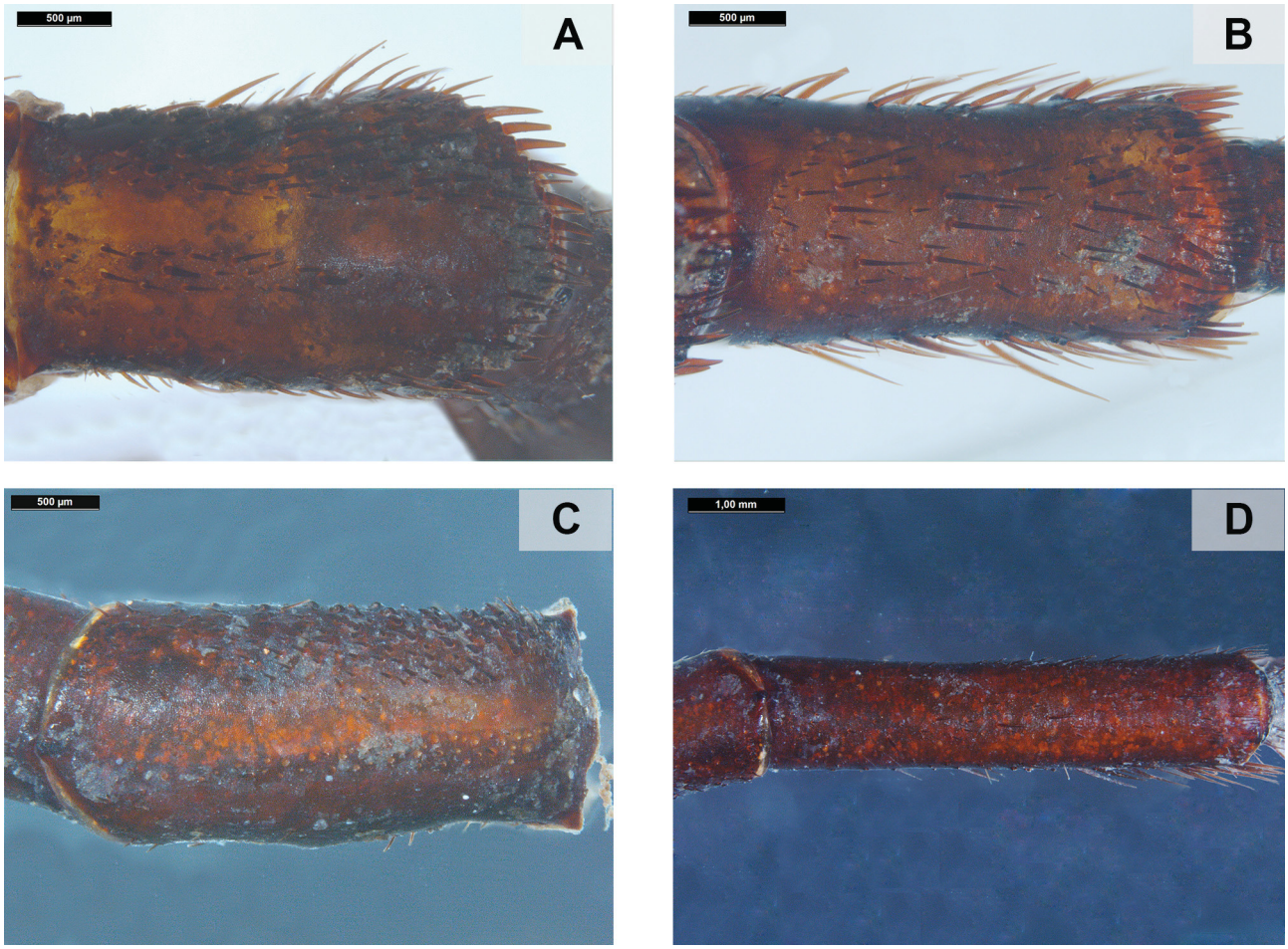


FIGURE 155. *Actinopus longipalpis* C. L. Koch, 1842, holotype, male: A–D ZMB 2107: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

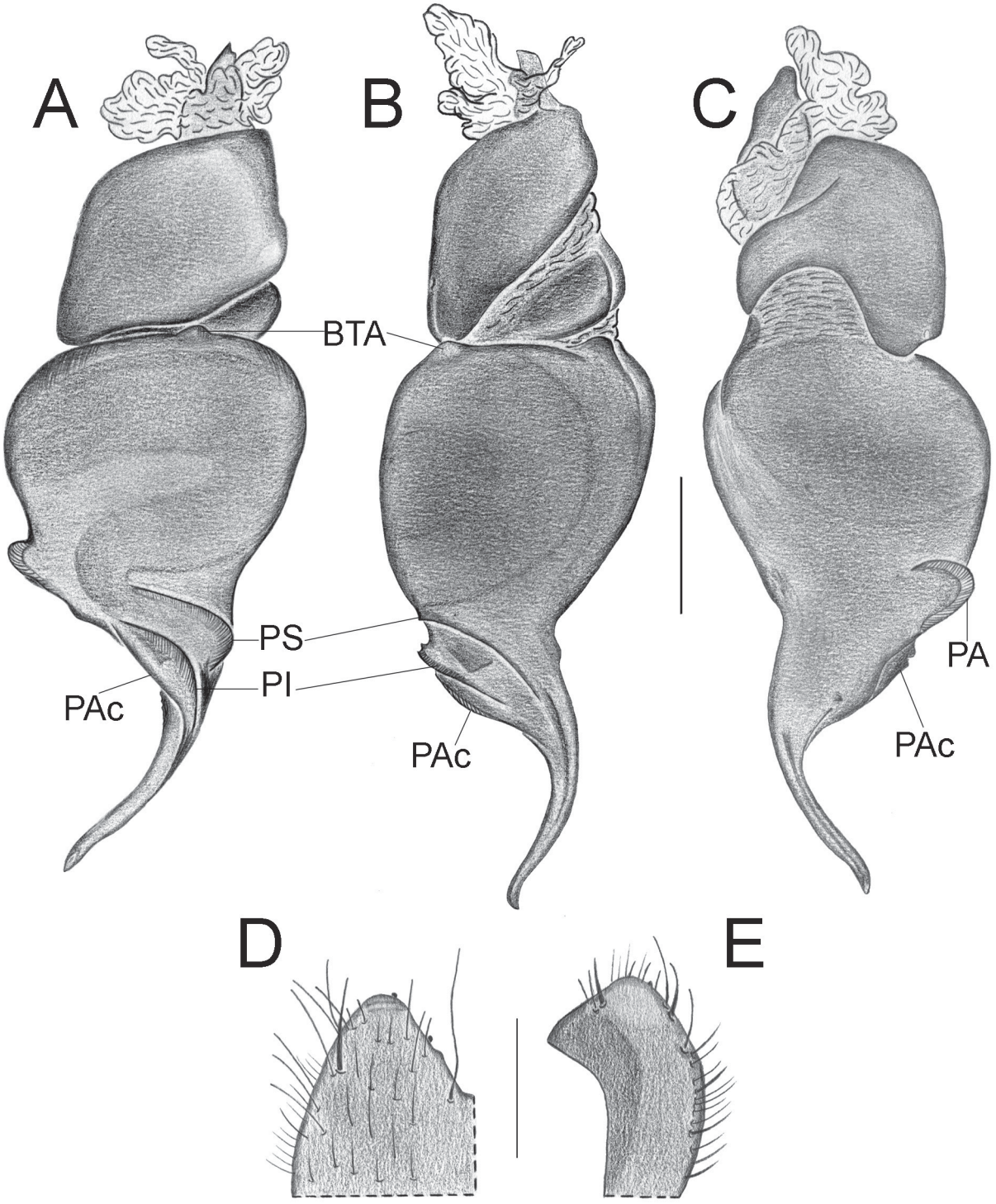


FIGURE 156. *Actinopus longipalpis* C. L. Koch, 1842, holotype, male: A–E ZMB 2107: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA**-Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel. D. Rastellum, dorsal; E. Rastellum, ventral. Scales lines: A–C: 1 mm; D–E: 0.5 mm.

and IV with spines on prolaterodorsal face (Fig. 155 A, C). Patella IV with prolaterodorsal short spines along extension of article (Fig. 155 D). Ventral pseudoscopulae occupying 40% of tarsi I and II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish brown and abdomen pale gray (Fig. 154 A). **Eyes: Diameters:** PME 0.24, PLE 0,32, ALE 0.48, AME 0.44; MOQ: Length 1.24,

front width 3.08, back width 2.88; **Interdistances:** PME–PME 1.72, PLE–PME 0.16, AME–AME 0.2, ALE–AME 0.72, ALE–PLE 0.56, AME–PME 0.6. **Ocular area:** OAL 7.62, OAW 3.87, and IF 2.05. **Body:** Clypeus: 0.4; Fovea: 1.64; Labium: long 1.7; wide 1.5; Chelicerae: long 3.2; wide 2; Sternum: long 4.2; wide 4. Abdomen: long 4.87; wide 4.37. **Leg measurements:** I: Fe 5.75/ Pa 2.75/ Ti 3.25/ Me 4/ Ta 2.25/ total 18. II: 5.62/ 2.5/ 3.12/ 4.37/ 2.5/ 18.12. III: 5/ 2.87/ 2.5/ 4.75/ 2.87/ 18. IV: 5.62/ 2.5/ 5.12/ 5.62/ 2.87/ 21.75. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0, r0; Me v0-0-3, d0, p0, r0; ta v0, d0, p0-3-3, r0-1-3. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0, r1-1-1; Me v0-2-0, d0, p0-0-3, r0-0-2; ta v0, d0, p0-2-3, r0-2-3. III—Fe v0, d0, p0, r0; Pa v0, d8-12-19, p1-3-3, r0-0-2; ti v1-0-3, d0-1-11, p1-1-4, r0-1-3; Me v1-1-2, d0, p2-3-3, r0-1-5; ta v0, d0, p1-3-3, r0-2-0; IV—Fe v0, d0, p0, r0; Pa v0, d20-9-3, p2-2-0, r0; ti v0-1-3, d0, p0, r0; Me v3-4-3, d0, p0-3-4, r0-0-2; ta v0, d0, p0-5-6, r0-1-0. **Palp:** PA poorly developed, embolus with three keels (PAc, PI and PS). BTA poorly developed in both prolateral and dorsal view; prolateral tegulum without serrated area; embolar bases thinner than basal (Fig. 156 A–C).

Note. The holotype is in a poor condition; hindering the mobility of the chelicerae, which prevented the examination of the cheliceral teeth.

VARIATION

MALES (n=10): **Eyes: Diameters:** PME 0.2–0.24, PLE 0.32, ALE 0.48–0.52, AME 0.4–0.44; MOQ: Length 1.2–1.24, front width 3.08–3.6, back width 2.88–3.2; **Interdistances:** PME–PME 1.72–1.96, PLE–PME 0.16–0.2, AME–AME 0.2–0.4, ALE–AME 0.72–1.08, ALE–PLE 0.56, AME–PME 0.6–0.64. **Ocular area:** OAL 5.5–7.62, OAW 3.87–4.25, and IF 2.05–3. **Body:** Total length: 11.37–12.5; Carapace: long 6.62–7.25; wide 6.5–6.87; Clypeus: 0.37–0.4; Fovea: 1.64–2.8; Labium: long 1.7; wide 1.5; Chelicerae: long 3.2–3.6; wide 2–2.4; Sternum: long 4.2–5; wide 4–4.3. Abdomen: long 4.87–5.25; wide 4.37–4.87. **Leg measurements:** I: Fe 5.75–6.25/ Pa 2.75/ Ti 3.25–3.5/ Me 4–4.37/ Ta 2.25–2.87/ total 18–19.75. II: 5.62–6/ 2.5–2.87/ 3.12–3.5/ 4.37–4.62/ 2.5–2.75/ 18.12–19.75. III: 5–5.25/ 2.87–3.5/ 2.5–2.87/ 4.75–5/ 2.87–3.37/ 18–20. IV: 5.62–6.75/ 2.5–3.37/ 5.12–5.37/ 5.62–6.12/ 2.87/ 21.75–25.21. Formula 4123.

Distribution. ARGENTINA. Corrientes: San Cosme; URUGUAY. Montevideo, Canelones (Map 8).

Material examined. ARGENTINA: Corrientes, San Cosme, [27º 31’ 00”S 58º 34’ 00”W] 1♂, C. I. Wurth leg. (MACN 19817).

Actinopus pindapoy sp. nov.

Figs 157–159, Map 8

Type material. Holotype male from Provincia Bonaerensis, Chacabuco, Zárate, Buenos Aires, Argentina (MACN-Ar 19824).

Etymology. The specific name is a noun in apposition from the type locality name.

Diagnosis. The male of *Actinopus pindapoy* resembles those of *A. itacolomi* (Fig. 153 A–C)*, A. longipalpis* (Fig. 156 A–C), *A. tutu* (Fig. 143 A–C)*, A. argenteus* (Ríos-Tamayo & Goloboff, 2018, fig. 10 G–I)*, A. pampa* (Ríos-Tamayo & Goloboff, 2018, fig. 27 G–I) and *A. azaghal* (Fig. 148 A–C) by the presence of three keels in prolateral view of embolus, small total length, and inconspicuous patterns of coloration on legs and palp, when present. It resembles *A. longipalpis, A. argenteus* and *A. pampa* by absence of serrated area below PAc. They resemble those of *A. azaghal, A. pampa* and *A. longipalpis* by BTA dorsally inserted. It also resembles *A. azaghal, A. pampa* and *A. tutu* by PA continuous to PI. It differs from those of all these species by the very inconspicuous and delicate PAc. It further differs from *A. pampa* by absence of depression at embolus base and from *A. argenteus* by BTA inserted at the middle of prolateral view.

MALE (MACN-Ar 19824): Total length 13.87; Carapace, long 6.37; wide 6.62. Carapace rounded. Anterior eye row slightly procurved, posterior row recurved (Fig. 157 B). With few short and weak bristles between AME-clypeus, between ALE–ALP, between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 157 C). Rastellum protuberant, inverted V-shaped, with some short bristles, without spines apically (Fig. 157 E–F). Chelicerae with ten denticles along prolateral row of teeth. Prolateral row with five megateeth and two basal teeth. Retrolateral row with six megateeth and six denticles between the two basal megateeth (Fig. 157 D). Patella and tibia III with distal crown of well-developed thorns, on patella III interrupted in middle and on tibia III not interrupted in middle (Fig. 158 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 158 A, C). Tibia IV without spines on dorsal surface (Fig. 158 D). Ventral pseudoscopulae occupying 40% of tarsus I, 50% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish brown; tibia of palp orangish brown, paler than other articles; Abdomen bluish pale gray, with many unpigmented spots (Fig. 157 A). **Eyes: Diameters:** PME 0.2, PLE 0.48, ALE 0.6, AME 0.32; MOQ: Length 1.32, front width 3.48, back width 3; **Interdistances:** PME–

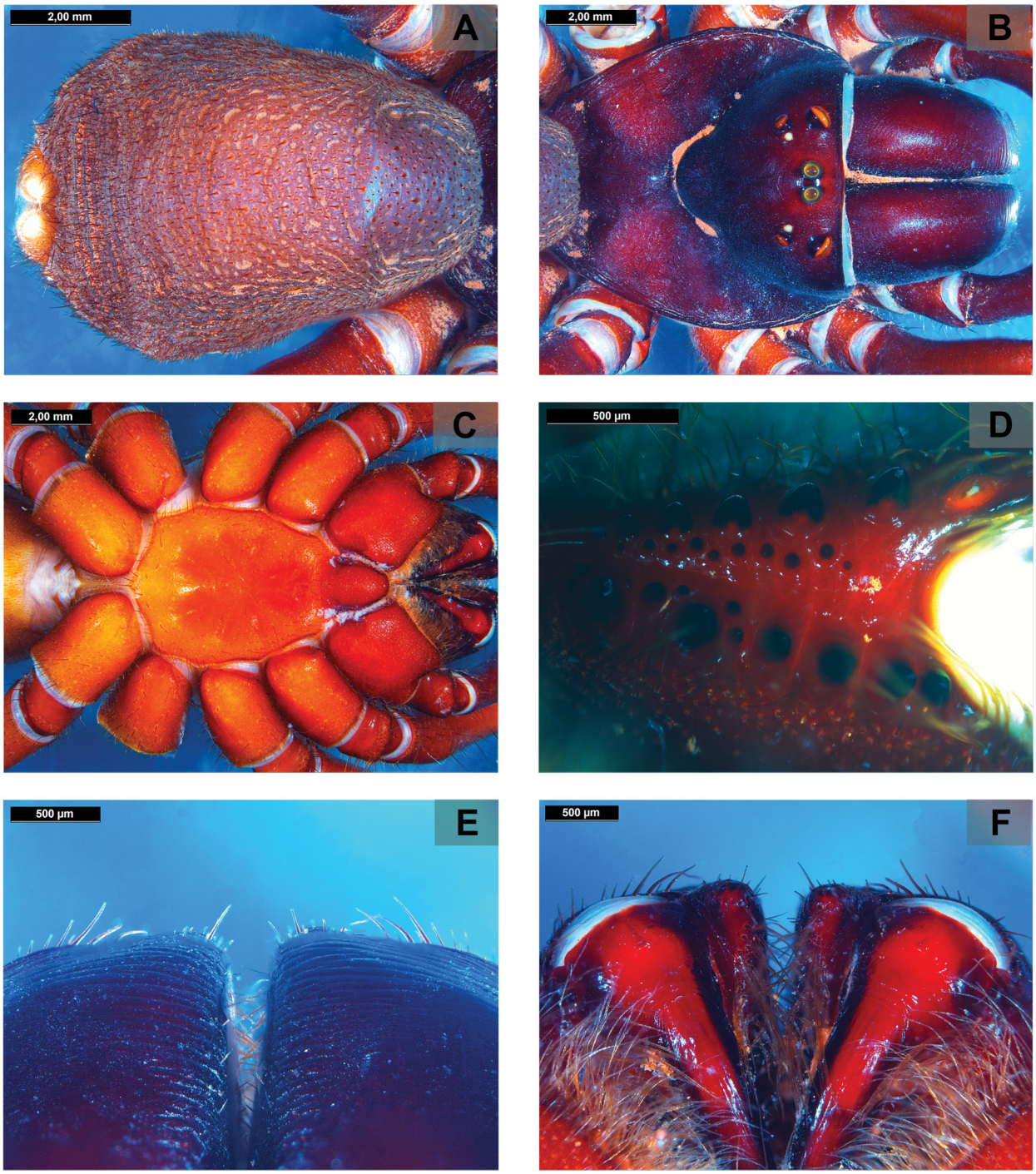


FIGURE 157. *Actinopus pindapoy* sp. nov., male: A–F MACN-Ar 19824: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

PME 1.88, PLE–PME 0.16, AME–AME 0.2, ALE–AME 1.04, ALE–PLE 0.64, AME–PME 0.68. **Ocular area:** OAL 5.12, OAW 4, and IF 3.25. **Body:** Clypeus: 0.37; Fovea: 2.62; Labium: long 1.5; wide 1.37; Chelicerae: long 3.37; wide 1.62; Sternum: long 5.12; wide 3.87. Abdomen: long 7.5; wide 5.62. **Leg measurements:** I: Fe 6.25/ Pa 2.62/ Ti 3.37/ Me 4.37/ Ta 2.5/ total 19.12. II: 5.62/ 2.87/ 2.62/ 4.25/ 2.5/ 17.87. III: 5/ 3.12/ 2.87/ 5/ 2.87/ 18.87. IV: 6.75/ 3.37/ 5.5/ 5.62/ 3.25/ 24.5. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0, r0; Me v1-2-2, d0, p1-0-3, r0; ta v0-2-0, d0, p0-2-2, r0. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v2-2-0, d0, p0, r0-4-4; Me v0-3-3, d0, p0-0-2, r0-2-5; ta v0-2-2, d0, p0-1-3, r0-1-3. III—Fe v0, d0, p0, r0; Pa v0, d5-7-30, p0-0-2, r0-0-1; ti v0, d1-0-16, p0-0-4, r1-0-3; Me v0-0-2, d2-0-1, p2-2-1, r0-1-6; ta v0, d0, p0, r0-0-4; IV—Fe v0,

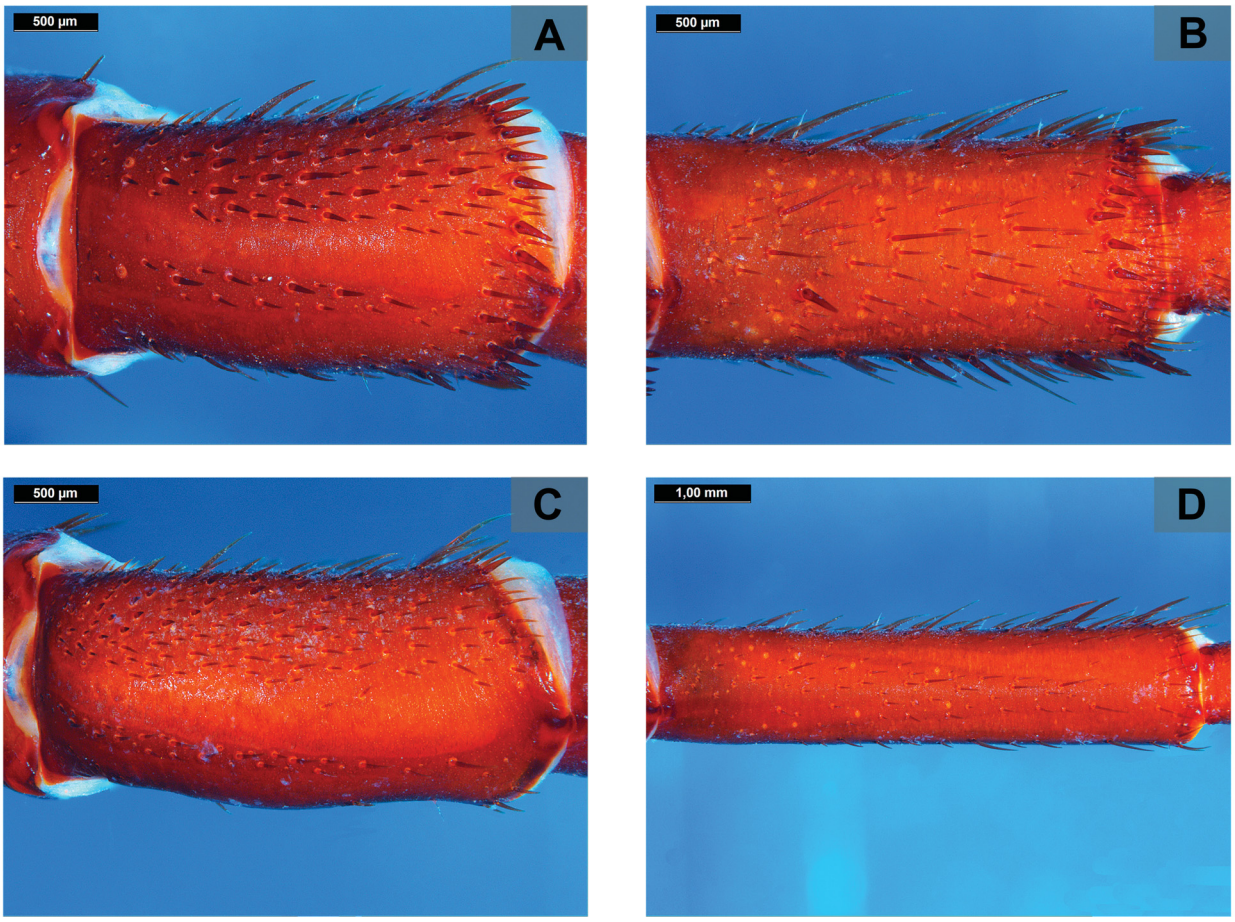


FIGURE 158. *Actinopus pindapoy* sp. nov., male: A–D MACN-Ar 19824: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

d0, p0, r0; Pa v0, d17-16-6, p0, r0; ti v0-1-3, d0, p1-0-3, r0; Me v3-3-4, d0-0-1, p2-3-4, r0-0-1; ta v0, d0, p3-5-4, r0. **Palp:** PA well developed. Embolus with three keels (PAc, PI and PS). BTA developed, dorsally displaced; Prolateral tegulum without cusps; PA continuous to PI; Embolar base thin (Fig. 159 A–C).

Distribution. ARGENTINA. Misiones: Pindapoy (Map 8).

Examined material. ARGENTINA: Misiones: Pindapoy, [27º 35' 22.22" S 55º 50' 00.04" W], 2♂, 16.i.1942, P. Williner leg. (MACN-Ar 19824).

Actinopus argenteus Ríos-Tamayo & Goloboff, 2018

Actinopus argenteus Ríos-Tamayo & Goloboff, 2018: 26, fig. 10 A–I, 11 A–D, 44 (holotype ♂, [31º 20' S 65º 27' W], Reserva Natural Chancaní, Córdoba, Argentina, 15–30.i.2004, M. Izquierdo leg., MACN-Ar 31204; and paratype ♀, same data as the male holotype, iii.1992, P. Goloboff and C. Szumik, MACN-Ar 36576; not examined); World Spider Catalog, 2020.

Diagnosis. Males of *Actinopus argenteus* share with *A. tutu* (Fig. 143 A–C), *A. azaghal* (Fig. 148 A–C) and *A. pindapoy* (Fig. 159 A–C) the PA continuous to PAc. They differ from *A. azaghal*, *A. longipalpis* (Fig. 156 A–C), *A. pampa* (Ríos-Tamayo & Goloboff, 2018, fig. 27 G–H), and *A. pindapoy* by BTA inserted dorsally on the tegulum, and from *A. tutu*¸*A. azaghal*, *A. itacolomi* (Fig. 153 A–C) and *A. pindapoy* by PS reaching less than the width of embolus. Females of *A. argenteus* share with *A. tutu* (Fig. 143 D) the similar subquadrate shape of receptacles. Males differ from those of the trilobate receptacles bearing a conspicouous lateral constriction.

Description. See Ríos-Tamayo & Goloboff (2018: 26).

Distribution. ARGENTINA: Santiago del Estero, Córdoba, and Catamarca.

Actinopus pampa Ríos-Tamayo & Goloboff, 2018

Actinopus pampa Ríos-Tamayo & Goloboff, 2018: 55, fig. 27 A–J, 28 A–E, 45 (holotype ♂, [36º 37' S 64º 17' W], Santa Rosa,

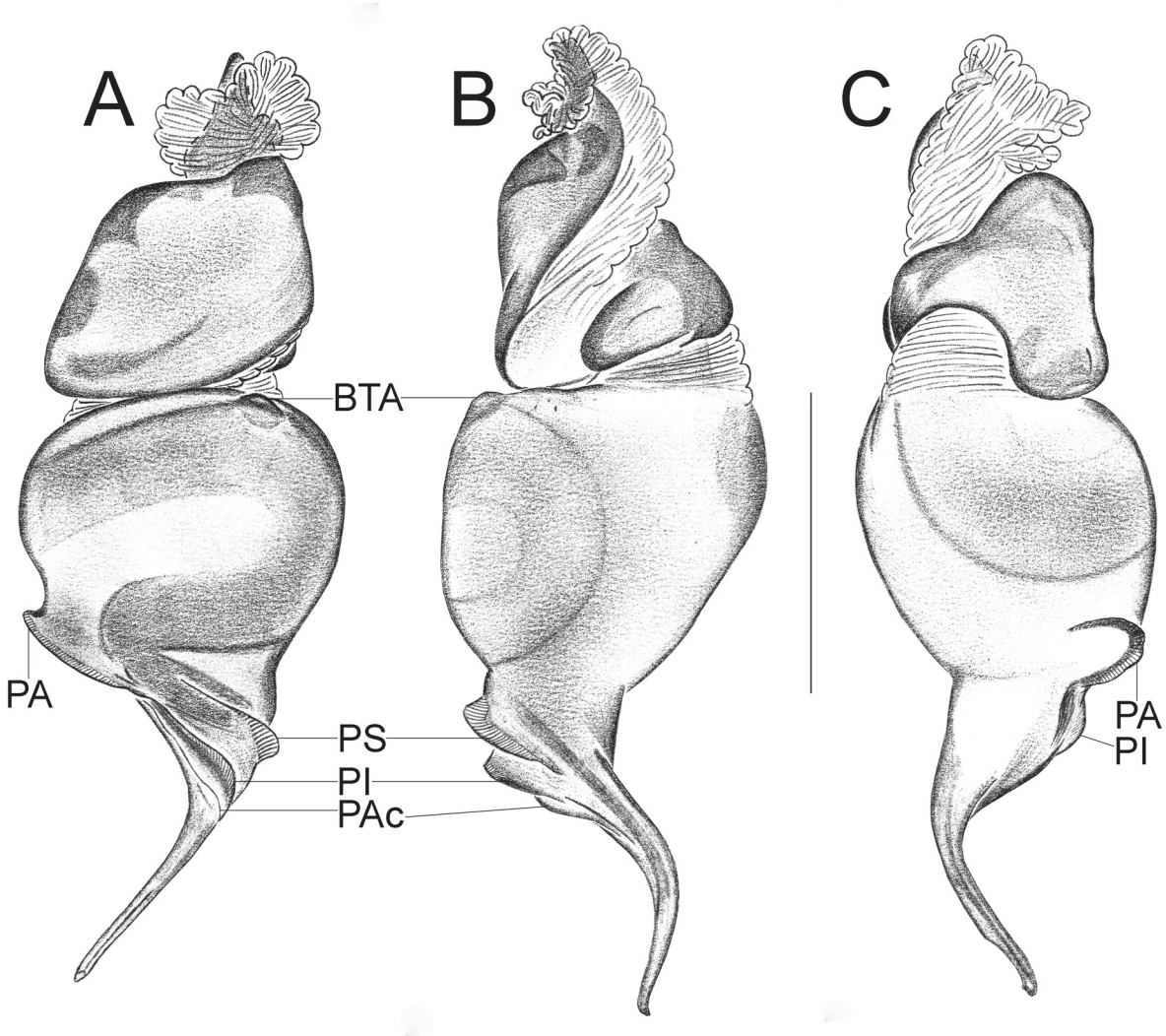


FIGURE 159. *Actinopus pindapoy* sp. nov., male: A–C ZMB 19824: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel. Scale line: 1 mm.

La Pampa, Argentina, iv–v.1967, Aravena leg., MACN-Ar 28419; and paratype ♀, [37º 59' S 65º 35' W], Parque Nacional "Lihuél Calel", La Pampa, Argentina, i.1983, P. Goloboff leg., MACN-Ar 36623; not examined); World Spider Catalog, 2020.

Diagnosis. Males of *Actinopus pampa* resemble all other species of group *tutu*, except *A. itacolomi* and *A. longipalpis,* by PA continuous to PI. They resemble those of *A. azaghal*, *A. longipalpis*, and *A. pindapoy* by BTA dorsally on the embolus apex and differ from all other species of the genus by a depression at embolus base. Females resemble those of *A. tutu* and *A. azaghal* by subquadrate shape of receptacles, composed of a unique lobe but Males differ from those of pore distribution reaching 75% of receptacles length. They further differ from *A. itacolomi* by receptacles with tapered apex and lateral swellings.

Description. See Ríos-Tamayo & Goloboff (2018: 55).

Distribution. ARGENTINA: La Pampa.

Actinopus ariasi Ríos-Tamayo & Goloboff, 2018

Actinopus ariasi Ríos-Tamayo & Goloboff, 2018: 31, fig. 12 A–G, 44 (holotype ♂, [26º 10' S 58º 56' W], Reserva "El Bagual", Formosa, Argentina, xi.2001–ii.2002, G. Scrocchi leg., MACN-Ar 36628; not examined); World Spider Catalog, 2020.

Diagnosis. Males of *A. ariasi* (Ríos-Tamayo & Goloboff, 2018, fig. 13 D–F) resemble those of *A. itacolomi* (Fig. 153 A–C), *A. longipalpis* (Fig. 156 A–C), *A. cordobensis* (Ríos-Tamayo & Goloboff, 2018, fig. 15 D–F) and *A. coylei* (Ríos-Tamayo & Goloboff, 2018, fig. 16 D–F), by

the PA continuous to PAc. They differ from those of *A. itacolomi*, *A. longipalpis and* and *A. pindapoy* by slender bulb and from those of *A. cordobensis* and *A. coylei* by the absence of serrated area on the embolar base.

Description. See Ríos-Tamayo & Goloboff (2018: 31).

Distribution. ARGENTINA: Formosa.

Actinopus cordobensis Ríos-Tamayo & Goloboff, 2018

Actinopus cordobensis Ríos-Tamayo & Goloboff, 2018: 35, fig. 15 A–G, 45 (holotype ♂, [32º 42' S 62º 6' W], Campo Experimental INTA de Marcos Juárez, Córdoba, Argentina, ii–iii.2011, MACN-Ar 36613; not examined); World Spider Catalog, 2020.

Diagnosis. Males of *A. cordobensis* (Ríos-Tamayo & Goloboff, 2018, fig. 15 D–F) resemble those of *A. itacolomi* (Fig. 153 A–C), *A. longipalpis* (Fig. 156 A–C), *A. ariasi* (Ríos-Tamayo & Goloboff, 2018, fig. 12 D–F) and *A. coylei* (Ríos-Tamayo & Goloboff, 2018, fig. 16 D–F), by the PA continuous to PAc. They differ from those of *A itacolomi*, *A. longipalpis* and *A. pindapoy* (Fig. 159 A–C) by the wider bulb and from those of *A. ariasi* by the presence of a conspicuous serrated area on embolar base and, according to Ríos-Tamayo & Goloboff (2018), from those of *A. coylei* by the legs with metatarsi and tarsi lighter (Ríos-Tamayo & Goloboff, 2018, fig. 15 B).

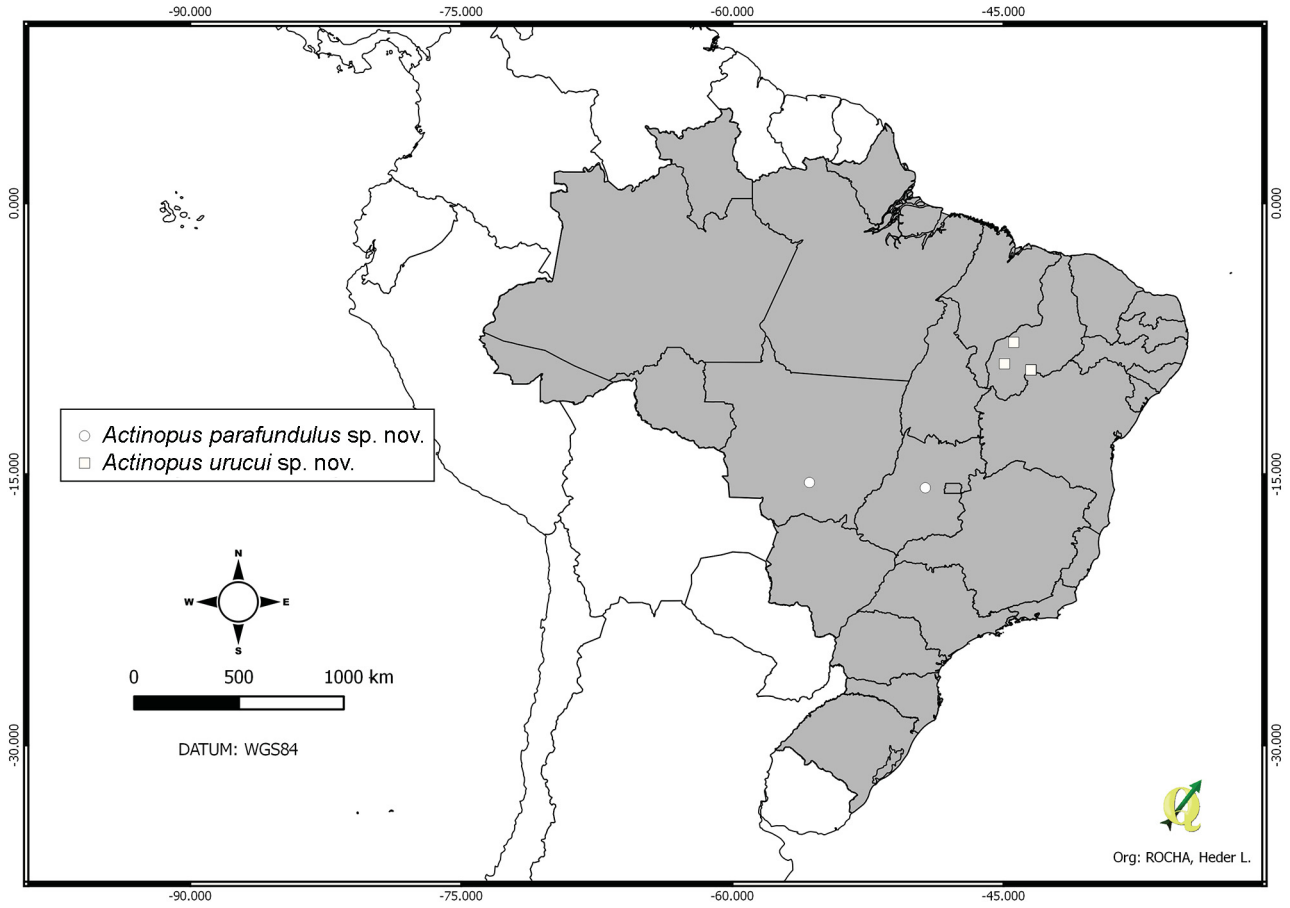
Description. See Ríos-Tamayo & Goloboff (2018: 35).

Distribution. ARGENTINA: San Luis and Córdoba.

Actinopus coylei Ríos-Tamayo & Goloboff, 2018

Actinopus coylei Ríos-Tamayo & Goloboff, 2018: 36, fig. 16 A–G, 17 A–F, 44 (holotype ♂, [23º 13' S 63º 33' W], 1km E de Hickman, Salta, Argentina, 22.iii.1988, P. Goloboff, F. Coyle and R. Bennet leg., MACN-Ar 36564; paratype ♀, same data of holotype, MACN-Ar 36564; not examined); World Spider Catalog, 2020.

Diagnosis. Males of *A. coylei* (Ríos-Tamayo & Goloboff, 2018, fig. 16 D–F) resemble those of *A. itacolomi* (Fig. 153 A–C), *A. longipalpis* (Fig. 156 A–C), *A. ariasi* (Ríos-Tamayo & Goloboff, 2018, fig. 12 D–F) and *A. cordobensis* (Ríos-Tamayo & Goloboff, 2018, fig. 15 D–F), by the PA continuous to PAc. They differ from those of *A itacolomi*, *A. longipalpis* and *A. pindapoy* (Fig. 159 A–C) by the wider bulb and from those of *A. ariasi* by the presence of a conspicuous serrated area on embolar base and, according to Ríos-Tamayo & Goloboff (2018), from those of *A. cordobensis* by the legs with metatarsi and



MAP 9. Distribution map of *Actinopus parafundulus* sp. nov. and *Actinopus urucui* sp. nov.

tarsi similarly colored (Ríos-Tamayo & Goloboff, 2018, fig. 15 B). According to Ríos-Tamayo & Goloboff (2018), females of *A. coylei* can be distinguished by the shape of their spermathecae with a squared base and a long external lobe, slightly straight or curved inward (Ríos-Tamayo & Goloboff, 2018, fig 17 D–E).

Description. See Ríos-Tamayo & Goloboff (2018: 36).

Distribution. ARGENTINA: Salta and Santiago del Estero.

Group *parafundulus*

Diagnosis. The species included in group *parafundulus* are unique in the embolar keels restricted to median sector of embolus, being represented by short prominent lamellae in prolateral view. Additional diagnostic characters are: small total length; abdomen without scutum; tegulum short and rounded; BTA developed, placed medially on prolateral tegular surface; serrated area represented by a

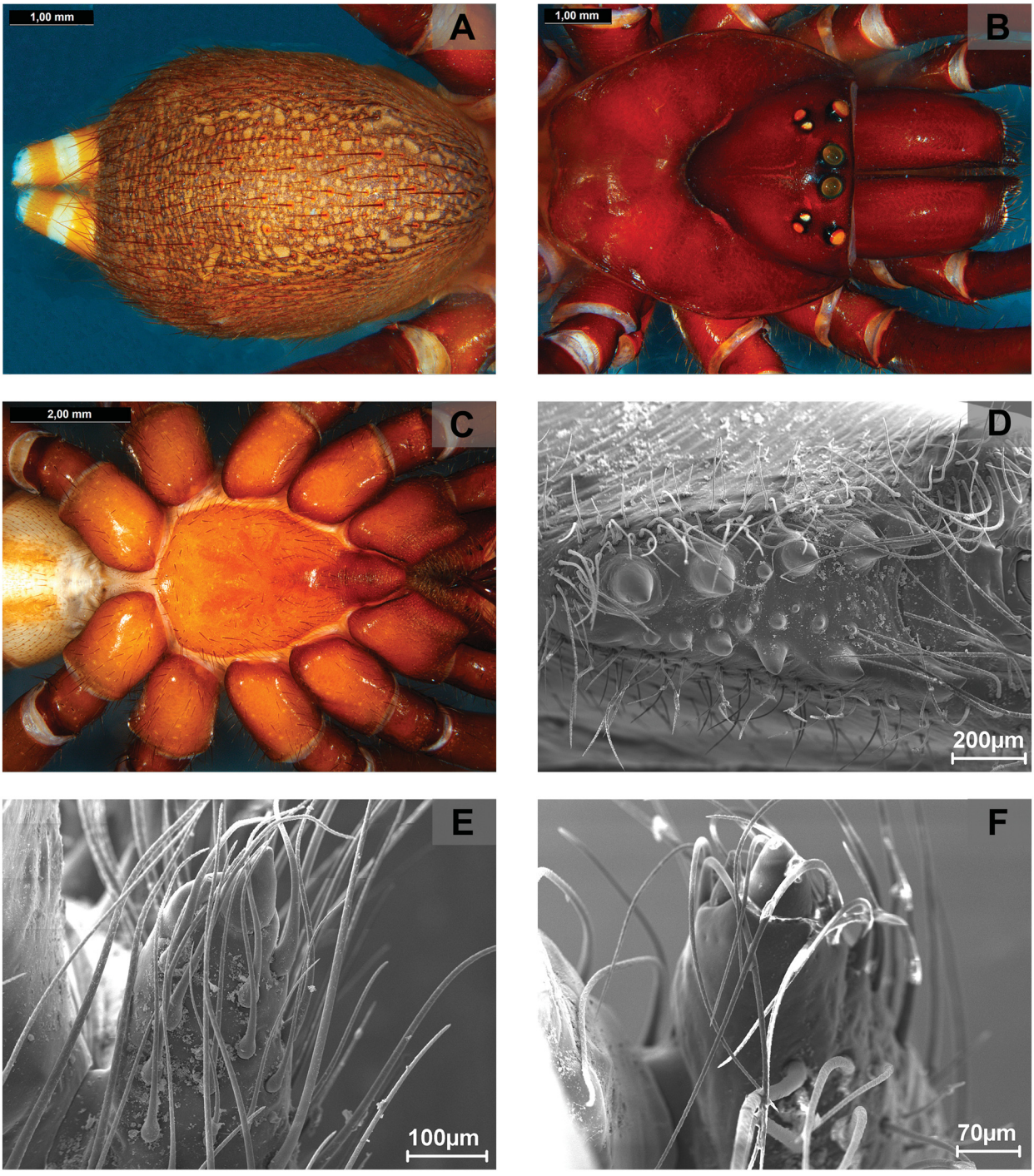


FIGURE 160. *Actinopus parafundulus* sp. nov., male: A–F MPEG 2242 (Automontage photos) and MPEG 2241 (SEM Images): A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

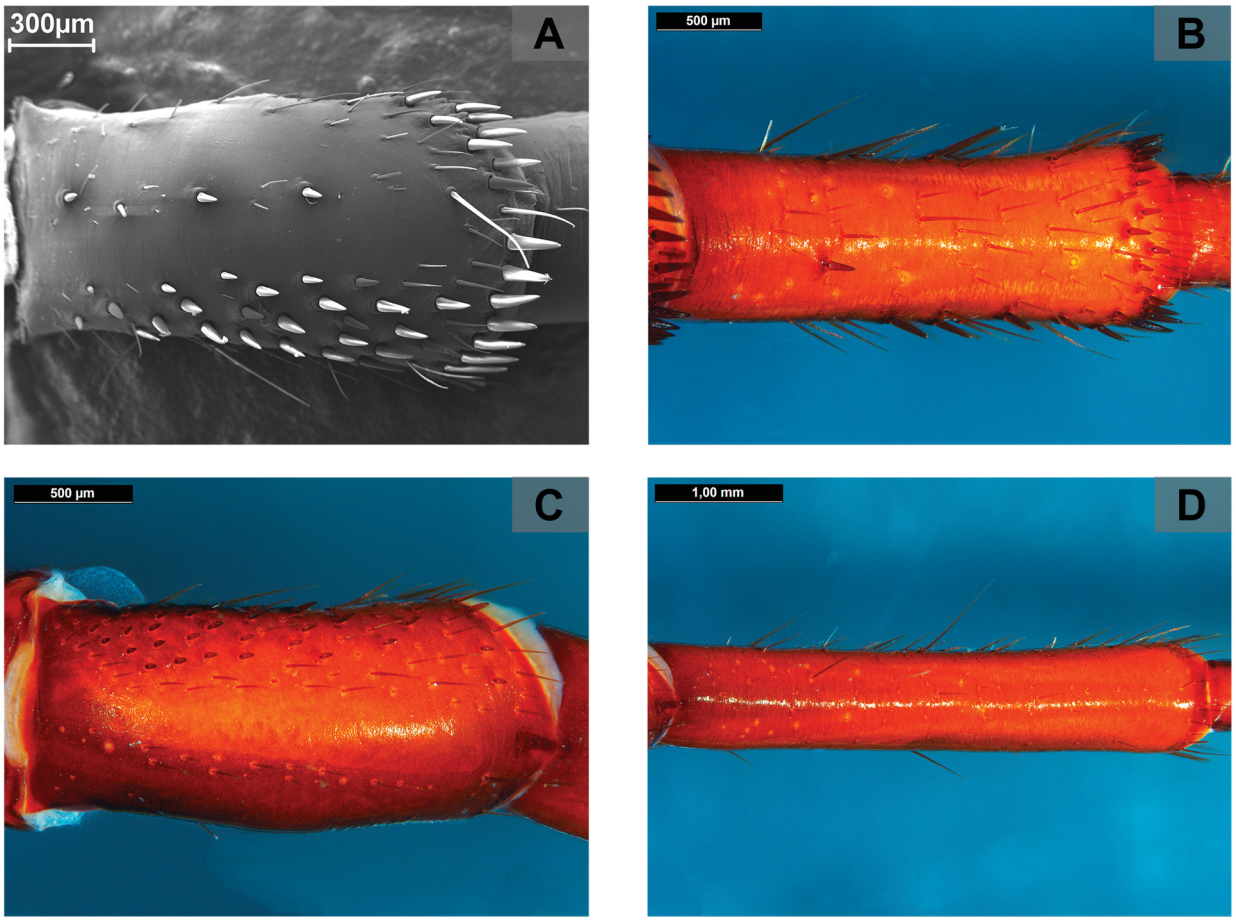


FIGURE 161. *Actinopus parafundulus* sp. nov., male: A–D MPEG 2242 (Automontage photos) and MPEG 2241 (SEM Images): A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

small and bounded area on embolus bases, above the last keel (PI in *A. parafundulus*, and PAc in *A. urucui*).

Species included. *A. parafundulus* sp. nov.; and *A. urucui* sp. nov.

Actinopus parafundulus sp. nov.

Figs 160–162, Map 9

Type material. Holotype male from [15º 44' 46" S 49º 19' 43" W], Jaraguá, Goiás, Brazil, 2001, A. Nunes leg. (MPEG 22073). **Paratypes:** BRAZIL. Mato Grosso: Chapada dos Guimarães, [15º 27' 10.26" 55º S 44' 21.02" W], 1♂, 20–29. xi.2000, C. Strussman leg. (MCTP 11532, 11543); 15–21.xii.2000, C. Strussman leg. (MCTP 13621); 3♂, 15–21.xii.2000, C. Strussman leg. (MCTP 13622). Goiás: Jaraguá, [15º 44' 46" S 49º 19' 43" W], 1♂, 2001, A. Nunes leg. (MPEG 2279); 8♂, 2001, A. Nunes leg. (MPEG 2278); 15♂, 2001, A. Nunes leg. (MPEG 2242); 21♂, 2001, A. Nunes leg. (MPEG 2241, 1♂ removed for SEM).

Etymology. The specific name is a composed Latin noun and refers to the paraembolic apophysis, which is very pronounced in this species.

Diagnosis. Males of *Actinopus parafundulus* differ from *A. urucui* (Fig. 165 A–C) by the longer tegulum; presence of only two keels (PS and PI) on copulatory bulb; and by the largest PA found in *Actinopus*, extending the tegular lateral edge (Fig. 162 A–C).

MALE (MPEG 2242): Total length 10.5; Carapace, long 5.7; wide 5.8. Carapace anterior part tapering. Anterior eye row slightly procurved, posterior row recurved (Fig. 160 B). With five short and weak bristles between AME-clypeus, between ALE–ALP, between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 160 C). Rastellum protuberant, inverted V-shaped, hirsute, with one spine apically (Fig. 160 E–F). Chelicerae with seven denticles along prolateral row of teeth. Prolateral row with five megateeth and one basal tooth. Retrolateral row with five megateeth and one denticle between the thirty distal and forty basal megateeth (Fig. 160 D). Patella and tibia III with distal crown of well-developed thorns, not

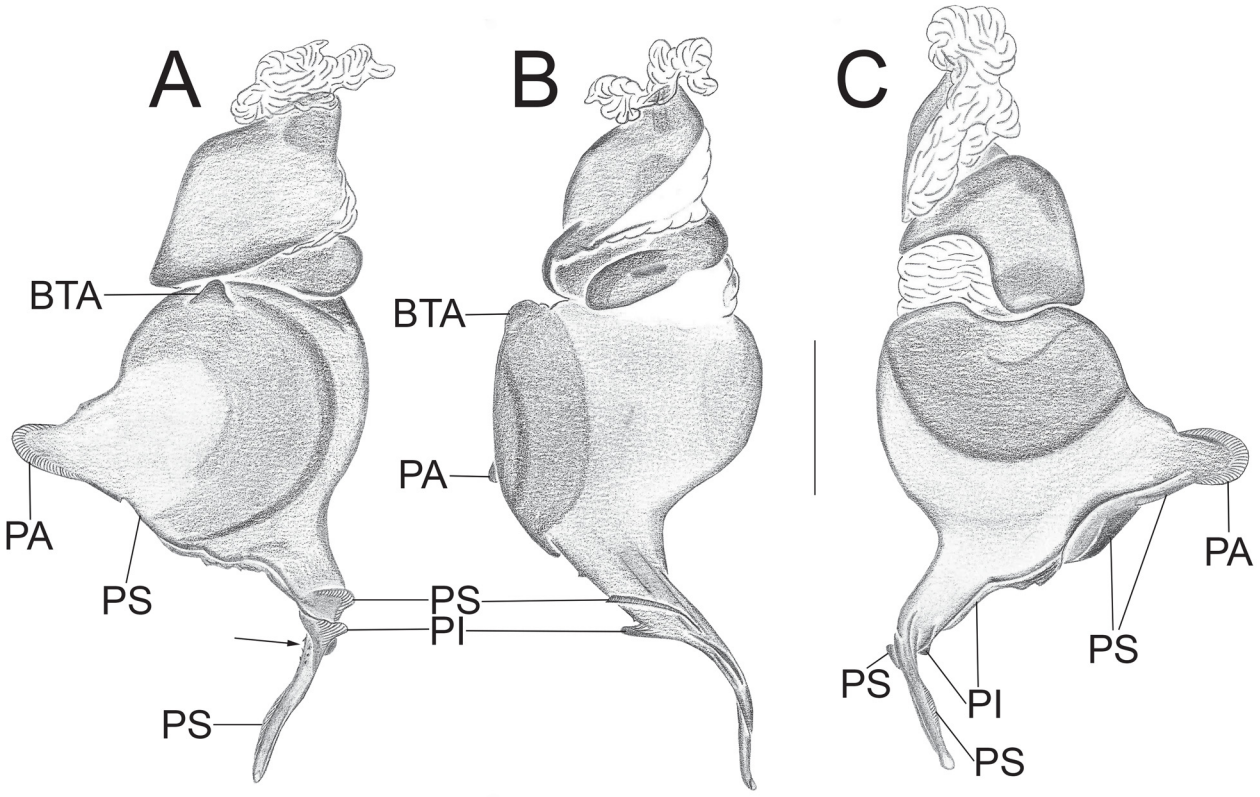


FIGURE 162. *Actinopus parafundulus* sp. nov., male: A–C MPEG 22073: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel. Arrow: Serrated area. Scale line: 1 mm.

interrupted in middle (Fig. 161 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 161 A, C). Tibia IV without spines on dorsal surface (Fig. 161 D). Ventral pseudoscopulae occupying 50% of tarsus I, 70% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi yellowish brown; Abdomen pale brown (Fig. 160 A). **Eyes: Diameters:** PME 0.4, PLE 0.4, ALE 1.6, AME 0.3; MOQ: Length 0.83, front width 1, back width 1.8; **Interdistances:** PME–PME 1.4, PLE–PME 0.4, AME–AME 0.1, ALE–AME 0.55, ALE–PLE 0.11, AME–PME 0.36. **Ocular area:** OAL 2.92, OAW 2.56, and IF 0.76. **Body:** Clypeus: 0.11; Fovea: 1.2; Labium: long 1.2; wide 1.1; Chelicerae: long 2.6; wide 1.5; Sternum: long 4.1; wide 3.3. Abdomen: long 4.8; wide 3.8. Leg measurements**:** I: Fe 7.2/ Pa 2.7/ Ti 4.7/ Me 5.3/ Ta 3.3/ total 23.2. II: 6.4/ 2.7/ 4.2/ 5.3/ 3.3/ 21.9. III: 5.5/ 2.6/ 3.6/ 5.5/ 3.8/ 21. IV: 7.4/ 3/ 6.3/ 5.2/ 4/ 25.9. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-3-5, d0, p0-0-3, r0; Me v3-5-3, d0, p3-3-3, r0-4-3; ta v0-2-4, d0, p0-1-0, r0. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v2-3-3, d0, p0-0-1, r0-3-2; Me v4-4-5, d0, p2-3-2, r2-3-1; ta v0-2-2, d0, p2-3-3, r0. III—Fe v0, d0, p0, r0; Pa v0, d4-14-32, p0-0-1, r0-0-1; ti v0-1-3, d1-0-14, p0-1-1, r0-2-4; Me v3-5-3, d0-5-5, p1-0-1, r1-2-6; ta v0, d0, p2-5-5, r0-7-4; IV—Fe v0, d0, p0, r0; Pa v0, d12-11-5, p0-0-1, r0; ti v0-0-2, d0-0-2, p0, r0; Me v2-0-5, d0-1-1, p1-3-4, r0-0-2; ta v0, d0, p2-4-3, r0 **Palp:** PA well developed, extending the tegular lateral edge. Embolus with two keels (PI and PS). BTA developed, dorsal; serrated area small, restricted to embolar base, below PI; PA continuous to PI; Embolar base thin (Fig. 162 A–C).

VARIATION

MALES (n=10): **Eyes: Diameters:** PME 0.38–0.44, PLE 0.33–0.44, ALE 0.16–0.22, AME 0.16–0.27; MOQ: Length 0.7–0.11, front width 0.88–1, back width 1.3–1.8; **Interdistances:** PME–PME 1.2–1.5, PLE–PME 0.38–0.44, AME–AME 0.11–0.22, ALE–AME 0.44–0.55, ALE–PLE 0.11–0.11, AME–PME 0.36–0.4. **Ocular area:** OAL 2.92–3.24, OAW 2.56–2.8, and IF 0.76–1.05. **Body:** Total length: 9.8–13.8; Carapace: long 5.2–6; wide 4.8–5.8; Clypeus: 0.055–0.11; Fovea: 1.2–2.3; Labium: long 0.8–1.3; wide 0.6–1.1; Chelicerae:

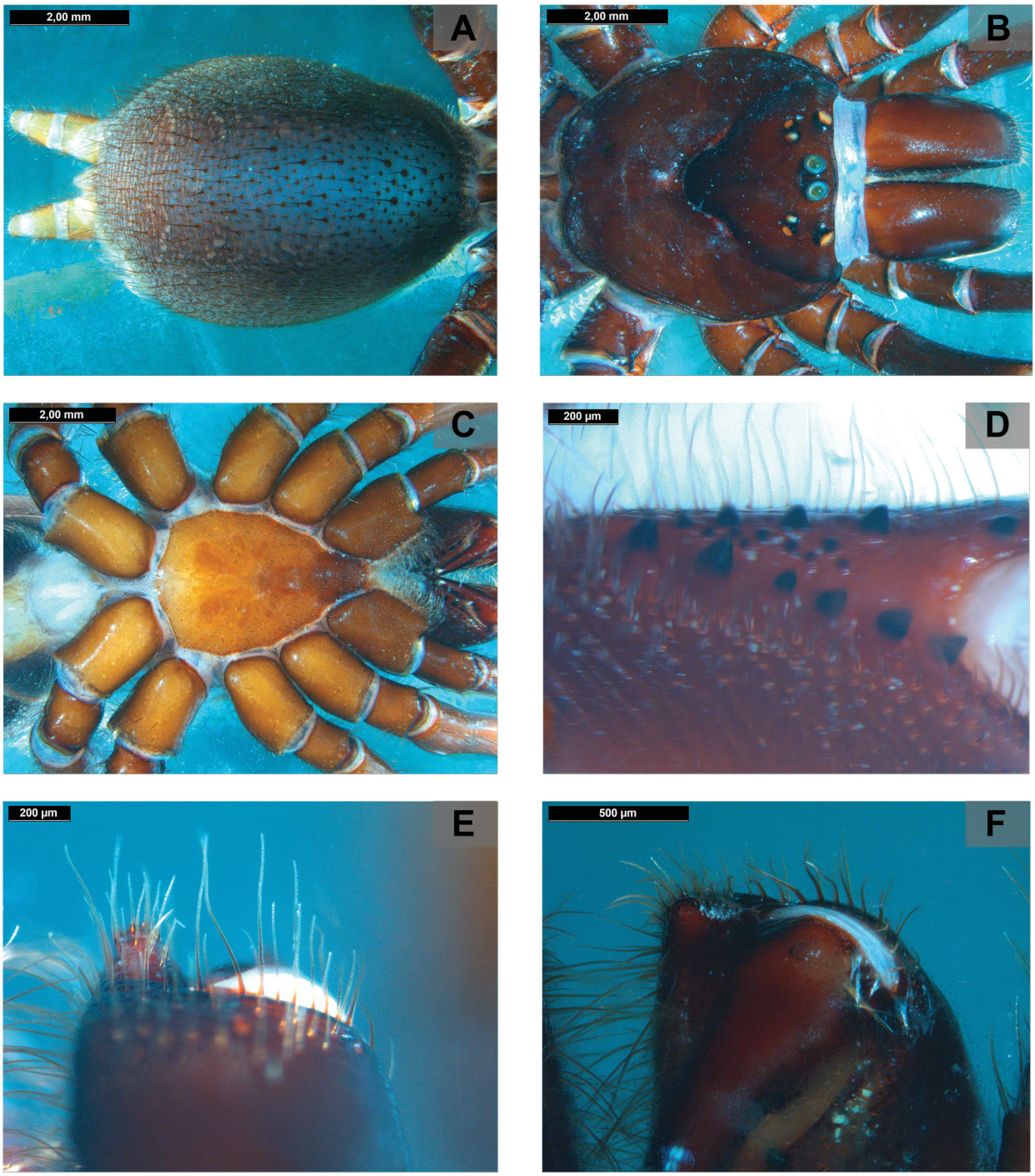


FIGURE 163. *Actinopus urucui* sp. nov., male: A–F MPEG 22271: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

long 2.1–3.1; wide 1.2–1.6; Sternum: long 2.7–4; wide 2.2–3.1. Abdomen: long 4.8–6.4; wide 3.5–5.1. **Leg measurements:** I: Fe 5.7–6.5/ Pa 2.3–2.6/ Ti 4–4.5/ Me 4.5–5.1/ Ta 2.5–3.4/ total 19–22.1. II: 5.6–6.1/ 2.3–2.6/ 3.4–4.5/ 3.3–5/ 2.7–3.3/ 17.3–21.5. III: 3.4–5.2/ 2–2.5/ 2.8–3.5/ 4.5–5.4/ 3–3.3/ 15.7–19.9. IV: 6.1–6.7/ 2.4–2.8/ 5.2–6/ 4.8–5.9/ 2.6–3.8/ 21.1–25.2.

Distribution. BRAZIL. Goiás: Jaraguá; Mato Grosso: Chapada dos Guimarães (Map 9).

Actinopus urucui sp. nov.

Figs 163–165, Map 9

Type material. Holotype male from 7º 41’ 41.3” S 44º 26’

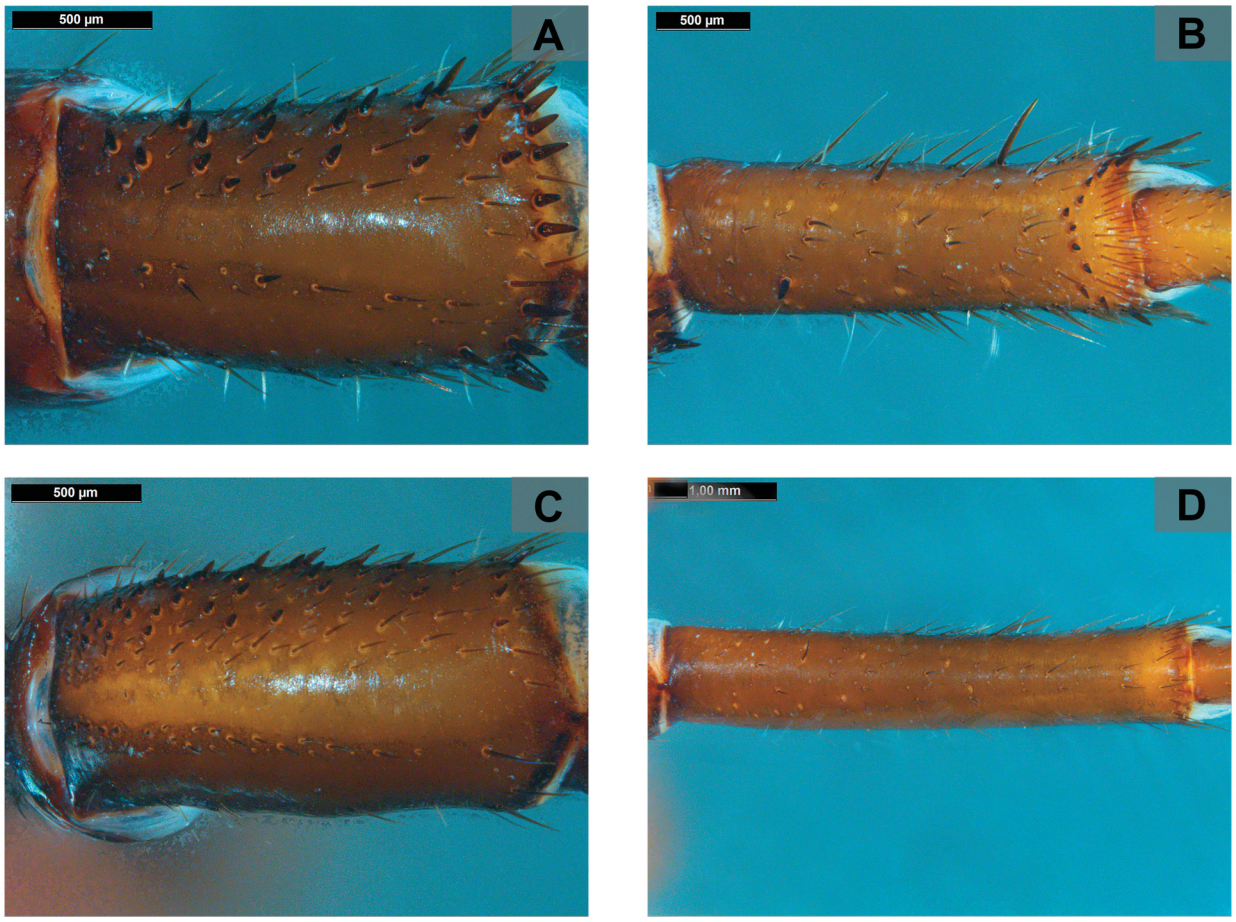


FIGURE 164. *Actinopus urucui* sp. nov., male: A–D MPEG 22271: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

30.2" W, Fazenda União, topo da chapada, 40 km de Uruçuí, Uruçuí, Piauí, Brazil, 21–26.x.2007, F. M. Oliveira-Neto leg. (MPEG 13206). **Paratypes:** BRAZIL. Piauí: Uruçuí, 40 km de Uruçuí, topo da chapada, Fazenda União, 7º 41' 41.3" S 44º 26' 30.2" W, 1♂, 21–26.x.2007, F. M. Oliveira-Neto leg. (MPEG 11666); Estação Ecológica de Uruçuí-Una, 08º 52' 55" S 44º 57' W, 2♂, 19–29.i.2001, G. G. Martingelli col. (MZSP 21553); Caracol, Parque Nacional da Serra das Confusões, Plote PPBio Semiárido, 9° 13' 32" S 43° 27' 47" W, 1♂ 1J, 08–16.xii.2010, L. S. Carvalho *et al.* leg. (CHNUFPI 239); 1♂, 13.xii.2010, L. S. Carvalho *et al.* leg. (CHNUFPI 172); Caatinga Arbustiva, 9° 13' 16" S 43° 28' 57" W, 1♂, x.2006, P. R. R. Silva *et al.* leg. (CHNUFPI 177); 09–15.xii.2010, L. S. Carvalho *et al.* leg. (CHNUFPI 168, 175); 3♂, x.2006, P. R. R. Silva *et al.* leg. (CHNUFPI 186); 6♂, x.2006, P. R. R. Silva *et al.* leg. (CHNUFPI 185); [09° 13' S 43° 29' W], 1♂ 1J (MPEG 22271); Plote PPBio Semiárido, 9° 13' 16" S 43° 29' 21" W, 1♂, x.2006, P. R. R. Silva *et al.* leg. (CHNUFPI 8, 9, 15, 17, 19, 22, 26, 167, 169, 170, 171, 173, 174, 176, 190, 191, 198, 201, 240, 241, 242); 2♂, x.2006, P. R. R. Silva *et al.* leg. (CHNUFPI 1, 3, 7, 10, 18, 21, 179, 180, 187, 192, 197, 199, 200); 08–16.xii.2010, L. S. Carvalho *et al.* leg. (CHNUFPI 235); 3♂, x.2006, P. R. R. Silva *et al.* leg. (CHNUFPI 5, 11, 181, 188, 189, 193, 195, 203); 4♂, x.2006, P. R. R. Silva *et al.* leg. (CHNUFPI 16, 20, 184); 4♂ 1J, X.2006, P. R. R. Silva *et al.* leg. (CHNUFPI 14, 238); 5♂ 1J, x.2006, P. R. R. Silva *et al.* leg. (CHNUFPI 196); 6♂, x.2006, P. R. R. Silva *et al.* leg. (CHNUFPI 12, 13); 11♂, x.2006, P. R. R. Silva *et al.* leg. (CHNUFPI 11, 1♂ removed for SEM); Área de Enclave, 9° 13' 12" S 43° 29' 27" O, 09–15.xii.2010, L. S. Carvalho *et al.* leg. (CHNUFPI 178).

Etymology. The specific name is a noun in apposition from the type locality name.

Diagnosis. Males of *Actinopus urucui* differ from *A. parafundulus* (Fig. 162 A–C) by the leg metatarsi and tarsi paler than other articles; shorter tegulum; presence of three keels (PAc, PS and PI) on copulatory bulb; and a smaller PA (Fig. 165 A–C).

MALE (MPEG 13206): Total length 9.38; Carapace, long 4.63; wide 3.88. Carapace rounded. Anterior eye

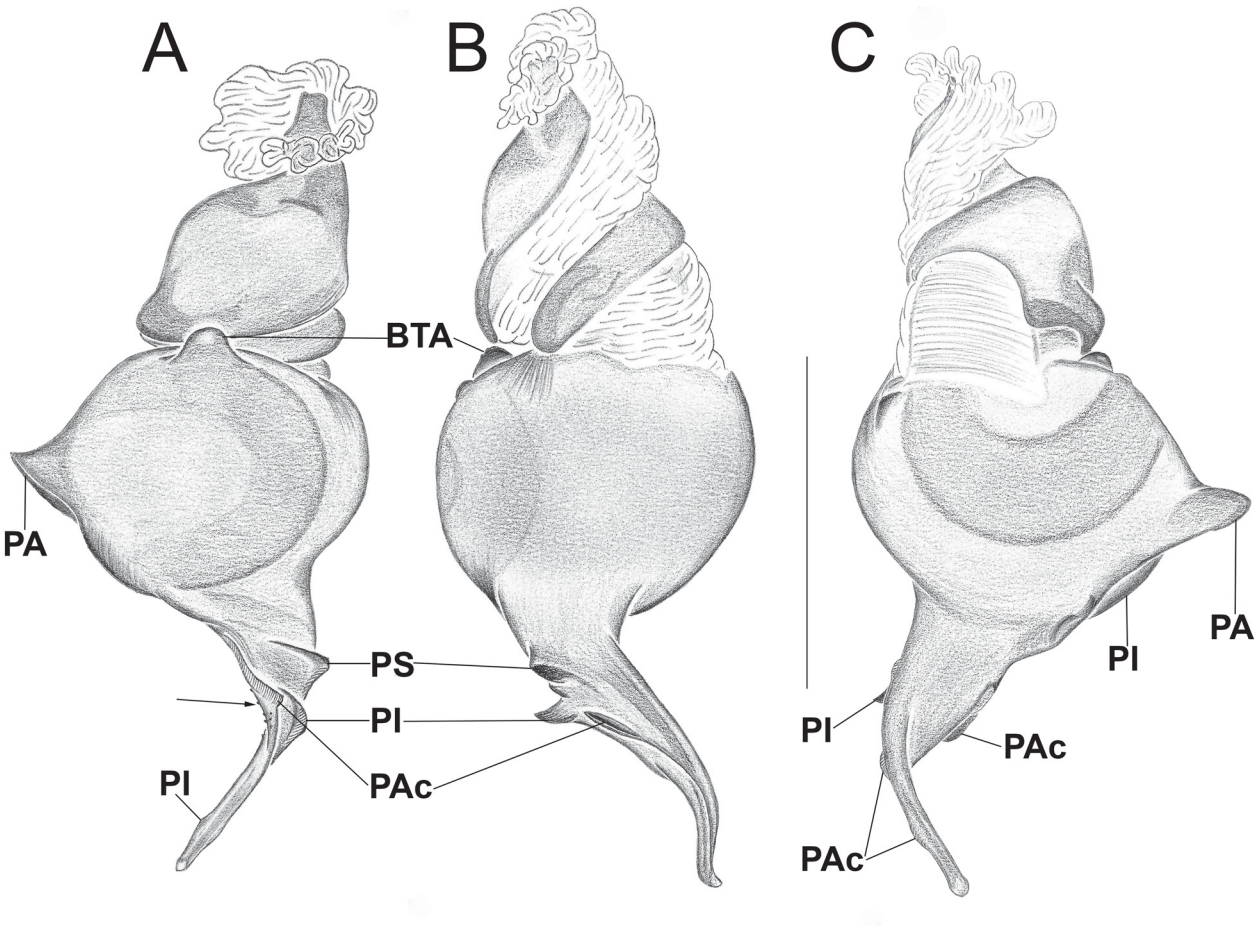


FIGURE 165. *Actinopus urucui* sp. nov., male: A–C MPEG 13206: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel. Scale line: 1 mm.

row slightly procurved, posterior row recurved (Fig. 163 B). With short an weak bristles between AME-clypeus, between ALE–ALP, between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 163 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines apically (Fig. 163 E–F). Chelicerae with eight denticles along prolateral row of teeth. Prolateral row with four megateeth and one basal tooth. Retrolateral row with six megateeth (Fig. 163 D). Patella and tibia III with distal crown of well-developed thorns, on patella III interrupted in middle and on tibia III not interrupted in middle (Fig. 164 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 164 A, C). Tibia IV without spines on dorsal surface (Fig. 164 D). Ventral pseudoscopulae occupying 10% of tarsus I, 40% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae pale brown; metatarsi and tarsi of legs yellowish brown, paler than other articles; Abdomen pale gray (Fig. 163 A). **Eyes: Diameters:** PME 0.2, PLE 0.2, ALE 0.28, AME 0.24; MOQ: Length 0.68, front width 2.12, back width 1.68; **Interdistances:** PME–PME 1.2, PLE–PME 0.12, AME–AME 0.16, ALE–AME 1.2, ALE–PLE 0.4, AME–PME 0.36. **Ocular area:** OAL 2.62, OAW 2.5, and IF 1.75. **Body:** Clypeus: 0.12; Fovea: 1.12; Labium: long 1; wide 0.87; Chelicerae: long 2.37; wide 1.25; Sternum: long 3; wide 2; Abdomen: long 4.5; wide 3.25. **Leg measurements:** I: Fe 4.62/ Pa 2/ Ti 3.12/ Me 4.5/ Ta 2.5/ total 16.75. II: 4.62/ 2/ 3.37/ 4.5/ 2.62/ 17.12. III: 4.12/ 2.12/ 2.62/ 5.12/ 2.62/ 16.62. IV: 5.62/ 2.25/ 4.75/ 4.37/ 2.87/ 19.87. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v1-1-3, d0, p0, r0; Me v5-7-6, d0, p3-4-3, r3-4-2; ta v4-6-5, d0, p1-1-2, r0. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-4-3, d0, p0, r4-6-2; Me v4-4-3, d0, p1-4-4, r4-6-3; ta v1-2-3, d0, p1-1-3, r2-3-4. III—Fe v0, d0, p0, r0; Pa v0, d5-5-18, p0-0-1, r0-0-1; ti v1-1-2, d1-0-16, p0-0-10, r1-2-6; Me v2-2-4, d2-3-1, p2-3-2, r0-3-6; ta v0, d0, p0, r1-6-1; IV—Fe

v0, d0, p0, r0; Pa v0, d17-11-2, p0, r0; ti v0-3-3, d0, p0-1-0, r0; Me v3-4-7, d0, p1-1-3, r0-0-1; ta v0, d0, p0-3-4, r0-0-2. **Palp:** PA well developed, pointed. Embolus with three keels (PAc, PI and PS). BTA developed and placed medially on prolateral tegular surface; PA continuous to PAc; Embolar base thin (Fig. 165 A–C).

Distribution. BRAZIL. Piauí: Uruçuí, and Caracol (Map 9).

Group *reznori*

Diagnosis. The species in the group *reznori* are recognized by the small total length; tibia of palp paler than other articles; abdomen without scutum and with spots of unpigmentation on dorsal surface; tegulum and embolus thin and elongated along longitidunal line; BTA developed and displaced dorsally in relation to a middle longitudinal line along prolateral tegular surface; embolus with only two keels (PS and PI). Serrated area represented by few cusps widespread along embolus.

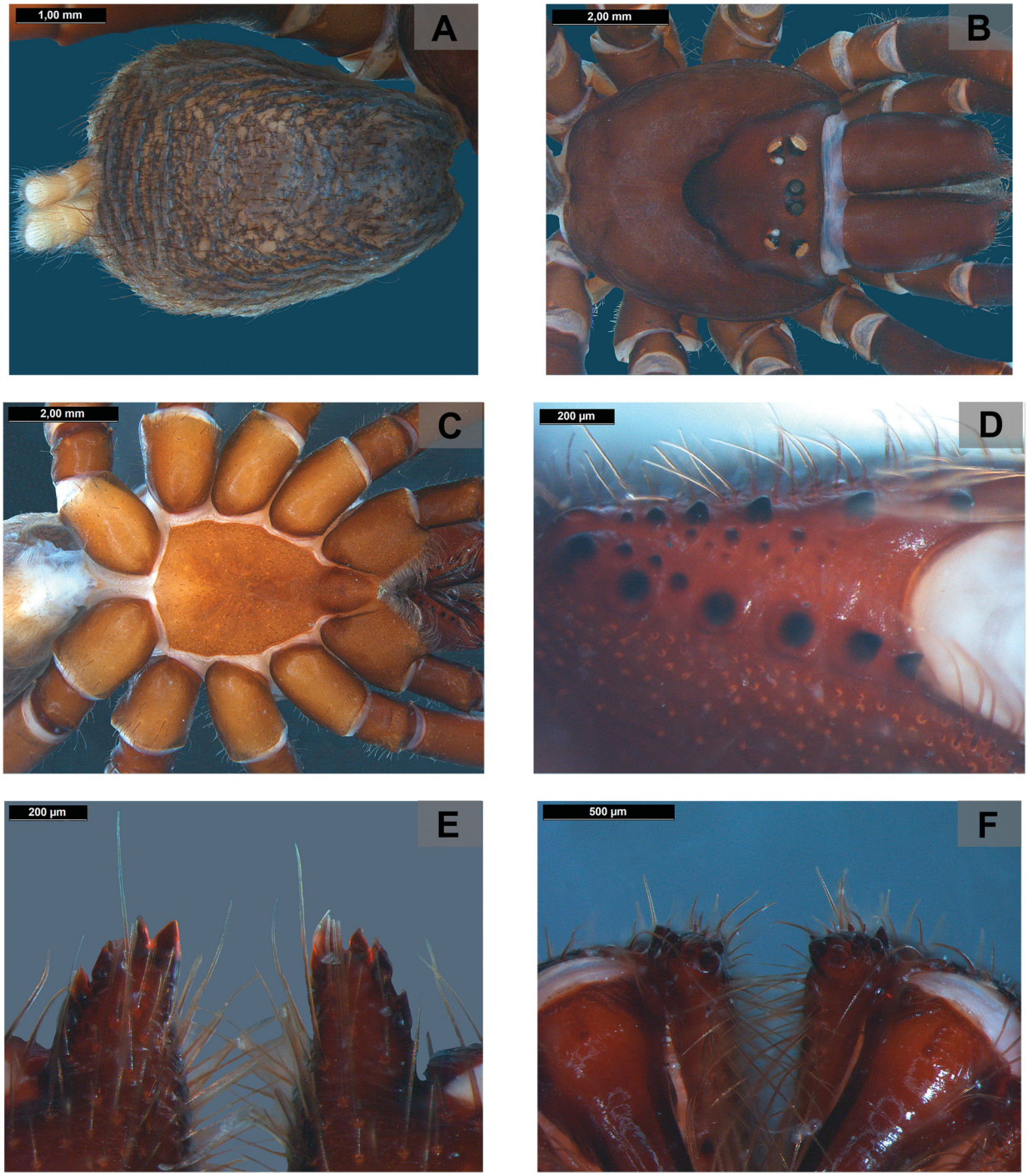


FIGURE 166. *Actinopus reznori* sp. nov., male: A–F IBSP 9992: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

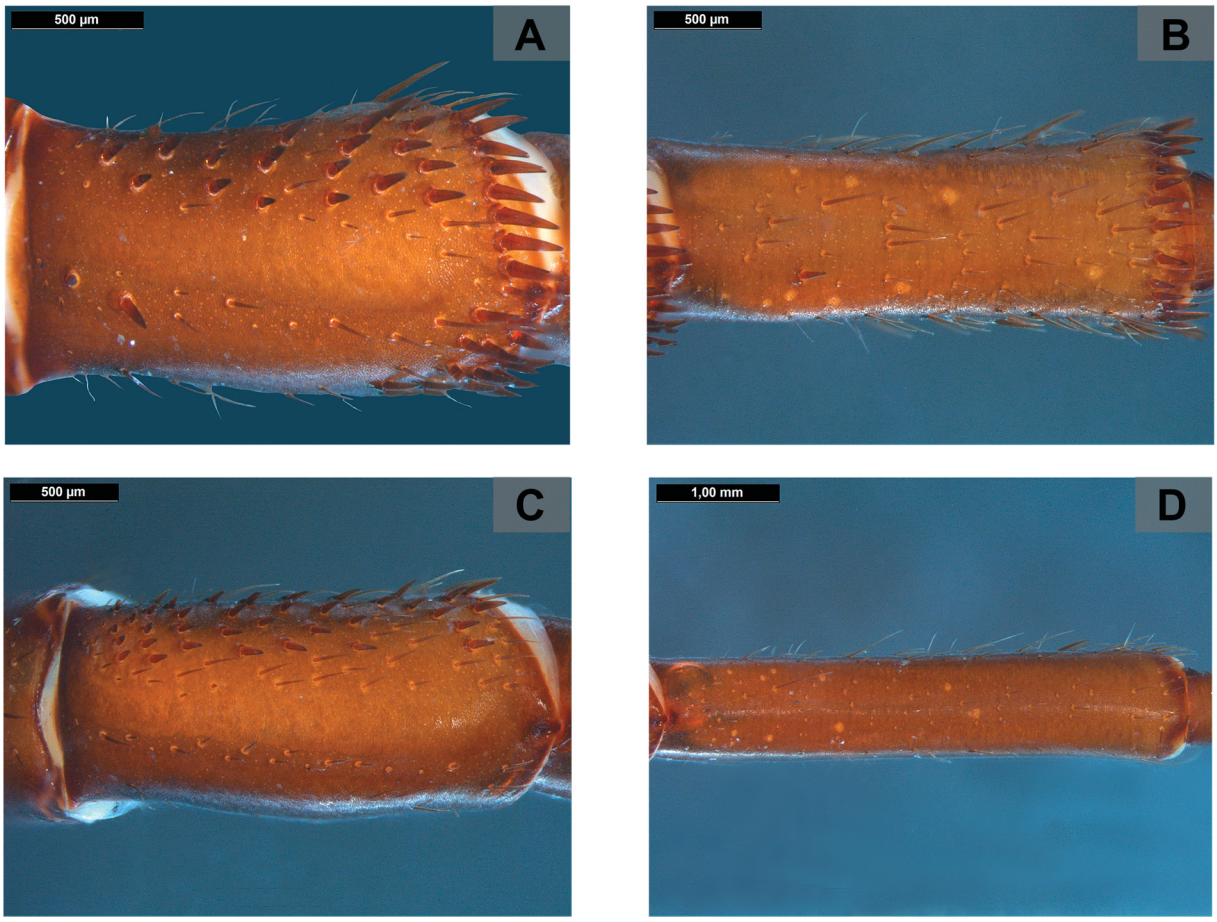


FIGURE 167. *Actinopus reznori* sp. nov., male: A–D IBSP 9992: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

Species included. *Actinopus reznori* sp. nov.; and *Actinopus anselmoi* sp. nov.

Actinopus reznori sp. nov.

Figs 166–168, Map 10

Type material. Holotype male from [22º 31' 30.54" S 44º 06' 13.60" W], Volta Redonda, Rio de Janeiro, Brazil, ii.2002, A. L. Costa do Carmo leg. (IBSP 109992). **Paratypes:** BRAZIL. Bahia: Barreiras, [12º 08' 51.89" S 44º 59' 42.38" W], 1♂, 30.vii.2000, E. Folly leg. (IBSP 114462). Rio de Janeiro: Volta Redonda, [22º 31' 30.54" S 44º 06' 13.60" W], Floresta de Cicuta, 1♂, 11–18.vi.2001–4–11.iii.2002, Equipe Biota leg. (IBSP 136745); Barra Mansa, [22º 32' 38.03" S 44º 07' 19.83" W], Campus do Sobeu, 1♂, 26–27.xii.1995, E. F. Ramos leg. (IBSP 107954); Itaguaí, Universidade Federal Rural do Rio de Janeiro (UFRRJ), Km 47, [22º 45' 47" S 43º 41' 19" W], 1♂, 8.vii.1957, R. Mello leg. (MNRJ 1972); Rio de Janeiro, Ilha do Fundão, Instituto de Biologia, Dentro do Prédio RLCB, [22º 50' 30" S 43º 14' 09" W], 2♂, 2008–2009 (MNRJ 6793). São Paulo: Ubatuba, Praia da Fortaleza, [23º 31' 42.93" S 45º 09' 57.15" W], 1♂, 05.vi.2004, A. M. Rosa leg. (IBSP 114466).

Etymology. The specific name refers to musician and multi-instrumentalist Michael Trent Reznor, founder of industrial music, leader of the Nine Inch Nails and affiliated to many other bands, in addition to his producer career.

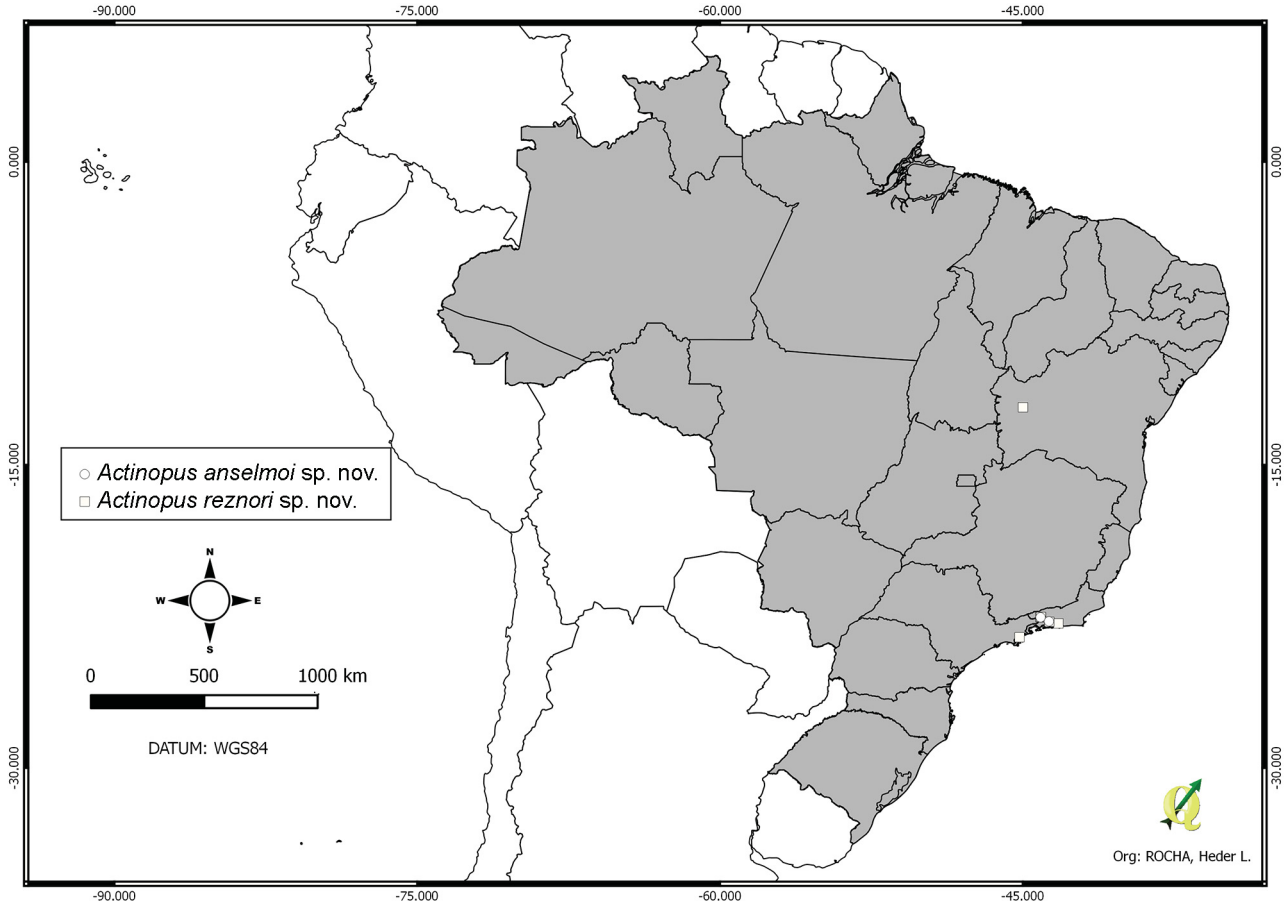
Diagnosis. Males of *Actinopus reznori* differ from those of *A. anselmoi* (Fig. 171 A–C) by the more conspicuous PA; two keels visible on prolateral copulatory bulb and serrated area dorsally located on prolateral embolus (Fig. 168 A–C).

MALE (IBSP 9992): Total length 7.4; Carapace, long 3.9; wide 3.5. Carapace rounded. Anterior eye row slightly procurved, posterior row recurved (Fig. 166 B). With few short and weak bristles between AME-clypeus, between ALE–ALP, between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others



FIGURE 168. *Actinopus reznori* sp. nov., male: A–C IBSP 9992: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel. Arrow: Serrated area. Scale line: 1 mm.

(Fig. 166 C). Rastellum protuberant, digitiform, hirsute, with a row of short spines apically (Fig. 166 E–F). Chelicerae with ten denticles along prolateral row of teeth. Prolateral row with five megateeth and one basal tooth. Retrolateral row with six megateeth and three denticles along three basal megateeth (Fig. 166 D). Patella and tibia III with distal crown of well-developed thorns, not interrupted in middle (Fig. 167 A–B). Patellae III and IV with spines on prolaterodorsal surface (Fig. 167 A, C). Tibia IV without spines on dorsal surface (Fig. 167 D). Ventral pseudoscopulae occupying 50% of tarsus I, 70% of II, 10% of metatarsi III and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi yellowish brown; tibia of palp yellow; Abdomen pale gray (Fig. 166 A). **Eyes: Diameters:** PME 0.18, PLE 0.28, ALE 0.34, AME 0.15; MOQ: Length 0.84, front width 2.18, back width 1.96; **Interdistances:** PME–PME 1.09, PLE–PME 0.09, AME–AME 0.18, ALE–AME 0.62, ALE–PLE 0.34, AME–PME 0.40. **Ocular area:** OAL 2.5, OAW 2.1, and IF 1.3. **Body:** Clypeus: 2; Fovea: 1.4; Labium: long 1.1; wide 0.9; Chelicerae: long 1.9; wide 1; Sternum: long 3.2; wide 2.8. Abdomen: long 3.3; wide 2.4. **Leg measurements:** I: Fe 4.75/ Pa 2/ Ti 3/ Me 3.5/ Ta 2.125/ total 15.37. II: 4.25/ 2/ 3.12/ 3.75/ 2/ 15.12. III: 3.5/ 2/ 2.25/ 3.87/ 2.37/ 14. IV: 4.87/ 2.12/ 4.25/ 4.37/ 2.5/ 18.12. Formula 4123.



MAP 10. Distribution map of *Actinopus reznori* sp. nov. and *Actinopus anselmoi* sp. nov.

Spination: I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-3-4, d0, p0-0-1, r0-0-1; Me v6-6-7, d0, p0-2-2, r2-3-2; ta v2-2-4, d0, p0, r0-2-2. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v2-4-4, d0, p0-0-2, r0-2-7; Me v3-6-7, d0, p0-2-1, r2-3-3; ta v3-2-4, d0, p0-2-4, r0-3-6. III—Fe v0, d0, p0, r0; Pa v0, d6-5-28, p0-0-4, r0-0-1; ti v0-0-3, d1-0-13, p0-0-2, r0-0-3; Me v3-5-6, d0-1-5, p0-2-3, r0-3-4; ta v0, d0, p0-4-3, r0-0-5; IV—Fe v0, d0, p0, r0; Pa v0, d14-18-10, p0, r0; ti v0-0-2, d0-0-1, p0, r0; Me v2-6-8, d0-0-2, p1-4-4, r0-0-1; ta v0, d0, p1-6-5, r1-3-4. **Palp:** PA small but conspicuous. Embolus with two keels (PI and PS). BTA developed, displaced dorsally in relation to a middle longitudinal line along prolateral tegular surface; serrated area represented by cusps dorsally located in prolateral view of embolus; PA continuous to PI; Embolar base thin (Fig. 168 A–C).

Distribution. BRAZIL. Bahia: Barreiras; Rio de Janeiro: Volta Redonda, Barra Mansa, Itaguaí, Rio de Janeiro; and São Paulo: Ubatuba (Map 10).

Actinopus anselmoi sp. nov.

Figs 169–171, Map 10

Type material. Holotype male from [22º 44’ 29.01” S 43º 42’ 18.91” W], Instituto de Biologia, Universidade Federal Rural do Rio de Janeiro (UFRRJ), Seropédica, Rio de Janeiro, Brazil, 20.vi.2005, A. J. Mahyé Nunes leg. (IBSP 114469). **Paratypes:** BRAZIL. Rio de Janeiro: Barra Mansa, [22º 32’ 38.03” S 44º 07’ 19.83” W], Campus do Sobeu, 3♂, 1997, E. F. Ramos leg. (IBSP 107985, 1♂ removed for SEM); seropédica, [22º 44’ 29.01” S 43º 42’ 18.91” W], Universidade Federal Rural do Rio de Janeiro (UFRRJ), Instituto de Biologia, 1♂, 1º.v.2005, R. P. Indicatti leg. (IBSP 114467).

Etymology. The specific name refers to musician Philip Hansen Anselmo, or Phil Anselmo, the main singer of Pantera, one of the most respected trash metal bands of the world.

Diagnosis. Males of *Actinopus anselmoi* differ from those of *A. reznori* (Fig. 168 A–C) by the inconspicuous PA; presence of only one keel on prolateral copulatory bulb and serrated area ventrally located on prolateral embolus (Fig. 171 A–C).

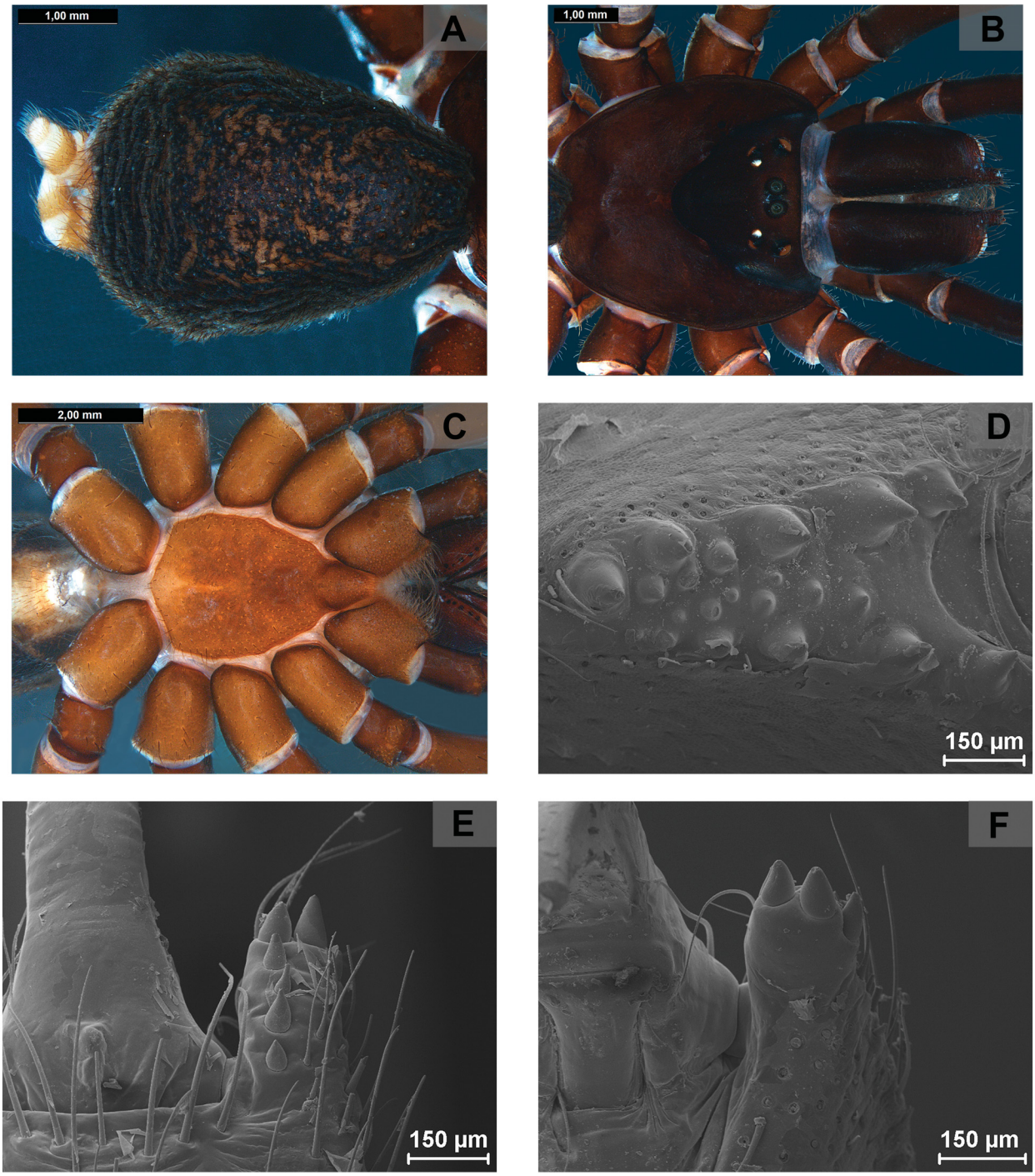


FIGURE 169. *Actinopus anselmoi* sp. nov., male: A–F IBSP 114469 (Automontage photos) and IBSP 107985 (SEM Images): A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

MALE (IBSP 114469): Total length 8; Carapace, long 4.25; wide 4.08. Carapace anterior part tapering. Anterior eye row slightly procurved, posterior row recurved (Fig. 169 B). With many short and weak bristles between AME-clypeus, between ALE–ALP, between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 169 C). Rastellum protuberant, digitiform, hirsute, with strong spines apically (Fig. 169 E–F). Chelicerae with seven denticles along prolateral row of teeth. Prolateral row with five megateeth. Retrolateral row with six megateeth and three denticles along two basal megateeth (Fig. 169 D). Patella and tibia III with distal crown of well-developed

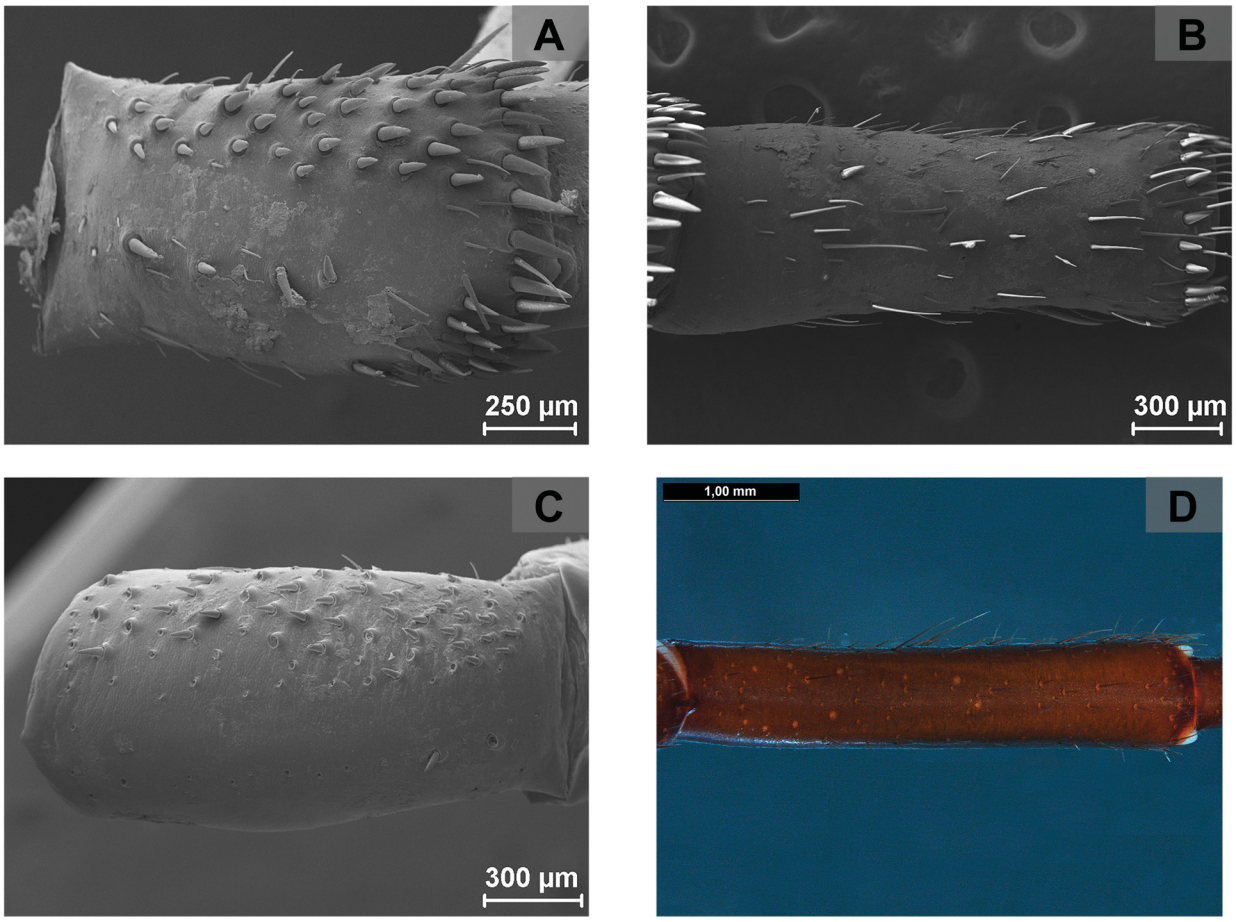


FIGURE 170. *Actinopus anselmoi* sp. nov., male: A–D IBSP 114469 (Automontage photos) and IBSP 107985 (SEM Images): A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

thorns, not interrupted in middle (Fig. 170 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 170 A, C). Tibia IV without spines on dorsal surface and with two visible of trichobothria (Fig. 170 D). Ventral pseudoscopulae occupying 50% of tarsus I, 70% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish brown; tibia of palp yellowish, paler than other articles. Abdomen pale gray (Fig. 169 A). **Eyes: Diameters:** PME 0.15, PLE 0.18, ALE 0.28, AME 0.21; MOQ: Length 0.59, front width 1.968, back width 1.65; **Interdistances:** PME–PME 1.031, PLE–PME 0.09, AME–AME 0.16, ALE–AME 0.53, ALE–PLE 0.22, AME–PME 0.37. **Ocular area:** OAL 2.83, OAW 2.33, and IF 0.75. **Body:** Clypeus: 0.16; Fovea: 1.5; Labium: long 0.58; wide 0.41; Chelicerae: long 2.25; wide 1.5; Sternum: long 1.75; wide 1.5. Abdomen: long 4; wide 3. **Leg measurements:** I: Fe 6.62/ Pa 2.75/ Ti 4.12/ Me 4.75/ Ta 3/ total 21.25. II: 6.25/ 2.75/ 4/ 5.12/ 3.12/ 21.25. III: 4.75/ 2.62/ 3.25/ 5.12/ 3.62/ 19.37. IV: 6.75/ 3/ 5.75/ 6.12/ 4/ 25.62. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-4-3, d0, p0-01, r0-0-1; Me v3-5-6, d0, p2-2-1, r1-2-4; ta v2-2-2, d0, p1-2-2, r1-2-1. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v1-3-4, d0, p0-01, r0-0-1; Me v3-5-5, d0, p0, r2-0-2; ta v3-0-1, d0, p0, r0-5-7. III—Fe v0, d0, p0, r0; Pa v0, d5-13-24, p0-0-1, r0-0-4; ti v0-1-3, d1-0-12, p0-0-1, r0-0-2; Me v0-6-8, d0-0-2, p1-2-2, r2-3-3; ta v0, d0, p2-3-4, r1-4-3; IV—Fe v0, d0, p0, r0; Pa v0, d13-11-8, p0, r0; ti v0-1-3, d0-0-1, p0, r0; Me v5-9-4, d0, p1-1-4, r0-0-1; ta v0, d0, p1-3-4, r0-1-5. **Palp:** PA inconspicuous. Embolus with only one keel (PS). BTA developed and displaced dorsally in relation to a middle longitudinal line along prolateral tegular surface; serrated area represented by cusps ventrally located on prolateral embolus; PA continuous to PS; embolar base thin (Fig. 171 A–C).

Distribution. BRAZIL. Rio de Janeiro: Seropédica; Barra Mansa (Map 10).

Material examined (burned in fire). BRAZIL. Rio de Janeiro: Seropédica, [22º 44’ 29.01” S 43º 42’

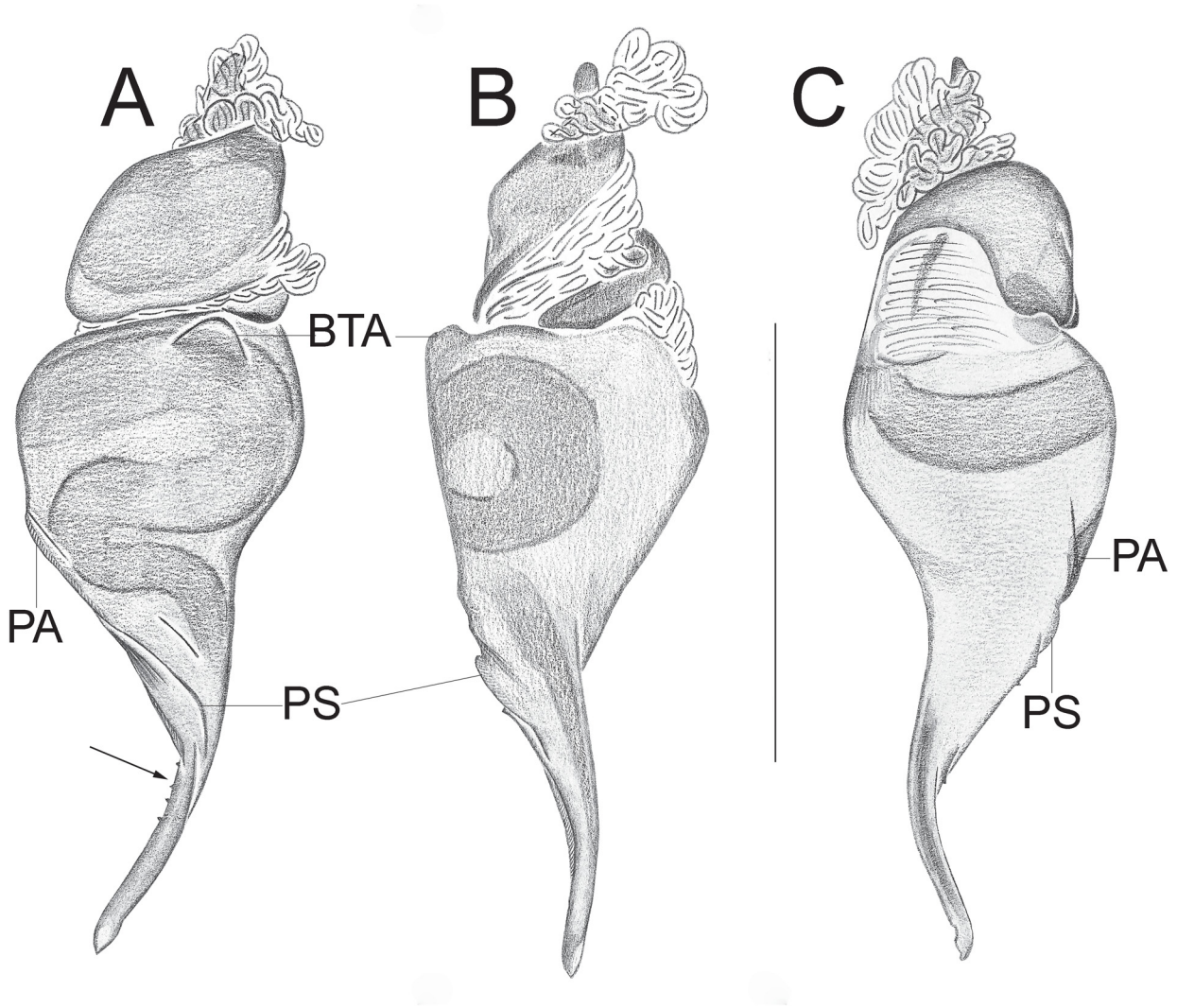


FIGURE 171. *Actinopus anselmoi* sp. nov., male: A–C IBSP 114469: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PS**-Prolateral Superior keel. Arrow: Serrated area. Scale line: 1 mm.

18.91" W], Universidade Federal Rural do Rio de Janeiro (UFRRJ), Instituto de Biologia, 1♂, 20.X.2005, R. P. Indicatti leg. (IBSP 114468).

Group *cucutaensis*

Diagnosis. The species in the group *cucutaensis* are readily recognized by the apical tegular process obliquely oriented in relation to embolus, reaching 3/4 the size of the bulb.

Species included. *Actinopus cucutaensis* Mello-Leitão, 1941; *Actinopus robustus* (O. Pickard-Cambridge, 1892); *Actinopus lomalinda* sp. nov.; *Actinopus palmar* Ríos-Tamayo & Goloboff, 2018; *Actinopus guajara* sp. nov.; and *Actinopus concinnus* sp. nov.

Actinopus cucutaensis (Mello-Leitão, 1941)

Figs 172–176, Map 11

Actinopus cucutaensis Mello-Leitão, 1941: 114, fig. 1 (holotype ♂, Cucutá, Norte de Santander, Colombia, ICN, burned); World Spider Catalog, 2020.

Diagnosis. Males of *Actinopus cucutaensis* differ from all other species of the genus by the apical tegular process nearly 3/4 the size of the embolus. They differ from those of those of *A. lomalinda* (Fig. 186 A–C) by the ATP angle of insertion on tegulum and in the presence of a bigger serrated area, which occupies 40% of the embolus, as seen on dorsal view (Fig. 176 A–C). Females differ from those of all other species of the genus by the two mushroom-shaped receptacles, with wide, rounded apexs, and by *ca.* 90% of receptacles surfaces covered with pores (Fig. 176 D).

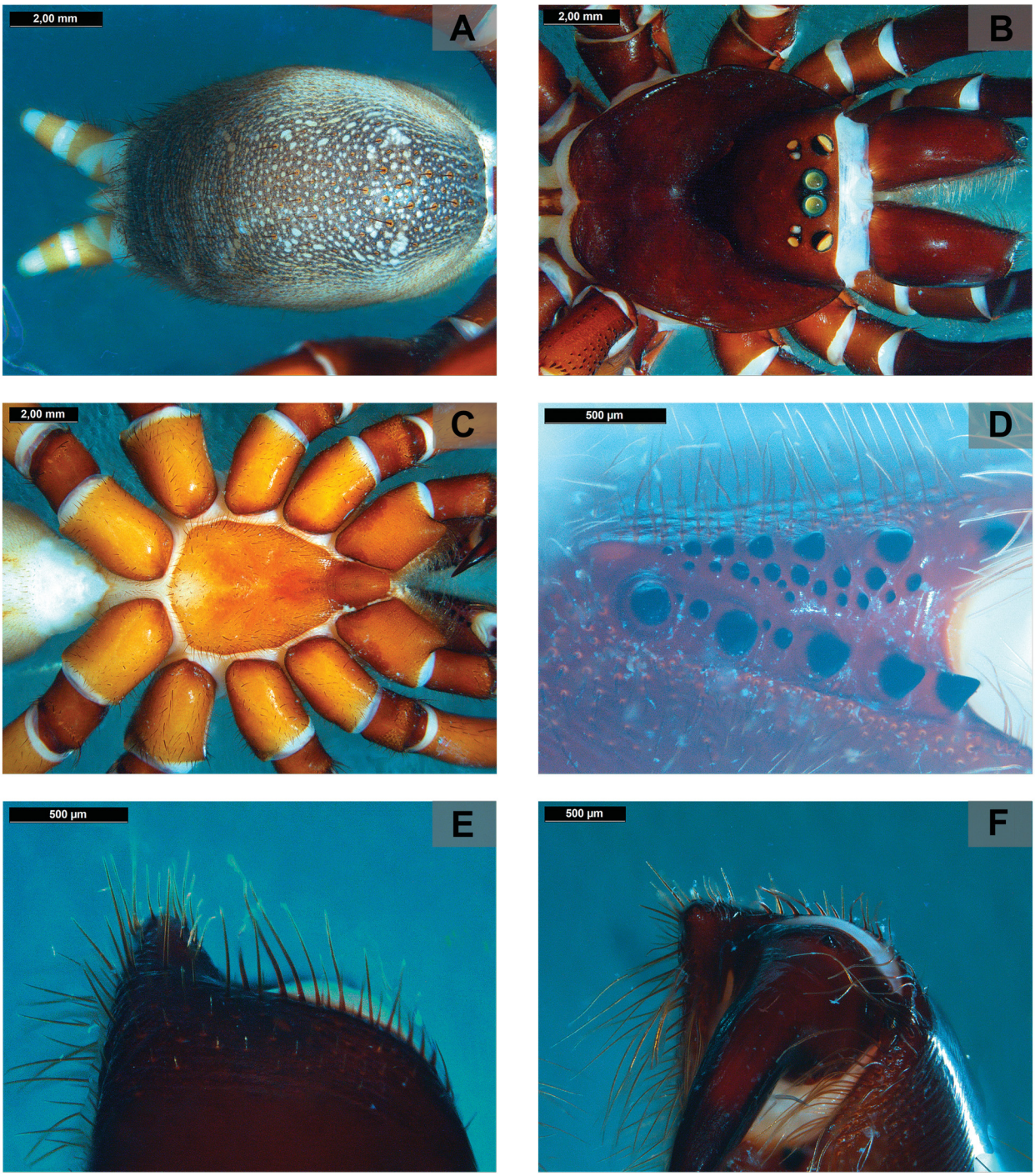


FIGURE 172. *Actinopus cucutaensis* (Mello-Leitão, 1941), male: A–F INPA 3513: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

MALE (INPA 3513): Total length 16.62; Carapace, long 7.37; wide 8. Carapace anterior part tapering. Anterior eye row slightly procurved, posterior row recurved (Fig. 172 B). Two bristles between AME-clypeus. Sternum with eight sigilla fused medially, two distal sigilla more fused to each other than others (Fig. 172 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines (Fig. 172 E–F). Chelicerae with 15 denticles along prolateral row of teeth. Prolateral row with six megateeth and one denticle on basal part. Retrolateral row with five megateeth and four denticles between three basal megateeth (Fig. 172 D). Patella and tibia III with distal crown of well-developed thorns, interrupted in middle on patella III and not interruped in the middle on tibia III (Fig. 173 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 173 A, C). Patella IV with

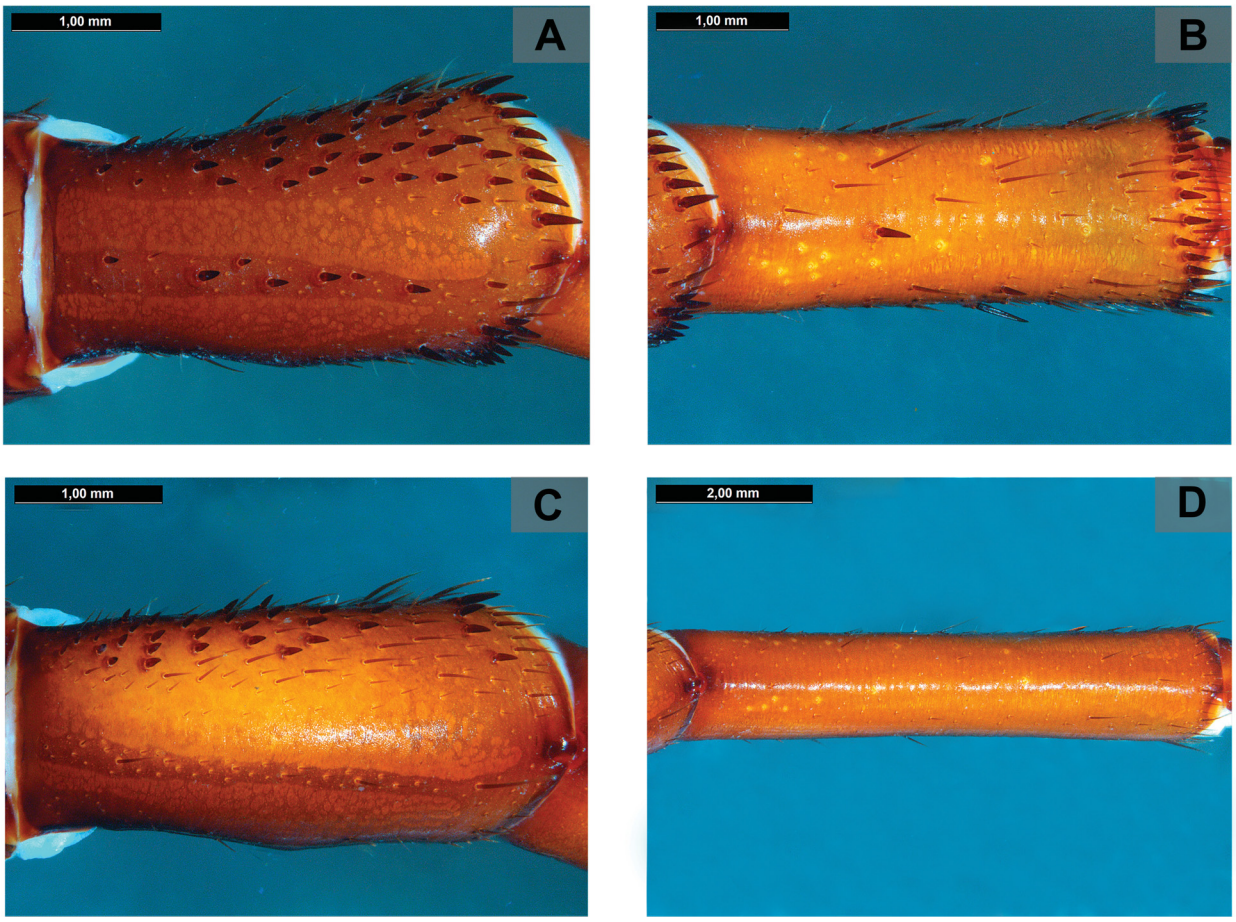


FIGURE 173. *Actinopus cucutaensis* (Mello-Leitão, 1941), male: A–D INPA 3513: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

prolaterodorsal short spines along extension of article (Fig. 173 D). Ventral pseudoscopulae occupying 30% of tarsi I, 50% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; In tarsi III and IV, compat. Carapace and Chelicerae reddish brown, sternum yellowish brown, coxae, trochantera, femora and patellae pale brown, tibiae, metatarsi and tarsi reddish brown, abdomen pale gray (Fig. 172 A). **Eyes: Diameters:** PME 0.31 PLE 0.34 ALE 0.43, AME 1; MOQ: Length 1.28, front width 3.15, back width 2.6; **Interdistances:** PME–PME 1.7, PLE–PME 0.1, AME–AME 0.15, ALE–AME 0.6, ALE–PLE 0.5, AME–PME 0.35. **Ocular area:** OAL 5, OAW 4.16, and IF 1.75. **Body:** Clypeus: 0.25; Fovea: 3; Labium: long 1.75; wide 1.37; Chelicerae: long 3.37; wide 2.12; Sternum: long 4.5; wide 3.87. Abdomen: long 8.37; wide 5.62. **Leg measurements:** I: Fe 7.87/ Pa 3.25/ Ti 4.75/ Me 5.62/ Ta 3.25/ total 24.75. II: 7.5/ 3.12/ 4.62/ 5,37/ 3.25/ 23.87. III: 6.37/ 3.37/ 3.5/ 6.5/ 3.5/ 23.25. IV: 8.62/ 3.75/ 6.87/ 7.5/ 3.87/ 30.62. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0-0-1, d0, p0, r0; ti v0-4-5, d0, p0-0-1, r0-0-1; Me v3-3-0, d0, p2-1-3, r2-6-4; ta v1-3-2, d0, p0-1-3, r1-4-4. II—Fe v0, d0, p0, r0; Pa v0, d0, p0-1-0, r0; ti v1-3-3, d0, p0, r1-2-3; Me v5-4-2, d0, p1-1-2, r0-1-4; ta v0, d0, p1-3-2, r3-5-8. III—Fe v0, d0, p0, r0; Pa v0, d3-20-25, p1-0-3, r0-0-4; ti v2-2-2, d0-1-15, p1-2-4, r0-2-4; Me v4-8-9, d0, p2-1-1, r0-0-1; ta v0, d0, p1-4-5, r0-3-6; IV—Fe v0, d0, p0, r0; Pa v0, d13-9-4, p2-2-1, r0; ti v2-2-3, d0, p0-0-1, r0-0-2;Me v2-3-4, d0, p2-5-5, r0; ta v0, d0, p1-5-6, r0-3-6. **Palp:** PA well developed, embolus without keels (Pa, PI and PS). ATP nearly 3/4 the size of the embolus. BTA poorly developed; prolateral tegulum serrated next to base of next to base of ATP, embolus inserted at 20° angle on basal portion of copulatory bulb; embolar bases thin (Figs. 176 A–C).

FEMALE (AMNH): Total length 18.37; Carapace, long 6.12; wide 5.50. Carapace anterior part tapering. Anterior eye row procurved, posterior row slightly recurved. More than 20 short and long bristles between AME-clypeus, one very long bristle and almost 3–5 short bristles between PLE–ALE, more than 30 short and long bristles between posterior eyes-fovea and almost 10–15

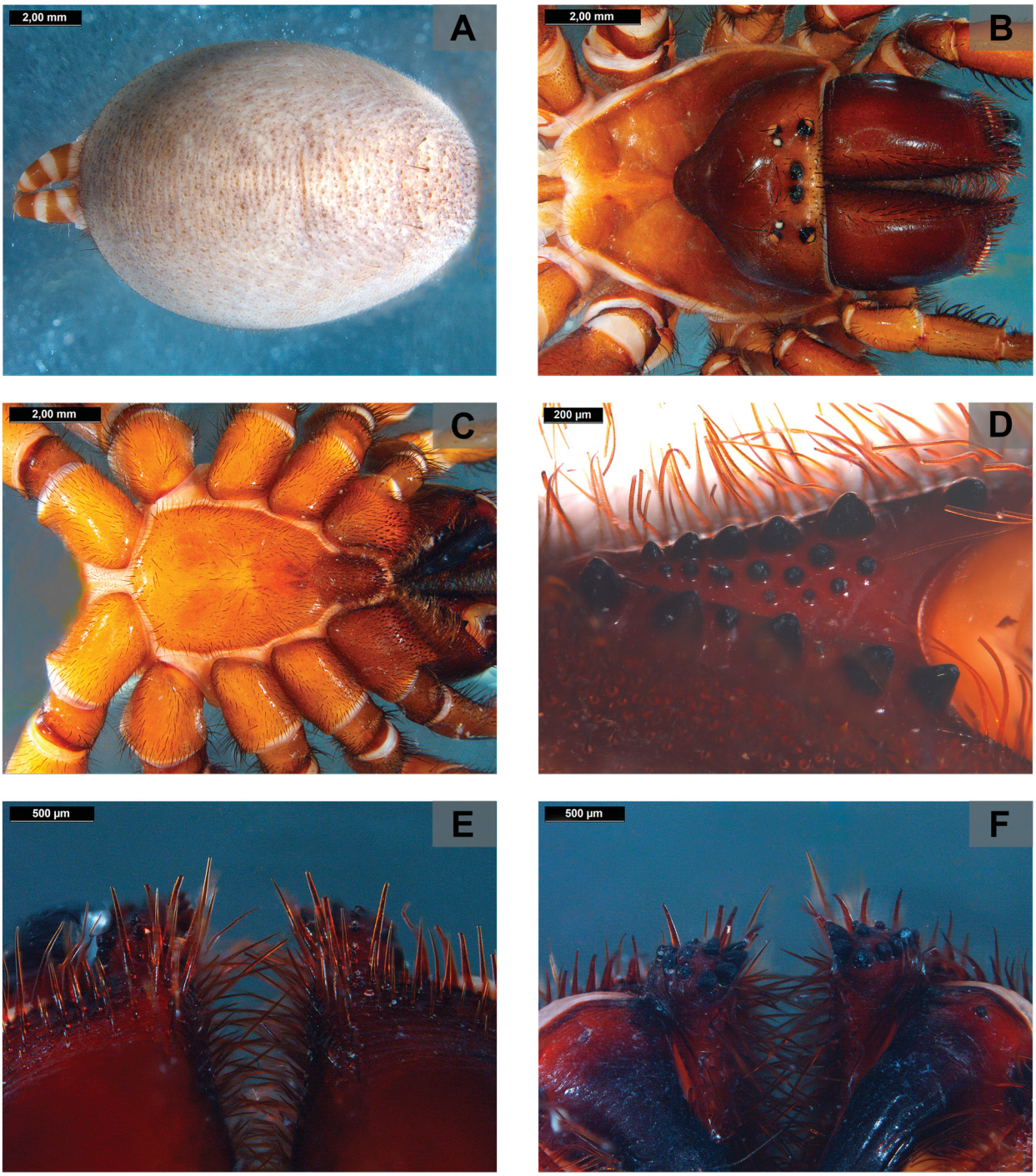
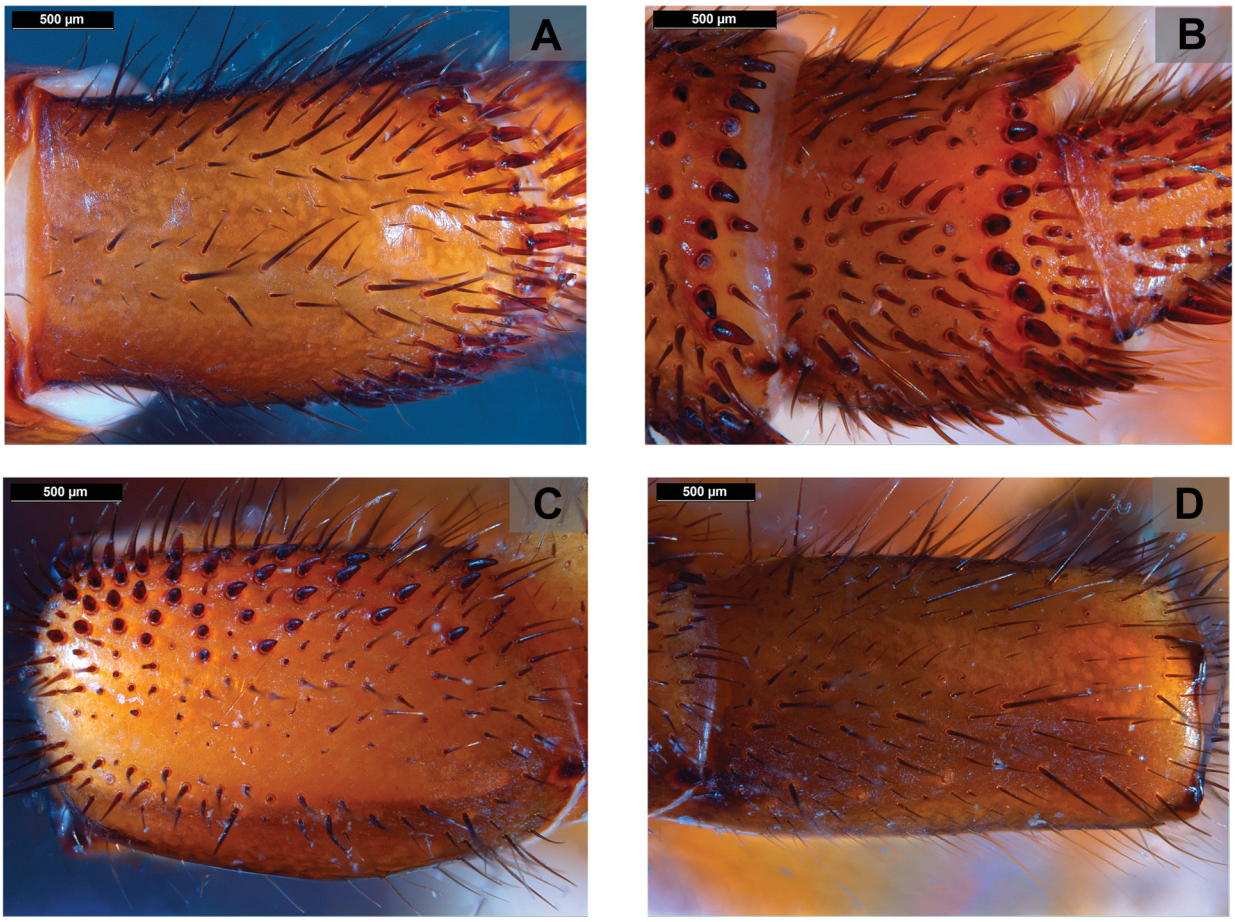


FIGURE 174. *Actinopus cucutaensis* (Mello-Leitão, 1941), female: A–F AMNH: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

short bristles between lateral eyes-edge of carapace (Fig. 174 B). Sternum with eight sigilla fused medially, two distal sigilla more fused to each other than others (Fig. 174 C). Rastellum protuberant, subquadrate, hirsute, with a row of spines on the edge of rastellum and short spines in dorsal part of rastellum (Fig. 174 E–F). Chelicerae with denticles along prolateral row of teeth. Prolateral row with four megateeth and two teeth on basal area. Retrolateral row with five megateeth and three teeth between four basal megateeth (Fig. 174 D). Patella and tibia III with distal developed crowns of thorns (Fig. 175 A–B). Patella IV with prolaterodorsal spines along extension of article (Figs. 175 C). Patella IV with prolaterodorsal short spines along extension of article (Fig. 175 D). Carapace,



FIGURES 175. *Actinopus cucutaensis* (Mello-Leitão, 1941), female: A–D AMNH: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

chelicerae, sternum, coxae, trochantera, femora, patellae, Tibia, metatarsi, tarsi and palp reddish brown, and abdomen pale gray. 16 labial cuspules, 66 on right maxilla and 101 on left. **Eyes: Diameters:** PME 0.2 PLE 0.24 ALE 0.4 AME 0.16; MOQ: Length 1.04, front width 2.76, back width 2.6; **Interdistances:** PME–PME 1.6, PLE–PME 0.12, AME–AME 0.32, ALE–AME 0.88, ALE–PLE 0.56, AME–PME 0.56. **Ocular area:** OAL 4.75, OAW 3.75, and IF 0.96. **Body:** Clypeus: 0.37; Fovea: 2.62; Labium: long 1.5; wide 1.12; Chelicerae: long 2.5; wide 2.25; Sternum: long 3.87; wide 3.25. Abdomen: long 11.12; wide 8.12. **Leg measurements:** I: Fe 2.62/ Pa 2.12/ Ti 1.62/ Me 1.75/ Ta 0.75/ total 8.87. II: 2.75/ 2.12/ 1.37/ 2/ 0.87/ 9.12. III: 2.5/ 2.37/ 1.12/ 1.12/ 1.37/ 8.5. IV: 3.12/ 2.5/ 2.25/ 2/ 1/ 10.87. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0-3-4, r4-9-12; Me v1-1-2, d0, p5-10-7, r7-10-6; ta v1-2-2, d0, p5-4-0, r4-3-22. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-4-2, d0, p0, r2-38-30; Me v0-3-1, d0, p3-7-5, r3-12-3; ta v2-2-3, d0, p6-7-4, r3-0-0. III—Fe v0, d0, p0, r0; Pa v0, d0-0-27, p0-0-7, r0-0-11; ti v0-10-14, d2-0-11, p0-0-3, r11-19-15; Me v0-6-8, d1-3-3, p0, r2-8-14; ta v20-23-16, d0-0-3, p1-10-12, r0-8-12; IV—Fe v0, d0, p0, r0; Pa v0, d20-12-5, p0, r0; ti v0-0-1, d0, p0, r0; Me v0-0-3, d0-0-3, p0-2-4, r0; ta v2-10-11, d0, p0, r0-0-10. **Spermathecae:** Seminal receptacles symmetric, longer than wide, with short ducts fused on the base. Both receptacles without lobes, with rounded apexs, wider than the ducts. Pore distribution reaching basal portion of each receptacle (Fig. 176 D).

VARIATION

MALES (n=10): **Eyes: Diameters:** PME 0.16–0.31, PLE 0.22–0.4, ALE 0.36–0.56, AME 0.21–0.56; MOQ: Length 0.92–1.28, front width 2.28–3.16, back width 2–2.9; **Interdistances:** PME–PME 1.28–1.76, PLE–PME 0.08–0.16, AME–AME 0.08–0.24, ALE–AME 0.52–0.76, ALE–PLE 0.36–0.64, AME–PME 0.32–0.52. **Ocular area:** OAL 3.64–5.1, OAW 3–4.16, and IF 1.5–2.62. **Body:** Total length: 9.87–16.62; Carapace: long 5.12–7.37; wide 5.37–8; Clypeus: 0.12–0.3; Fovea:

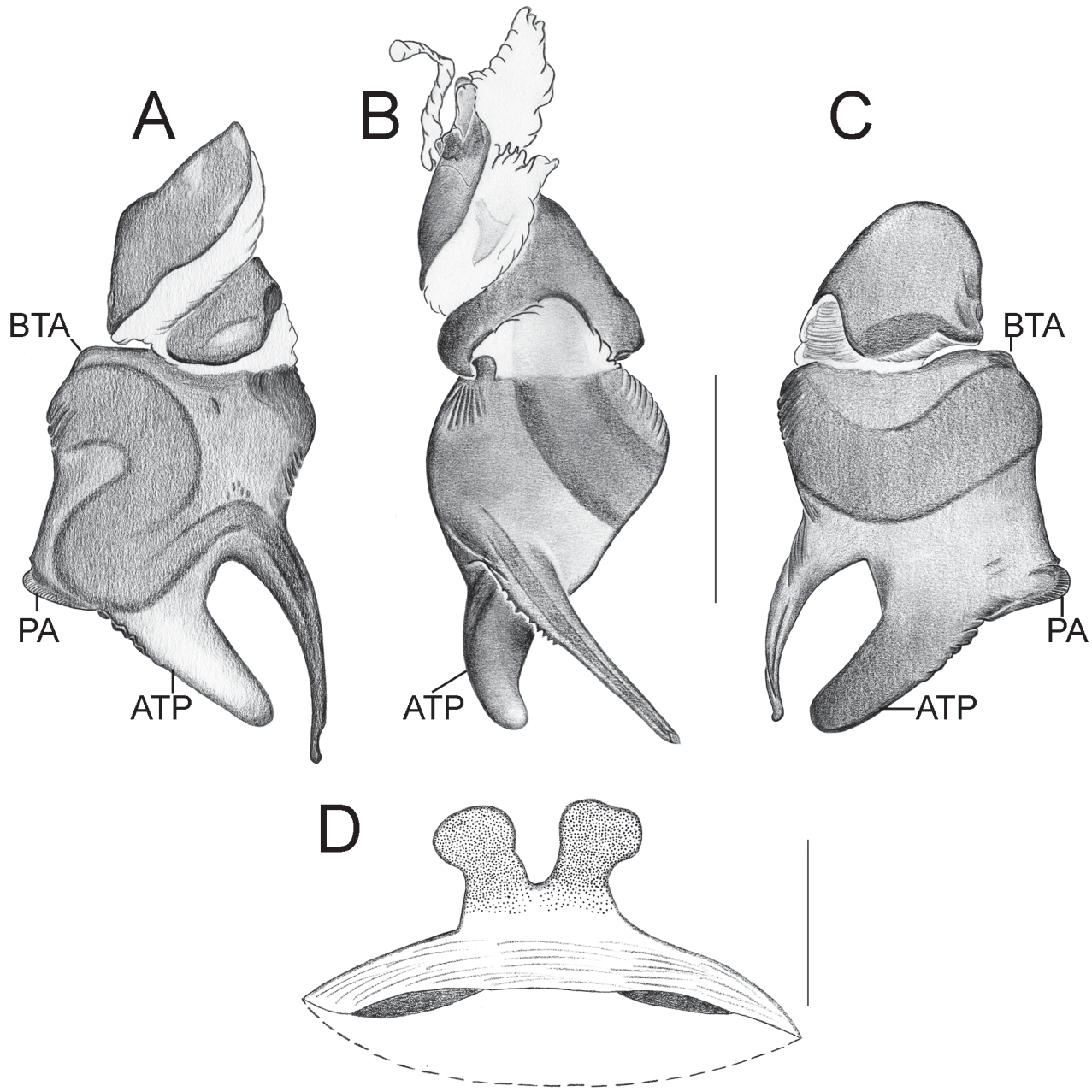
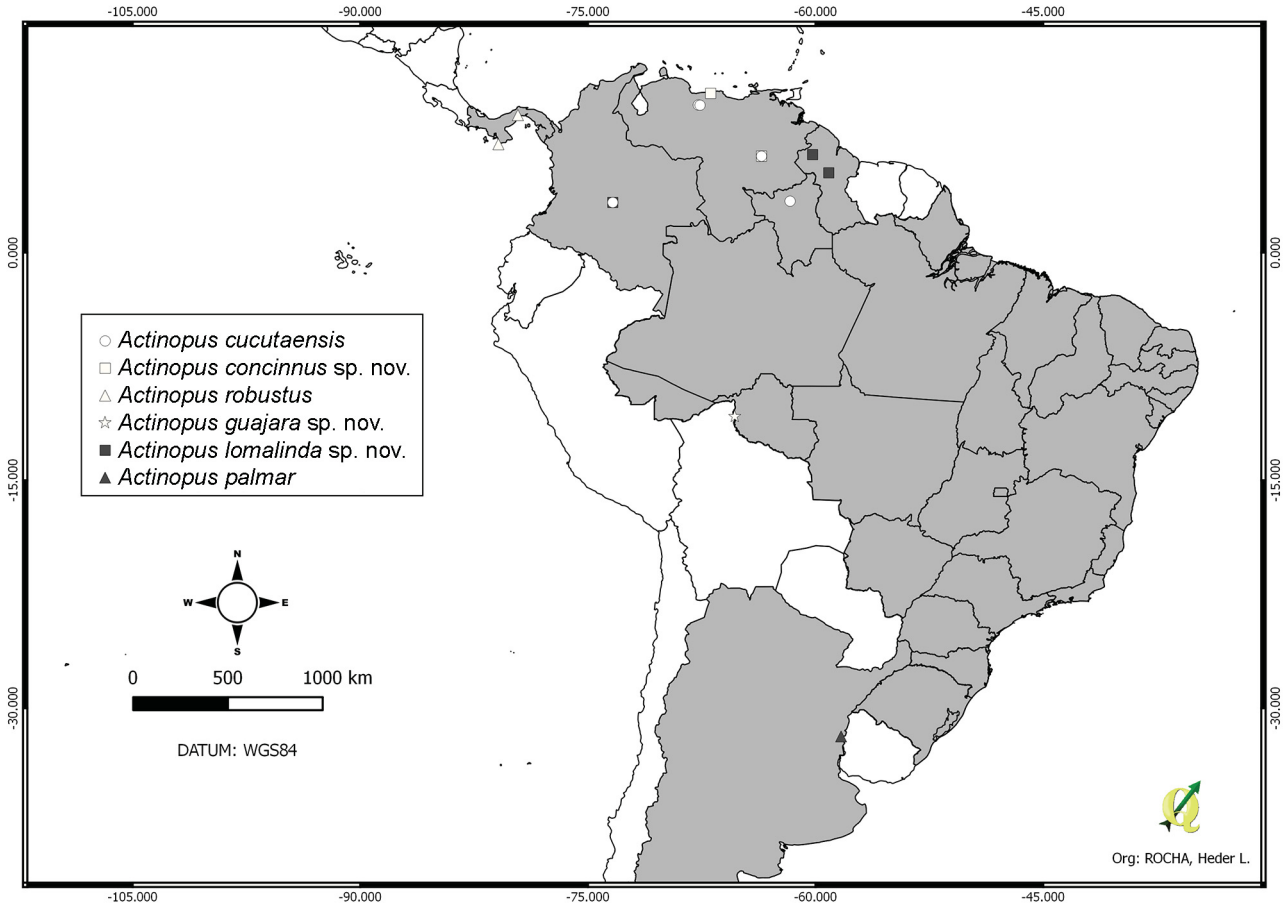


FIGURE 176. *Actinopus cucutaensis* (Mello-Leitão, 1941), male: A–C MCN 17595: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; setae: **ATP**-Apical Tegular Process; Serrated area. Female: D AMNH: D. Spermathecae, dorsal view. Scale line: Male: 1 mm, female: 0.5 mm.

2.2–3; Labium: long 1.25–3.9; wide 1–2; Chelicerae: long 2.25–3.37; wide 1.5–4; Sternum: long 3.62–4.5; wide 2.62–4. Abdomen: long 4.5–8.37; wide 3.75–5.62. **Leg measurements:** I: Fe 5.75–7.87/ Pa 2.37–3.25/ Ti 3.5–4.75/ Me 3.75–6/ Ta 2.25–3.25/ total 17.62–24.75. II: 5.62–7.5/ 2.37–3.25/ 3.5–4.75/ 4–6.12/ 2.37–3.25/ 17.87–25. III: 4.25–6.37/ 2.37–3.62/ 2.62–3.75/ 4.5–6.75/ 2.53.75/ 16.25–24. IV: 5.25–8.62/ 2.62–3.75/ 4.75–6.87/ 5–7.87/ 2.5–3.87/ 20.12–30.62.

Distribution. BRAZIL. Roraima: Amajari; COLOMBIA. Meta: Pto. Lleras Lomalinda; Santander: Cúcuta; VENEZULA. Aragua: Maracay, and Bolivar (Map 11).

Material examined. VENEZUELA: Aragua: Maracay, El Limón, [10º 18' N 67º 37' W] 1♂, X. Angola leg. (MIZA 423); El Castãno, [10º 17' N 67º 44' S], 700m, 1♂, J. S. de Souza leg. (MIZA 698). Bolivar, [06º 21' N 63º 34' W]: Rio Sipao, 110km E Caicara, (Galley forest), 1♂, 17.VI–4.viii.1987, S&J Peck leg. (AMNH); 70km WC Bolivar, Puente Cocoizas, (Forested ravine



MAP 11. Distribution map of *Actinopus robustus* O. Pickard-Cambridge, 1892, *Actinopus guajara* sp. nov., *Actinopus palmar* Ríos-Tamayo & Goloboff, 2018, *Actinopus lomalinda* sp. nov., *Actinopus concinnus* sp. nov. and *Actinopus cucutaensis* (Mello-Leitão, 1941).

in woodland), 2♂, 19.VI–3.viii.1987, S&J Peck leg. (AMNH). BRAZIL: Roraima: Amajari, [03º 23' N 61º 41' W], Ilha de Maracá, Estação Ecológica de Maracá, 2♂, 13.v.1987, J. E. Brasil leg. (INPA 3513, MCN 17595). COLOMBIA: Meta: Pto. Lleras Lomalinda, ±300m, 3° 18' N 73° 22' W, (Grasslands, patches of jungle, woods, marshrlo. Taken in slightly sloping sand), 1♀ 7♂ and 3J, 26.iv.1986, B. T. Carrol leg. (AMNH).

Actinopus robustus (O. Pickard-Cambridge, 1892)

Figs 177–181, Map 11

Pachyloscelis robustus O. Pickard-Cambridge, 1892: 93, pl. 12, fig. 5 (♀ female syntypes, Veraguas, Panama, NHM and OUMNH; two syntypes deposited in Oxford examined).

Actinopus robustus; F. O. Pickard-Cambridge, 1897: 6; Quintero-Arias, 2005: 378, fig. 4–8, 14–15; Jocqué & Dippenaar-Schoeman, 2006: 58, fig. 6a–d; World Spider Catalog, 2020.

Diagnosis. Males of *Actinopus robustus* are similar to those of *A. palmar* (Fig. 189 A–C) by the ATP superimposed with the embolus in prolateral view. Males differ from those of the wider tegulum, massive ATP, which is devoid of serrated area (Fig. 181 A–C). Females of *A. robustus* differ from all other species of the genus by the V-shaped spermathecae, with two long, clavate, divergent receptacles (Fig. 181 D).

MALE (AMNH): Total length 14.5; Carapace, long 6.25; wide 6.12. Carapace anterior part tapering. Anterior eye row slightly procurved, posterior row recurved (Fig. 177 B). Without bristles between all eyes and areas, all removed and with barely visible inserts. Sternum with six sigilla fused medially, two basal sigilla bigger and more demarcated than others (Fig. 177 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines apically (Fig. 177 E–F). Chelicerae with 23 denticles along prolateral row of teeth. Prolateral row with five megateeth and two denticles between three basal megateeth. Retrolateral row with seven megateeth (Fig. 177 D). Patella and tibia III with distal crown of well developed thorns, in patella III, interrupted in the middle, and in tibia III, not interrupted in middle (Fig. 178 A–B).

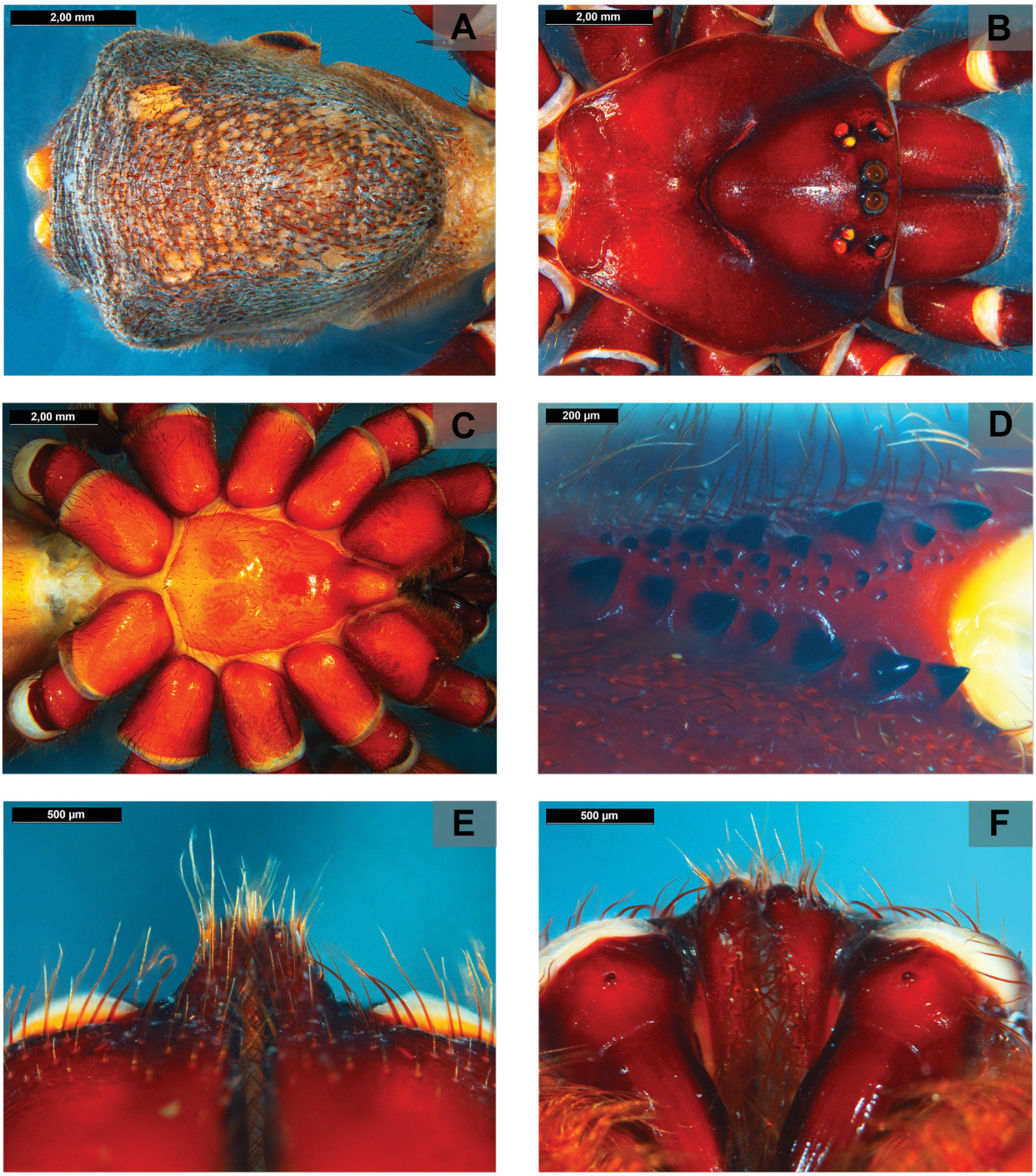


FIGURE 177. *Actinopus robustus* (O. Pickard-Cambridge, 1892), male: A–F AMNH: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

Patellae III and IV with spines on prolaterodorsal face (Fig. 178 A, C). Tibia IV without spines on dorsal surface (Fig. 178 D). Ventral pseudoscopulae occupying 30% of Tarsi I, 50% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact. Carapace and chelicerae reddish brown; sternum, coxae, trochantera, femora, patellae Tibiae, metatarsi and tarsi yellowish brown; Palp and cymbium yellow-reddish brow and abdomen gray (Fig. 177 A). **Eyes: Diameters:** PME 0.2, PLE 0.32, ALE 0.4, AME 0.32; MOQ: Length 1.12, front width 2.56, back width 2.44; **Interdistances:** PME–PME 1.52, PLE–PME 0.04, AME–AME 0.2, ALE–AME 0.56, ALE–PLE 0.52, AME–PME 0.48. **Ocular area:** OAL

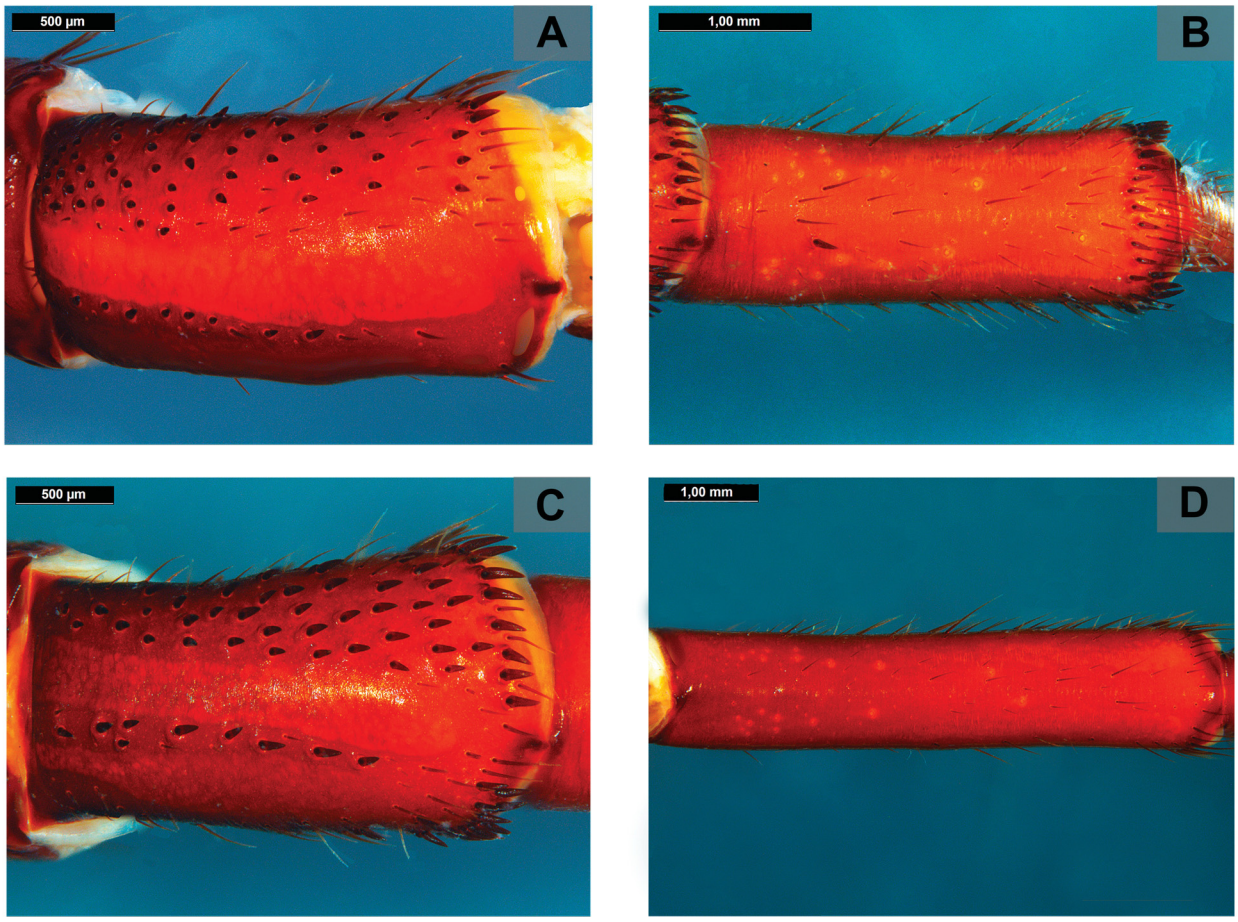


FIGURE 178. *Actinopus robustus* (O. Pickard-Cambridge, 1892), male: A–D AMNH: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

4.62, OAW 3.5, and IF 2. **Body:** Clypeus: 0.25; Fovea: 2.62; Labium: long 1.25; wide 1; Chelicerae: long 2.5; wide 1.62; Sternum: long 4.12; wide 3.25. Abdomen: long 7.12; wide 5.37. **Leg measurements:** I: Fe 6.5/ Pa 2.87/ Ti 4/ Me 4.87/ Ta 2.62/ total 20.87. II: 6.25/ 2.75/ 3.87/ 4.87/ 2.87/ 20.62. III: 4.87/ 2.87/ 3.25/ 5.62/ 3.25/ 19.87. IV: 6.87/ 3.12/ 5.62/ 6/ 3.12/ 24.75. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-2-5, d0, p0, r0; Me v4-4-5, d0, p5-2-4, r1-3-5; ta v0-1-1, d0, p1-3-3, r3-7-13. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-0-3, d0, p0, r0-4-8; Me v3-2-4, d0, p1-1-1, r5-5-5; ta v0-1-3, d0, p1-4-4, r3-7-8. III—Fe v0, d0, p0, r0; Pa v0, d11-14-35, p1-2-3, r0-0-5; ti v0-0-3, d0-1-16, p0-0-1, r0-0-5; Me v6-4-7, d2-1-0, p3-2-2, r4-3-6; ta v0, d0-0-2, p2-6-7, r0-6-7; IV—Fe v0, d0, p0, r0; Pa v0, d20-19-11, p0-1-3, r0; ti v0-0-2, d0, p0-2-1, r0; Me v2-4-6, d0, p0-0-3, r0-0-1; ta v0, d0, p3-8-6, r1-4-5. **Palp:** PA well developed, embolus without keels. ATP size 3/4 that of the embolus. BTA poorly developed, but visible in both in prolateral and retrolateral view; prolateral tegulum serrated next to base of next to base of embolus, embolus inserted at 30° angle on basal portion of copulatory bulb; embolar bases thin (Fig. 181 A–C).

FEMALE (OUMNH): Total length 23.62. 19.62; Carapace, long 7.5; wide 7.25. Carapace anterior part square and posterior part triangular. Anterior eye row procurved, posterior row slightly recurved. A lot of short bristles between AME-clypeus, one long bristle between PLE–ALE, short and long bristles between posterior eyes-fovea and short bristles between lateral eyes-edge of carapace (Fig. 179 B). Sternum with six sigilla fused medially, two basal sigilla bigger and more demarcated than others (Fig. 179 C). Rastellum protuberant, subquadrate, hirsute, with a row of short spines on the edge of rastellum and o lot of short spines covering the dorsal rastellum (Fig. 179 E–F). Chelicerae with denticles along prolateral row of teeth. Prolateral row with six megateeth and one tooth, between the second and third distal teeth. Retrolateral row with six megateeth and one tooth between the last basal megateeth (Fig. 179 D). Patella III with distal interrupted developed crown of thorns and tibia III with distal crown of thorns (Fig. 180 A–B).

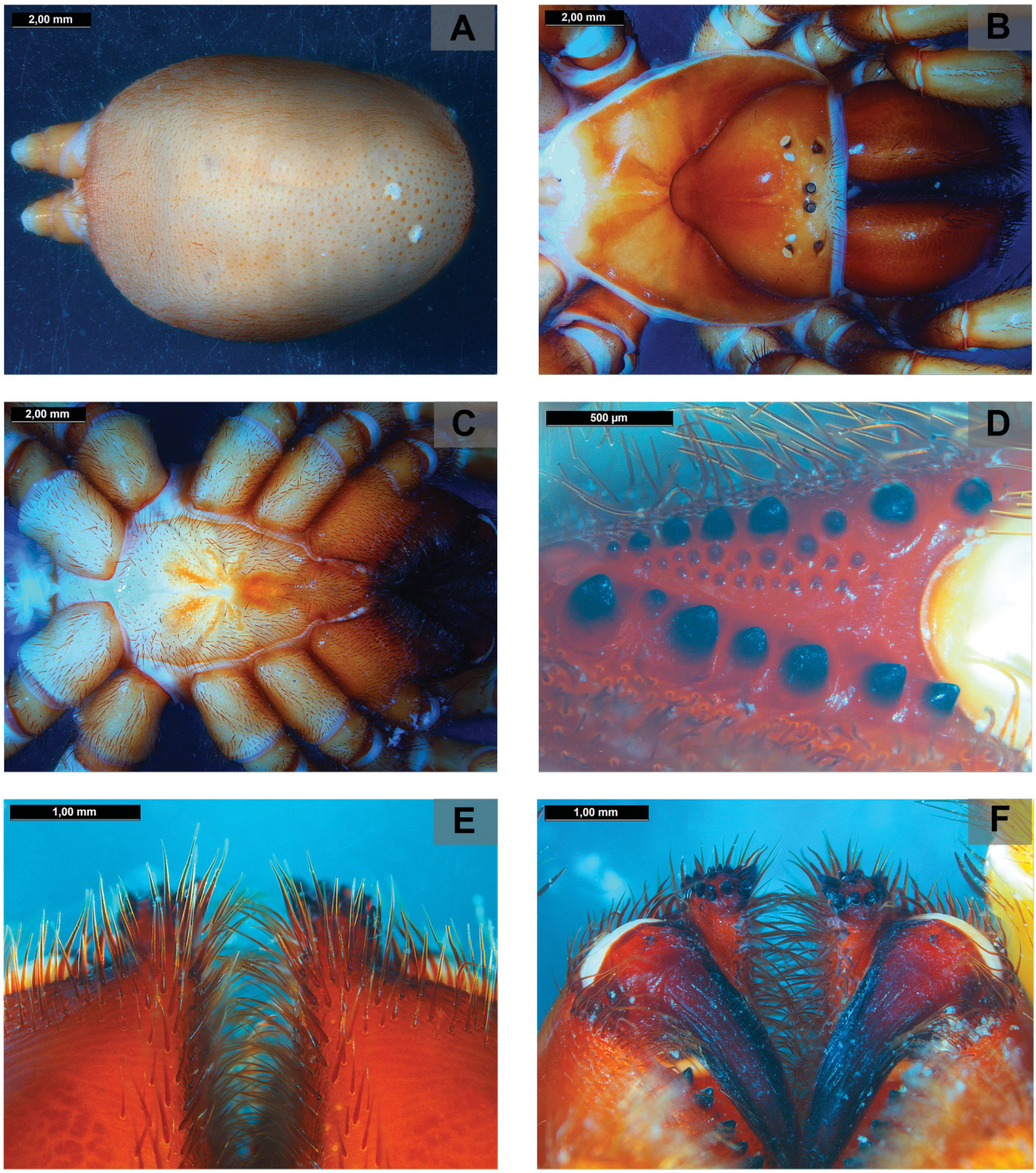


FIGURE 179. *Actinopus robustus* (O. Pickard-Cambridge, 1892), syntype, female: A–F AMNH: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

Patella III and IV with prolaterodorsal short spines along extension of article. Patella IV with those prolaterodorsal spines and another retrolaterodorsal restricted in the distal part of article (Fig. 180 A, C). Tibia IV without spines and with long bristles on prolaterodorsal surface (Fig. 180 D). Carapace, sternum, coxae, trochantera, femora, patellae, Tibia, metatarsi, tarsi and palp yellowish brown, chelicerae reddish brown and abdomen pale brown (Fig. 179 A). 18 labial cuspules, 102 on right maxilla and 98 in left (Fig. 775). **Eyes: Diameters:** PME 0.24, PLE 0.4, ALE 0.4, AME 0.2; MOQ: Length 1.32, front width 3.28, back width 3.24; **Interdistances:** PME–PME 1.84, PLE–PME 0.16, AME–AME 0.32, ALE–AME 1.08, ALE–PLE 0.72, AME–PME 0.72. **Ocular area:** OAL 5.87, OAW 3.87, and IF 3.12. **Body:** Clypeus: 0.5; Fovea: 3.62; Labium: long 1.87; wide 1.62; Chelicerae: long 2.87;

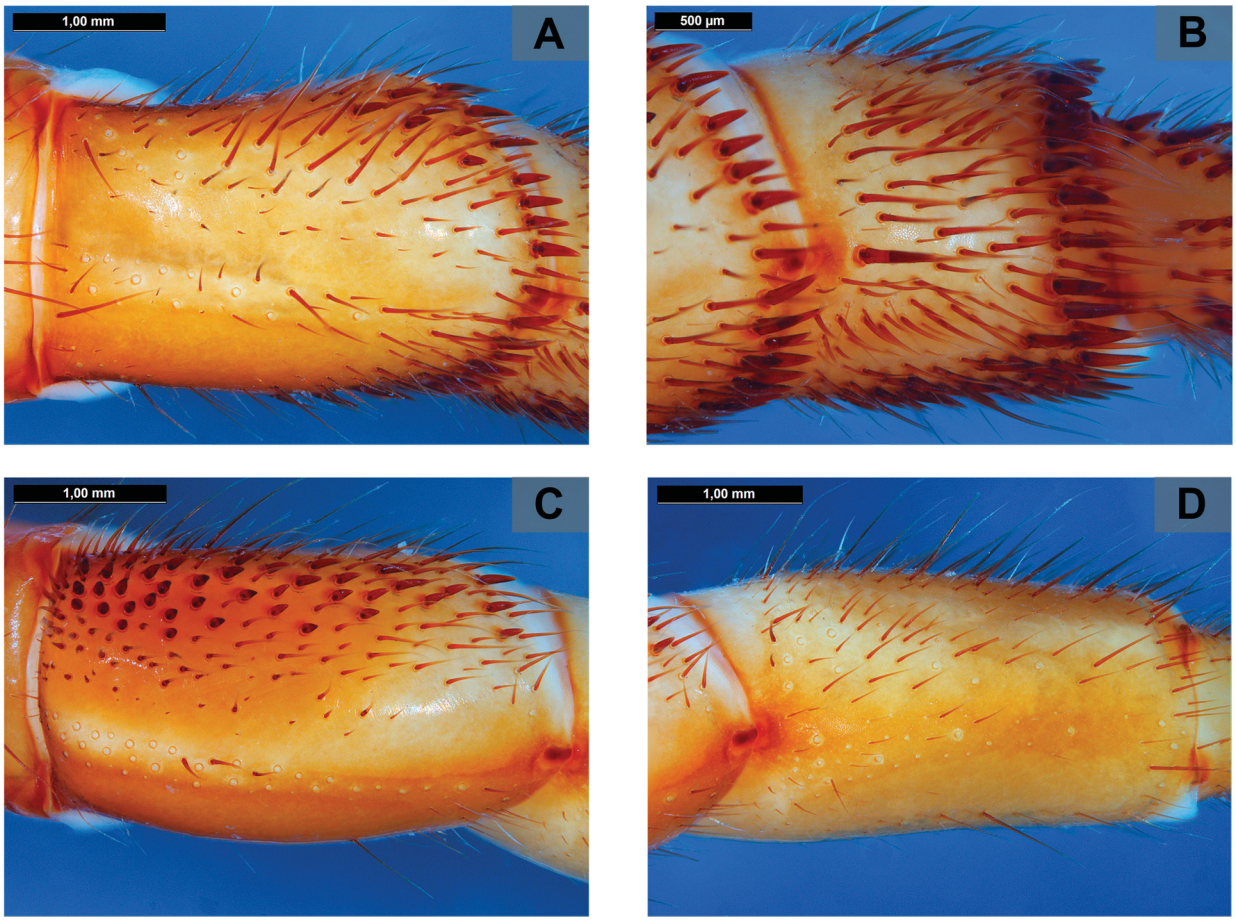


FIGURE 180. *Actinopus robustus* (O. Pickard-Cambridge, 1892), syntype, female: A–D AMNH: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

wide 2.5; Sternum: long 5.62; wide 4.37. Abdomen: long 11; wide 10.37. **Leg measurements:** I: Fe 4.25/ Pa 2.87/ Ti 2/ Me 2.12/ Ta 0.87/ total 12.12. II: 4.37/ 3/ 1.87/ 2.5/ 0.87/ 12.62. III: 4.12/ 3.37/ 1.12/ 2.62/ 1/ 12.25. IV: 5.12/ 3.75/ 2.87/ 3.75/ 1.62/ 17.12. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-2-1, d0, p0-0-2, r2-2-2; Me v1-1-2, d0, p5-6-4, r5-6-5; ta v0-1-2, d0, p1-3-2, r6-2-4. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0, r0-6-6; Me v0-0-1, d0, p4-6-6, r6-5-5; ta v0-1-2, d0, p3-6-3, r3-2-3. III—Fe v0, d0, p0, r0; Pa v0, d0-0-15, p0-0-7, r0-0-5; ti v0, d1-0-15, p0-0-3, r7-10-13; Me v0-0-4, d4-3-3, p3-1-0, r6-10-8; ta v7-12-13, d0-1-2, p0-3-3, r3-4-3; IV—Fe v0, d0, p0, r0; Pa v0, d16-17-7, p0, r0; ti v0, d0, p0, r0; Me v0-0-2, d0-0-1, p0-1-2, r0; ta v0-4-12, d0, p0-5-9, r0-0-4. **Spermathecae:** Represented by two seminal receptacles strongly fused to base, as long as wide, with short ducts. Spermathecae V-shaped, with two divergent receptacles. Pore field reaching base, distribution asymetrical (Fig. 181 D).

VARIATION

FEMALES (n=2): **Eyes: Diameters:** PME 0.24–0.32, PLE 0.36–0.4, ALE 0.24–0.4, AME 0.2–0.48; MOQ: Length 1.2–1.32, front width 3.16–3.28, back width 3.2–3.24; **Interdistances:** PME–PME 1.84–1.88, PLE–PME 0.16, AME–AME 0.28–0.32, ALE–AME 0.96–1.08, ALE–PLE 0.64–0.72, AME–PME 0.68–0.72. **Ocular area:** OAL 5.75–5.85, OAW 3.87–4.12, and IF 2.75–3.12. **Body:** Total length: 18–19.62; Carapace: long 7–7.5; wide 6.87–7.25; Clypeus: 0.5; Fovea: 3.37–3.62; Labium: long 1.87–2; wide 1.62; Chelicerae: long 2.87–4.12; wide 2.37–2.5; Sternum: long 5–5.62; wide 4.12–4.37. Abdomen: long 9.62–11; wide 7.37–10.37. **Leg measurements:** I: Fe 4.12–4.25/ Pa 2.75–2.87/ Ti 1.87–2/ Me 2.12–2.5/ Ta 0.87–1.37/ total 12.12–12.62. II: 4.25–4.37/ 2.87–3/ 1.87/ 2.5–2.75/ 0.87–1.12/ 12.62–12.87. III: 4–4.12/ 3.25–3.37/ 1.12–1.37/ 2.62/ 1/ 12.25. IV: 5.12–5.25/ 3.5–3.75/ 2.87–3.12/ 2.75–3.75/ 1.25–1.62/ 15.87–17.12. Formula 4123.

Examined material. PANAMA: *Panama City:* Ancón, [9º 03’ 10.14” N 79º 36’ 59.48” W], Canal Zone, 1♂, iii.1960, W. M. Lundy leg. (AMNH).

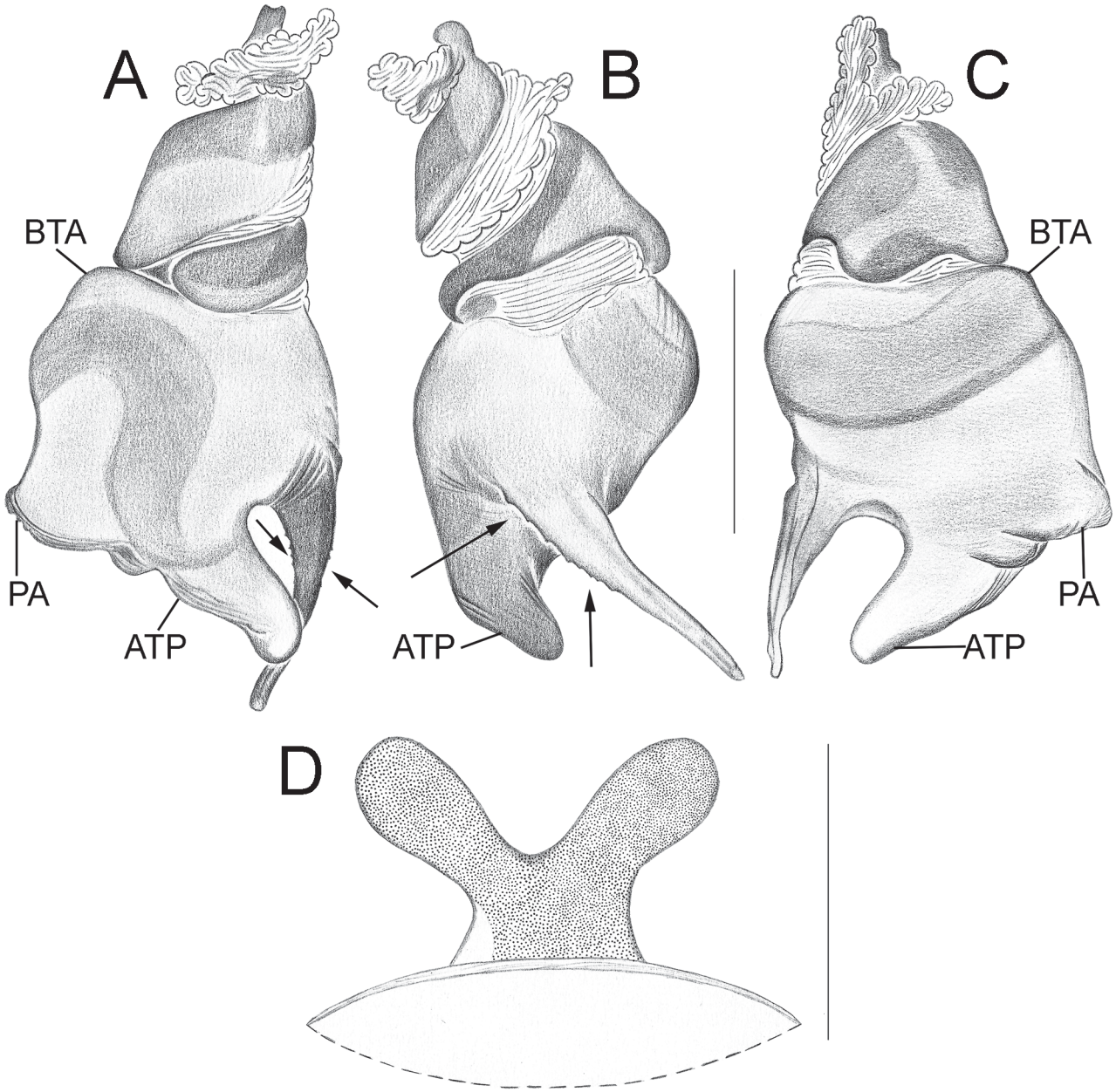


FIGURE 181. *Actinopus robustus* (O. Pickard-Cambridge, 1892), male: A–C AMNH: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **ATP**-Apical Tegular Process; setae: Serrated area. Syntype, OUMNH, female: D AMNH: D. Spermathecae, dorsal view. Scales lines: 1 mm.

Distribution. PANAMA. Panama: Veraguas, and Ancón (Map 11).

Actinopus lomalinda sp. nov.
Figs 182–186, Map 11

Type material. Holotype male from 03° 18' N 73° 22' W, 300m, Lomalinda, Puerto Lleras, Meta, Colômbia, B. T. Carrol leg. (CASENT 9046026). **Paratypes:** COLOMBIA: *Meta:* Puerto Lleras, Lomalinda, 300m, 03° 18' N 73° 22' W, 1♂, iv.1987, B. T. Carrol leg. (CASENT 9020955); 1♂2J, 15.iv.1986, B. T. Carrol leg. (CASENT 9048526); 2♂, ii.1987, B. T. Carrol leg. (CASENT 9020954); iii.1987, B. T. Carrol leg. (CASENT 9046028); 4♂1♀, 17.iii.1984, B. T. Carrol leg (CASENT 9020953); 8♂4J, 10.ii.1987, B. T. Carrol leg. (CASENT 9020959). BRITISH GUIANA: Potaro River, Tumatumari, [05° 15' N 59° 08' W], 1♀, 29.vi.1927 (AMNH); *Bartica District:*

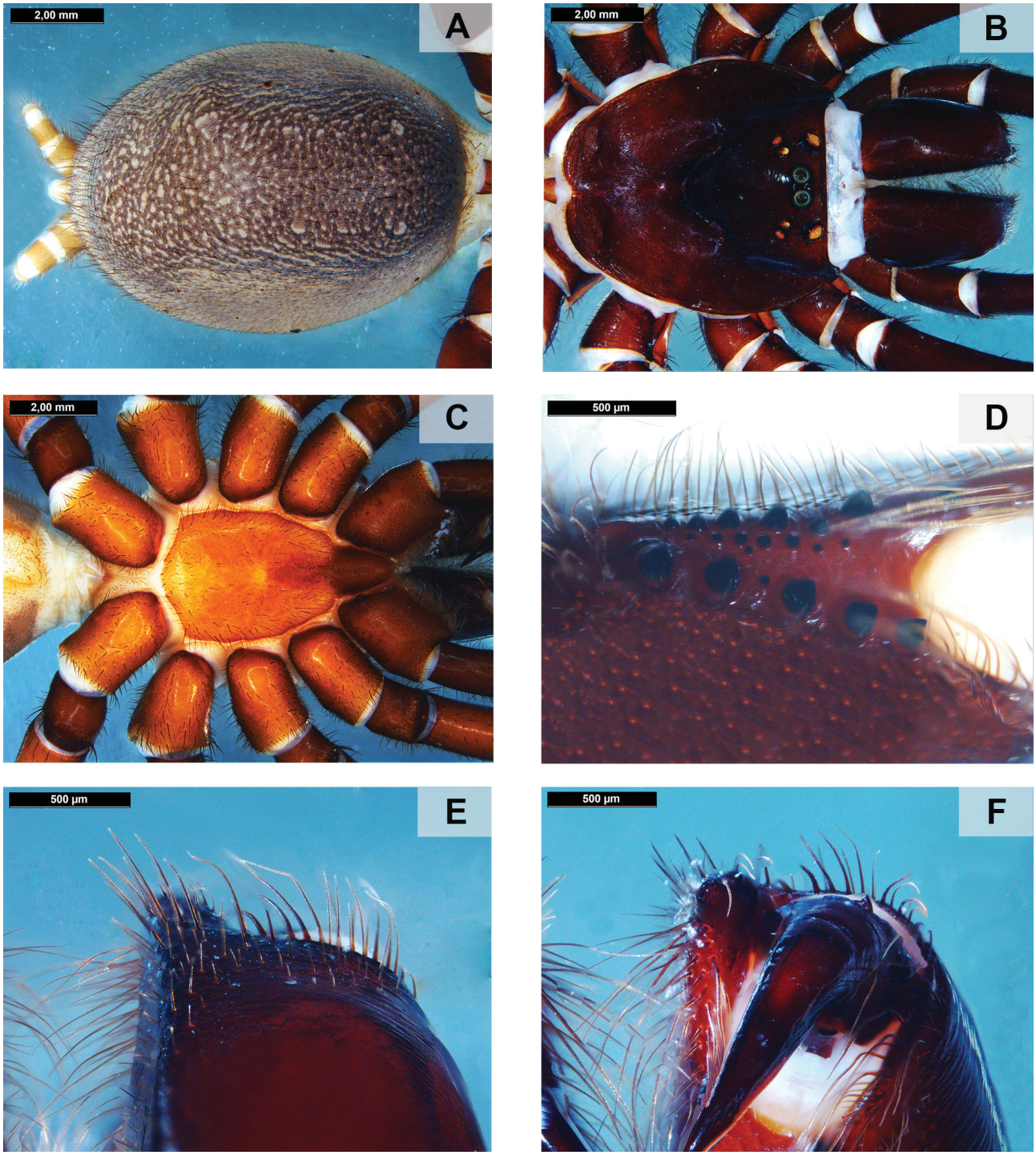


FIGURE 182. *Actinopus lomalinda* sp. nov., holotype, male: A–F CASENT 9046026: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

Cuyuni-Mazaruni (Region 7), Kartabo Village, [06° 27' N 60° 12' W], 1♂ 1924 (AMNH).

Etymology. The specific name is a noun in apposition from the type locality name.

Diagnosis. Males of *Actinopus lomalinda* differ from all other species of the genus by the apical tegular process of 3/4 the size of the embolus and tegulum without prolaterals apophysis in dorsal view. *A. robustus* (Fig. 181 A–C), *A. palmar* (Fig. 189 A–C), *A. cucutaensis* (Fig. 176 A–C) and *A. guajara* (Fig. 192 A–C) shared with *A. lomalinda* those ATP, but only in *A. cucutaensis, A. lomalinda* and *A. guajara* those ATP appears separated and parallel to the embolus in prolateral view. They differ from those of *A. cucutaensis* by the ATP angle of insertion

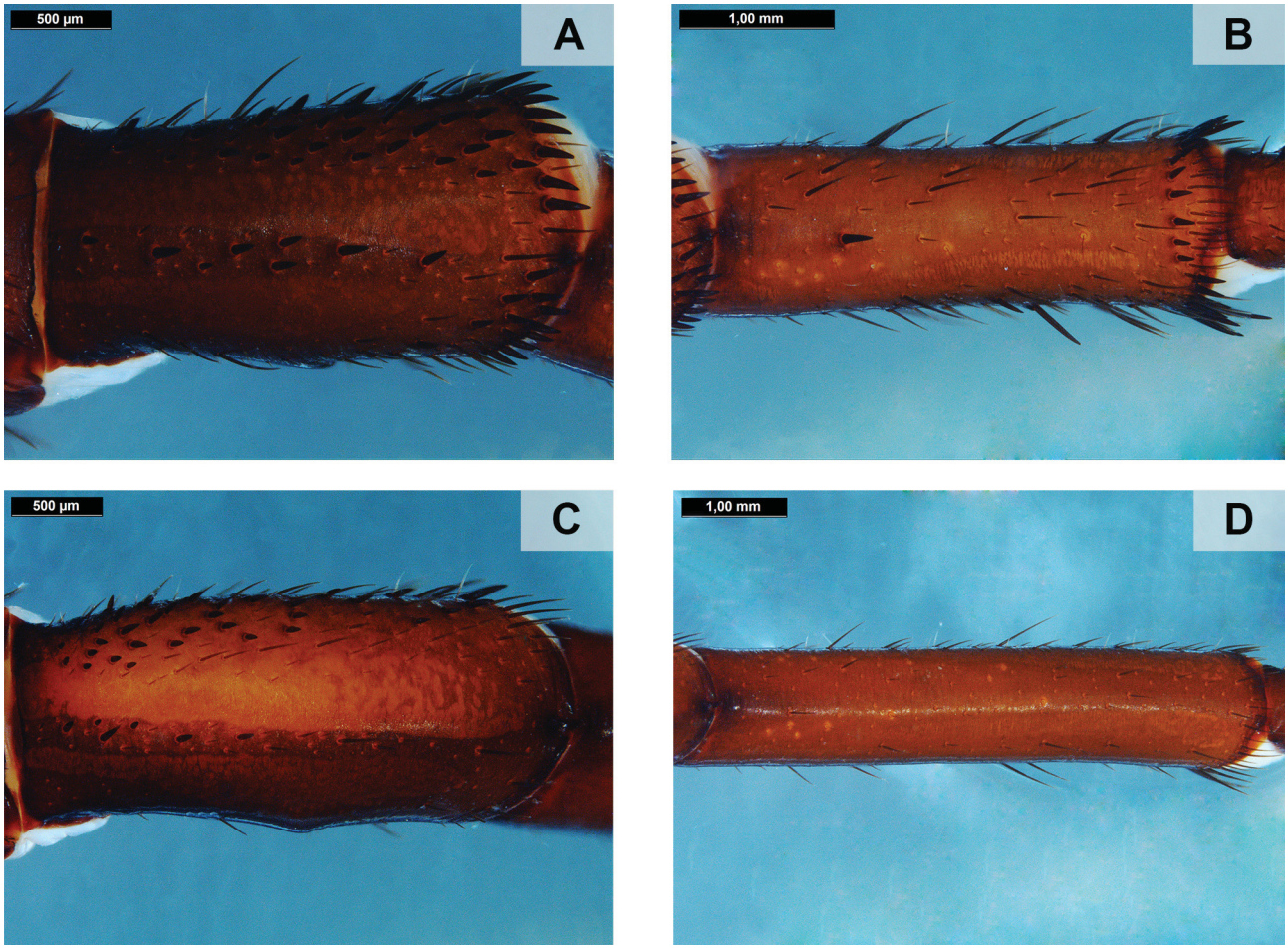


FIGURE 183. *Actinopus lomalinda* sp. nov., holotype, male: A–D CASENT 9046026: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

on tegulum and in the presence of a small-serrated area, which occupies only 20% of the embolus, in dorsal view (Fig. 186 A–C). Females differ from all other species, except *A. obidos* (Fig. 26 D) by a spermathecae with a unique receptacle. Differs from *A. obidos* by absence of swelling on external lateral of receptacle (Fig. 186 D).

MALE (CASENT 9046026): Total length 17.38; Carapace, long 6.12; wide 5.62. Carapace anterior part tapering. Anterior eye row slightly procurved, posterior row recurved (Fig. 182 B). With five short bristles between AME-clypeus. Without bristles between ALE–ALP and many short and weak bristles between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 182 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines apically (Fig. 182 E–F). Chelicerae with nine denticles along prolateral row of teeth. Prolateral row with six megateeth. Retrolateral row with five megateeth and one denticle between the three distal and two basal megateeth (Fig. 182 D). Patella and tibia III with distal crown of well developed thorns, on patella III interrupted in middle and on tibia III not interrupted in middle (Fig. 183 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 183 A, C). Tibia IV without spines on prolateral surface (Fig. 183 D). Ventral pseudoscopulae occupying 50% of tarsus I, 70% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; In tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish brown; Abdomen pale gray (Fig. 182 A). **Eyes: Diameters:** PME 0.2, PLE 0.24, ALE 0.44, AME 0.32; MOQ: Length 1.04, front width 2.4, back width 2.28; **Interdistances:** PME–PME 1.44, PLE–PME 0.08, AME–AME 0.16, ALE–AME 0.48, ALE–PLE 0.48, AME–PME 0.44. **Ocular area:** OAL 4, OAW 3.5, and IF 1.75. **Body:** Clypeus: 0.25; Fovea: 2.37; Labium: long 1.5; wide 1; Chelicerae: long 2.62; wide 1.75; Sternum: long 3.75; wide 3. Abdomen: long 8.5; wide 6.25. **Leg measurements:** I: Fe 6.75/ Pa 2.87/ Ti 4.25/ Me 4.75/ Ta 2.62/ total 21.25. II: 6.5/ 2.75/ 4/ 5/ 2.5/ 20.75. III: 5/ 2.87/ 3.25/ 5.62/ 3/ 19.75. IV: 7/ 3.12/ 5.62/ 6.25/ 3.12/ 25.12.

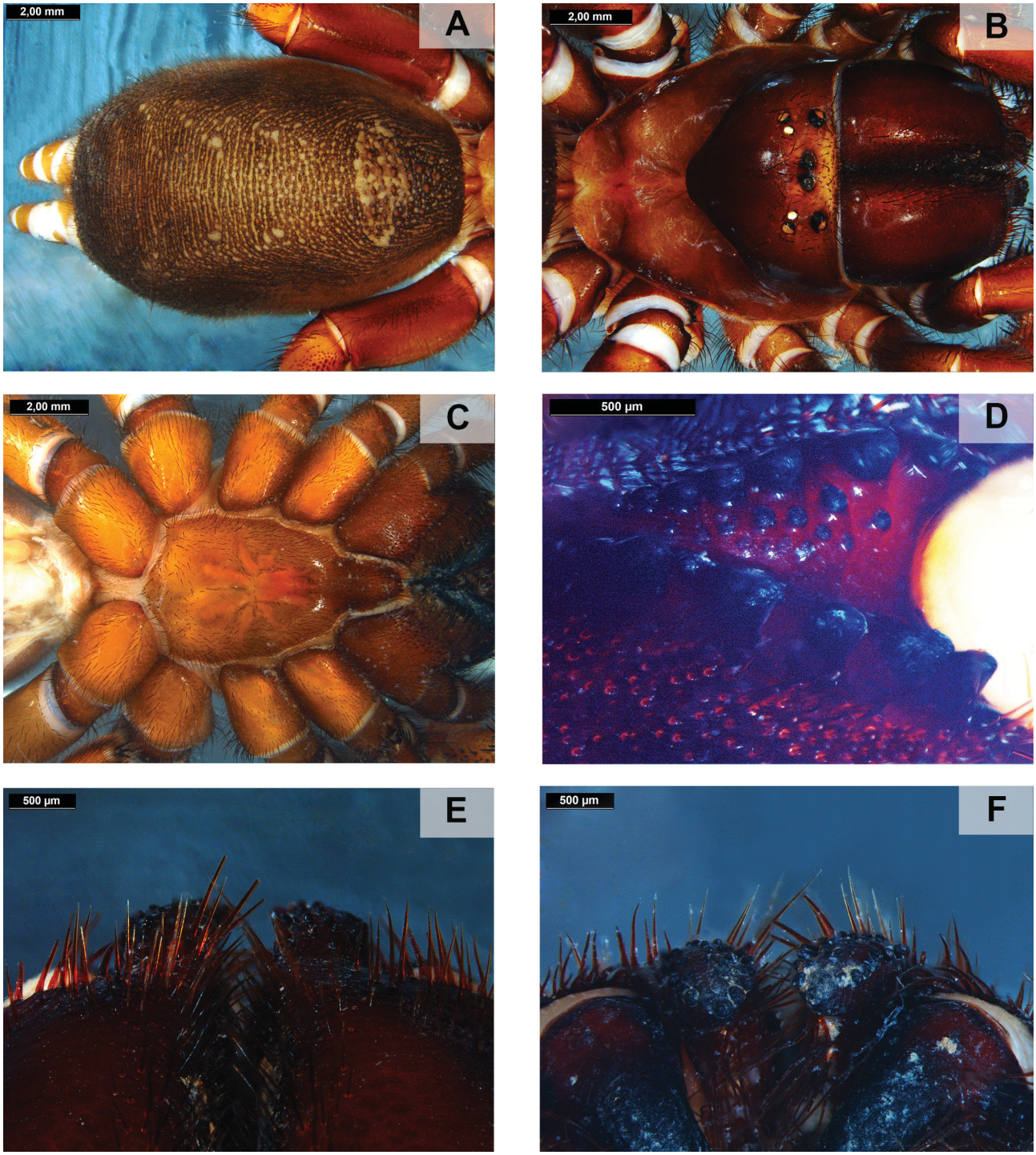


FIGURE 184. *Actinopus lomalinda* sp. nov., paratype, female: A–F CASENT 9020953: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v1-4-4, d0, p0-0-1, r0-0-2; Me v1-4-4, d0, p0-3-2, r1-2-2; ta v1-2-2, d0, p1-2-2, r0-2-3. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-4-3, d0, p0, r0-5-4; Me v4-4-3, d0, p1-2-1, r0-2-3; ta v1-2-3, d0, p3-4-6, r1-3-6. III—Fe v0, d0, p0, r0; Pa v0, d7-18-25, p0-0-2, r0-0-4; ti v0-0-6, d1-0-16, p0-0-2, r0-2-4; Me v3-5-6, d0-1-2, p1-2-3, r1-2-6; ta v0, d0, p0-3-4, r2-12-4; IV—Fe v0, d0, p0, r0; Pa v0, d28-8-5, p0, r0; ti v0-0-2, d0, p0, r0; Me v2-4-3, d0, p0-2-3, r0-0-1; ta v0, d0, p1-6-7, r1-6-6. **Palp:** PA well developed. Embolus without keels. ATP nearly 3/4 the size of the embolus. BTA poorly developed; prolateral tegulum with three cusps next the embolus base, embolus inserted at 20° angle on the basal portion of the copulatory bulb; embolar bases thin (Figs. 186 A–C).

FEMALE (CASENT 9020953): Total length 19.5;

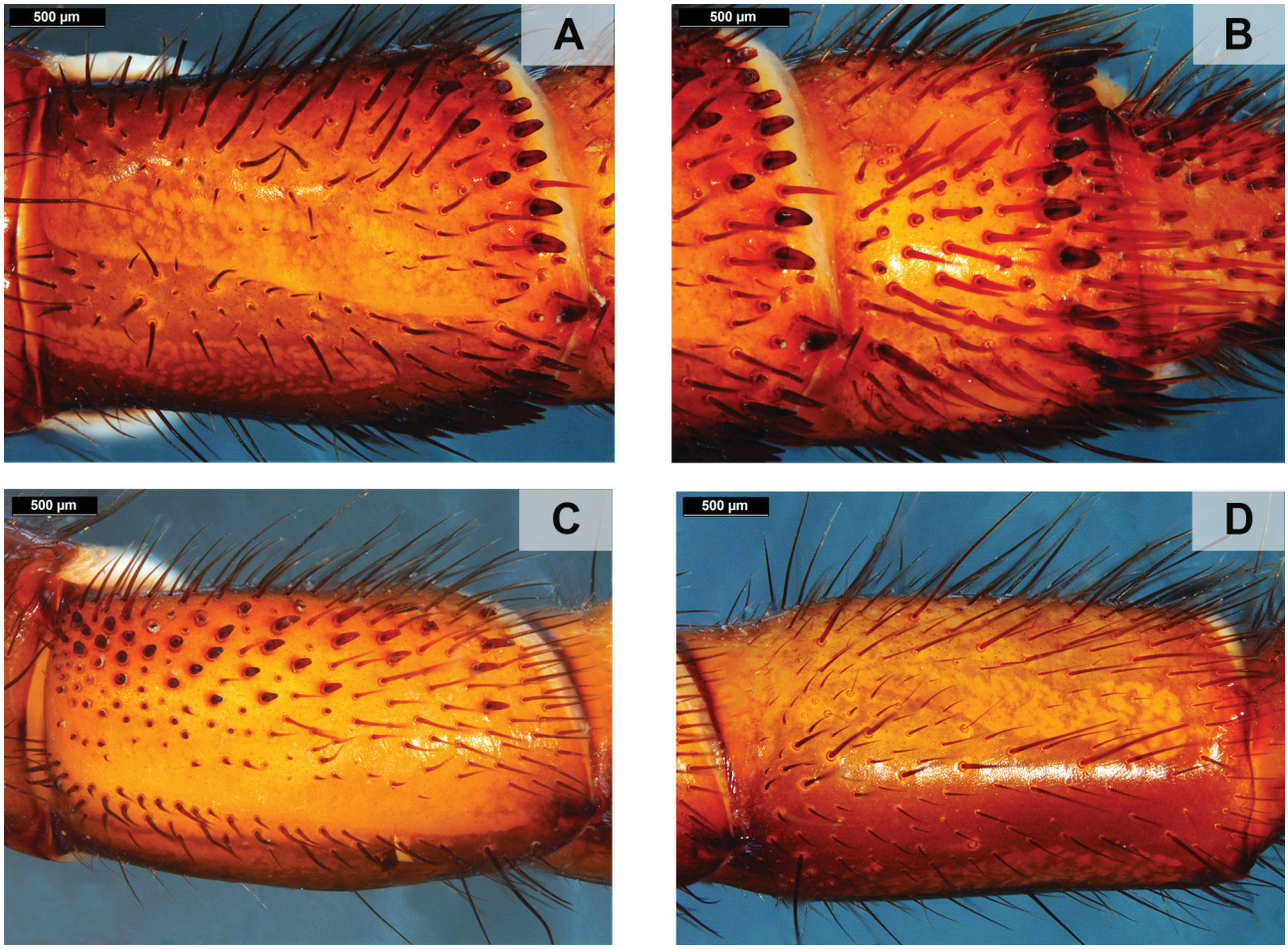


FIGURE 185. *Actinopus lomalinda* sp. nov., paratype, female: A–D CASENT 9020953: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

Carapace, long 7.25; wide 6.87. Carapace anterior part square and posterior part triangular. Anterior eye row procurved, posterior row slightly recurved (Fig. 184 B). Many short and long bristles between AME-clypeus, one long bristle between PLE–ALE, short and long bristles between posterior eyes-fovea and short bristles between lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, all sigilla very fused to each other (Fig. 184 C). Rastellum protuberant, subquadrate, hirsute, with a row of short spines on the edge of rastellum and o lot of short spines covering the dorsal rastellum (Fig. 184 E–F). Chelicerae with 13 denticles along prolateral row of teeth. Prolateral row with eight megateeth and one tooth, basal to megateeth. Retrolateral row with five megateeth and two teeth between three basal megateeth (Fig. 184 D). Patella III with distal interrupted crown of thorns and tibiae III with distal developed crown of thorns (Fig. 185 A–B). Patella IV with prolaterodorsal short spines along extension of article (Fig. 185 C). Tibia IV without spines (Fig. 185 D). Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi, tarsi and palp reddish brown; Abdomen pale brown with a big basal portion of unpigmented area in dorsal view (Fig. 184 A). 11 labial cuspules, 87 on right maxilla and 89 on left. **Eyes: Diameters:** PME 0.24, PLE 0.36, ALE 0.4, AME 0.24; MOQ: Length 1.2, front width 3.16, back width 3.12; **Interdistances:** PME–PME 1.92, PLE–PME 0.16, AME–AME 0.36, ALE–AME 0.92, ALE–PLE 0.6, AME–PME 0.72. **Ocular area:** OAL 5.75, OAW 3.87, and IF 2.5. **Body:** Clypeus: 0.37; Fovea: 3.12; Labium: long 1.62; wide 1.37; Chelicerae: long 3.87; wide 2.75; Sternum: long 4.75; wide 3.75. Abdomen: long 11; wide 6.87. **Leg measurements:** I: Fe 3.37/ Pa 2.75/ Ti 1.75/ Me 1.75/ Ta 0.87/ total 10.5. II: 3.5/ 2.75/ 1.87/ 1.87/ 0.87/ 10.87. III: 3.5/ 2.87/ 1.5/ 1.75/ 0.87/ 10.5. IV: 4.25/ 3.25/ 2.87/ 3/ 1/ 14.37. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-1-1, d0, p1-1-4, r6-7-11; Me v2-1-2, d0, p4-4-3, r6-9-4; ta v0-0-2, d0, p3-4-2, r5-3-2. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v1-4-1, d0, p0, r17-22-26; Me v2-1-3, d0, p4-5-4, r5-8-6; ta v0-2-3, d0, p3-4-4, r3-0-0. III—Fe v0, d0, p0, r0; Pa v0, d0-0-30, p0-0-6, r0-1-26; ti v0, d1-0-15, p0-0-2, r8-14-13; Me v0-

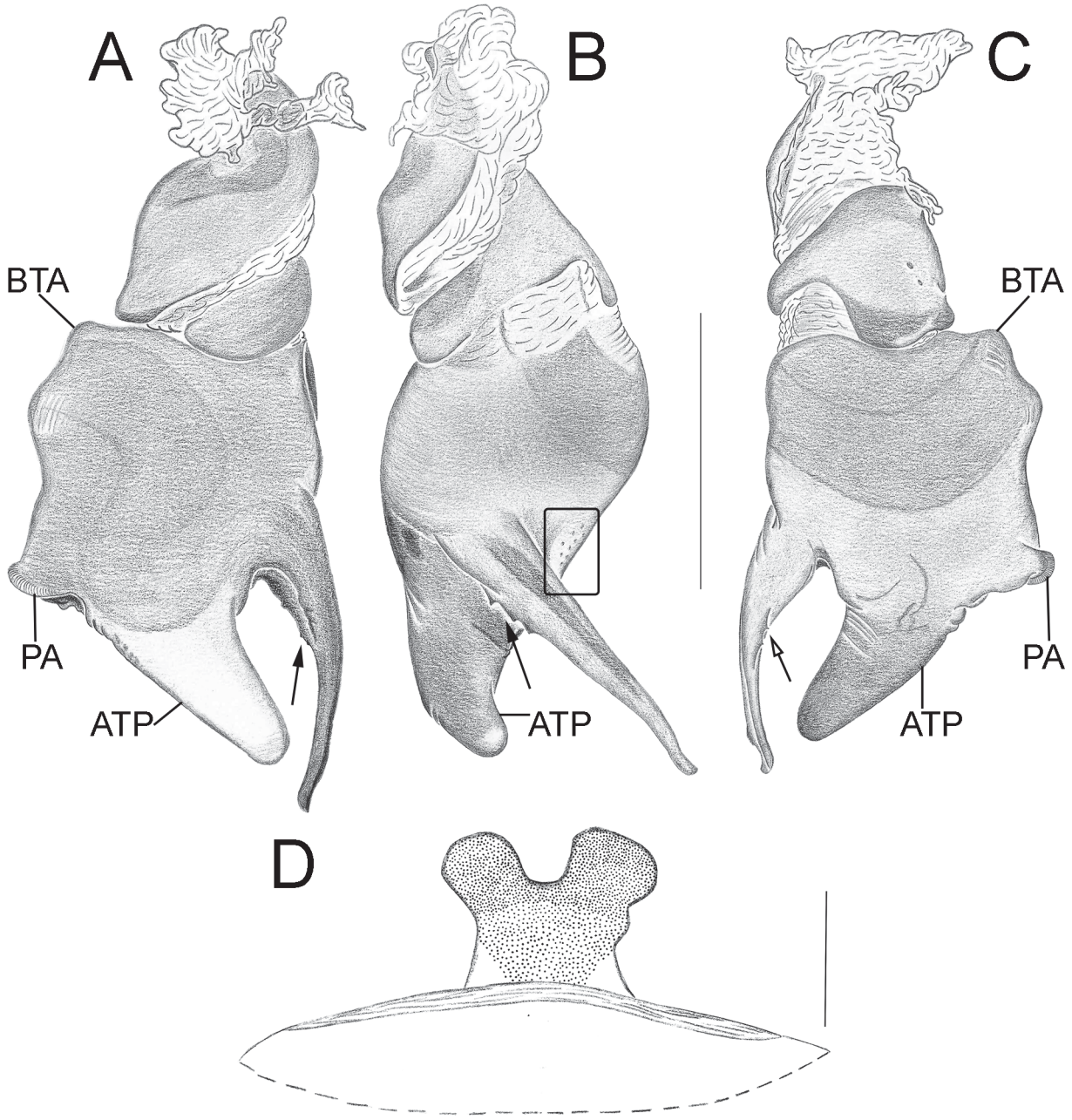


FIGURE 186. *Actinopus lomalinda* sp. nov., male: A–C CASENT 9046026: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **ATP**-Apical Tegular Process; Arrows: Serrated Area; Rectangle: Cusps on retrolateropical embolus. Paratype, female: D. CASENT 9020953: D. Spermathecae, dorsal view. Scale line: Male: 1 mm, female: 0.5 mm.

0-6, d10-7-3, p0, r9-10-13; ta v20-21-11, d0-0-4, p0-0-4, r5-12-6; IV—Fe v0, d0, p0, r0; Pa v0, d14-14-7, p0, r0; ti v0, d0, p0, r0; Me v0-0-3, d0, p0-1-3, r0; ta v12-16-14, d0, p0-7-10, r0-0-4. **Spermathecae:** Represented by a single bilobed seminal receptacle strongly fused to base, longer than wide, with short duct. Left lobe in dorsal view thinner than right lobe. Pore field reaching base medially; basal lateral areas of receptacle devoid of pores. Lateral swelling absent (Fig. 186 D).

Distribution. COLOMBIA. Meta: Puerto Lleras. BRITISH GUIANA. Tumatumaru; and Bartica District: Cuyuni-Mazaruni (Map 11).

Actinopus palmar Ríos-Tamayo & Goloboff, 2018

Figs 187–189, Map 11

Actinopus palmar Ríos-Tamayo & Goloboff, 2018: 81, fig. 26 A–

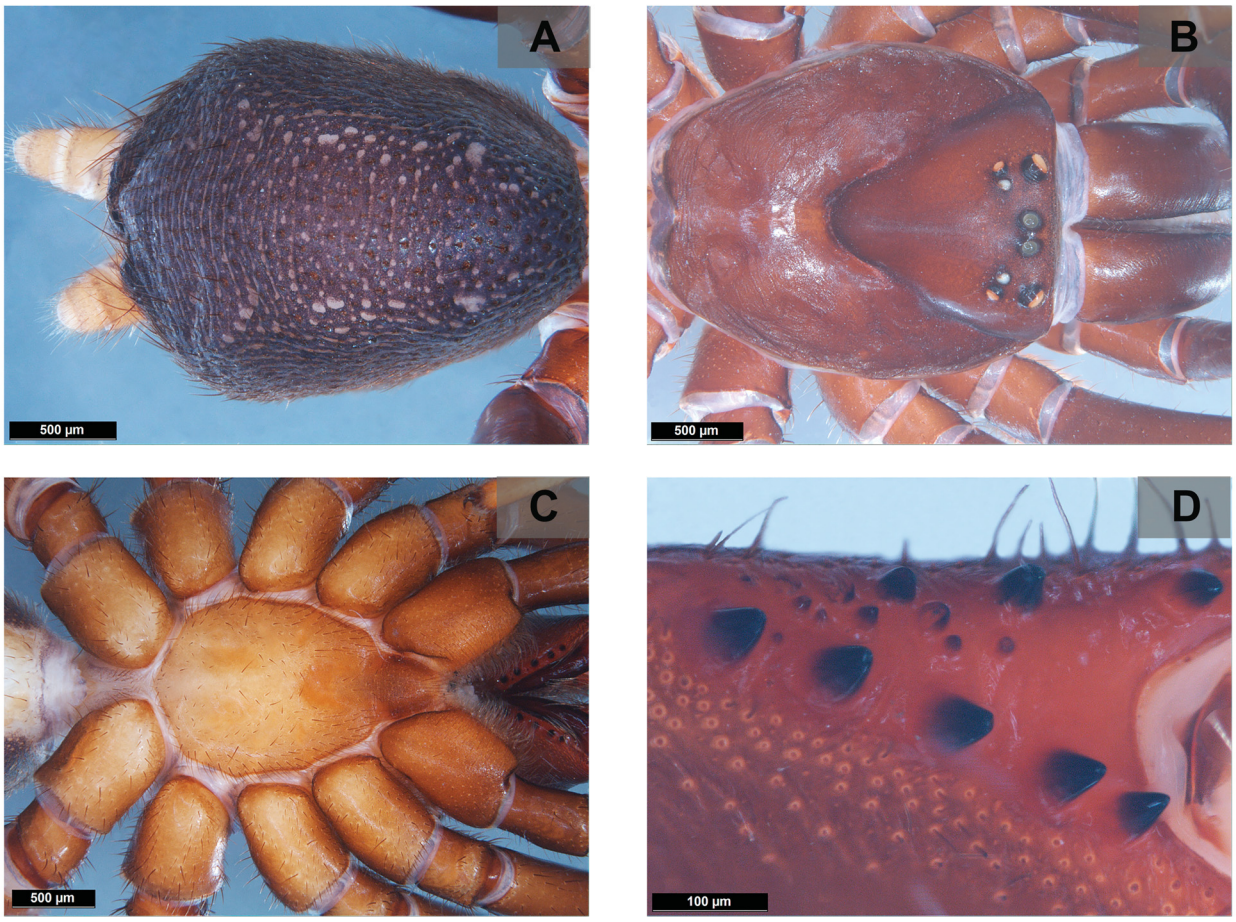


FIGURE 187. *Actinopus palmar* Ríos-Tamayo & Goloboff, 2018, male: A–D MACN-Ar 19826: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral.

G, 45 (holotype ♂, [31º 51' S 58º 19' W], Parque Nacional "El Palmar", Entre Ríos, 12–16.ii.1980, P. Grosso and P. Goloboff leg., MACN-Ar 198206, examined); World Spider Catalog, 2020.

Diagnosis. Males of *Actinopus palmar* differ from those of all other species of the group *cucutaensis* by the narrow ATP base, copulatory bulb with three prolateral keels in prolaterodorsal view and ATP with a big serrated area (Fig. 189 A–C). Additionally, they differ from those of all other species of *Actinopus*, except *A. crassipes*, A. *dubiomaculatus, A. pusillus, A. emas, A. bocaina, A. laventana* and *A. gerschiapelliarum*, by the distal leg articles being paler than proximal leg articles and the palp.

MALE (MACN 19826): Total length 8.62; Carapace, long 4.3; wide 3.6. Carapace anterior part tapering. Eyes. Anterior row slightly procurved, posterior row recurved (Fig. 187 B). One bristle between AME-clypeus and also ALE–PLE. Sternum with eight sigilla near center and two distal sigilla very fused to each other (Fig. 187 C). Rastellum protuberant, inverted V-shaped, hirsute, with many spines on apex (Fig. 189 D–E). Chelicerae with denticles along Prolateral row (Fig. 187 D). Patella and tibia III with distal crown of well-developed thorns (Fig. 188A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 188 A, C). Patella IV without spines dorsally (Fig. 188 D). Ventral pseudoscopulae occupying 30% of tarsi I, 50% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact. Carapace and Chelicerae reddish brown, sternum yellowish brown, coxae, trochantera, femora and patellae reddish brown, tibiae, metatarsi and tarsi yellowish brown, abdomen pale gray (Fig. 187 A). **Eyes: Diameters:** PME 0.15 PLE 0.18 ALE 0.28, AME 0.21; MOQ: Length 0.68, front width 1.78, back width 1.5; **Interdistances:** PME–PME 0.90, PLE–PME 0.12, AME–AME 0.09, ALE–AME 0.65, ALE–PLE 0.34, AME–PME 0.25. **Ocular area:** OAL 2.53, OAW 2.62, and IF 1.4. **Body:** Clypeus: 0.15; Fovea: 1.3; Labium: long 0.85; wide 0.75; Chelicerae: long 2.43; wide 1.18; Sternum: long 2.8; wide 2.1. Abdomen: long 4.56; wide 3.5. **Leg measurements:** I: Fe 3.62/ Pa 1.62/

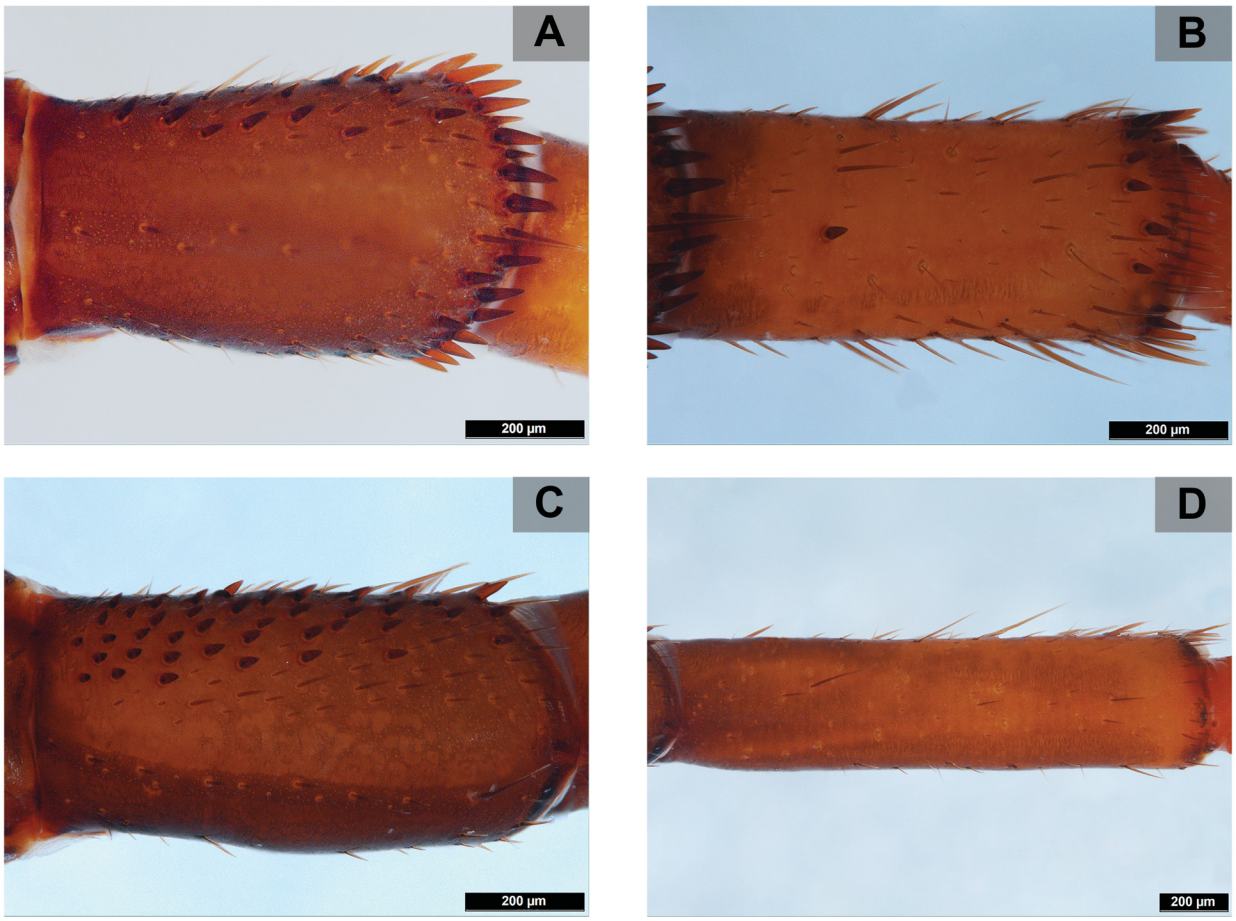


FIGURE 188. *Actinopus palmar* Ríos-Tamayo & Goloboff, 2018, male: 815–818 MACN-Ar 19826: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

Ti 2.12/ Me 3.25/ Ta 1.75/ total 12.37. II: 4/ 1.75/ 2.5/ 2.87/ 1.87/ 13. III: 3/ 2.37/ 1.75/ 3/ 2.125/ 12.25. IV: 4.12/ 1.37/ 3.25/ 3.12/ 2.37/ 14.25. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0-0-1, d0, p0, r0; ti v5-6-8, d0, p0, r0; Me v5-14-11, d0, p1-0-2, r0; ta v6-10-9, d0, p0-0-2, r1-3-4. II—Fe v0, d0, p0, r0; Pa v0-0-2, d0, p0, r0; ti v4-4-6, d0, p0-0-1, r4-8-6; Me v5-5-8, d0, p0-0-2, r2-2-4; ta v7-11-13, d0, p0-0-1, r3-3-7. III—Fe v0, d1-4-3, p0, r0; Pa v0-0-2, d5-3-14, p2-0-3, r0-0-2; ti v0-0-2, d1-0-9, p0-0-3, r0-0-2; Me v0-0-3, d1-3-0, p0-2-1, r0-1-2; ta v0, d0, p1-2-7, r0-2-5; IV—Fe v0, d0, p0, r0; Pa v0, d16-16-8, p0-1-1, r0; ti v0-0-2, d0, p0-0-1, r0; Me v0-0-2, d0, p0-2-3, r0; ta v0, d0, p2-6-7, r0-1-2. **Palp:** PA well-developed embolus with three keels (Pa, PI and PS). ATP almost 1/2 size of embolus. BTA developed; serrated area large, from beside embolus base to middle of embolus; embolus inserted at 80°; embolar base thin (Fig. 189 A–C).

VARIATION

MALES (n=2): **Eyes: Diameters:** PME 0.12–0.15, PLE 0.15–0.18, ALE 0.28–0.31, AME 0.12–0.21; MOQ: Length 0.62–0.68, front width 1.68–1.78, back width 1.5–1.56; **Interdistances:** PME–PME 0.84–0.90, PLE–PME 0.09–0.12, AME–AME 0.09–0.15, ALE–AME 0.59–0.65, ALE–PLE 0.28–0.34, AME–PME 0.25–0.28. **Ocular area:** OAL 2.5–2.53, OAW 2.12–2.62, and IF 1.12–1.4. **Body:** Total length: 6.75–8.62; Carapace: long 3.62–4.3; wide 3.25–3.6; Clypeus: 0.12–0.15; Fovea: 1.30–1.40; Labium: long 0.84–0.85; wide 0.75–0.76; Chelicerae: long 1.56–2.43; wide 1.03–1.18; Sternum: long 2.24–2.8; wide 2–2.1. Abdomen: long 3.62–4.56; wide 2.75–3.5. **Leg measurements:** I: Fe 3.62–4/ Pa 1.37–1.62/ Ti 2.12–2.37/ Me 2.87–3.25/ Ta 1.75–1.87/ total 12.37–12.5. II: 3.75–4/ 1.12–1.75/ 2.12–2.5/ 2.87/ 1.75–1.87/ 11.62–13. III: 2.75–3/ 1.5–2.37/ 1.25–1.75/ 2.5–3/ 2–2.12/ 10–12.25. IV: 3.62–4.12/ 1.37–1.62/ 2.75–3.25/ 3–3.12/ 2.25–2.37/ 13.25–14.25. Formula 4123.

Material examined. ARGENTINA: Entre Ríos,

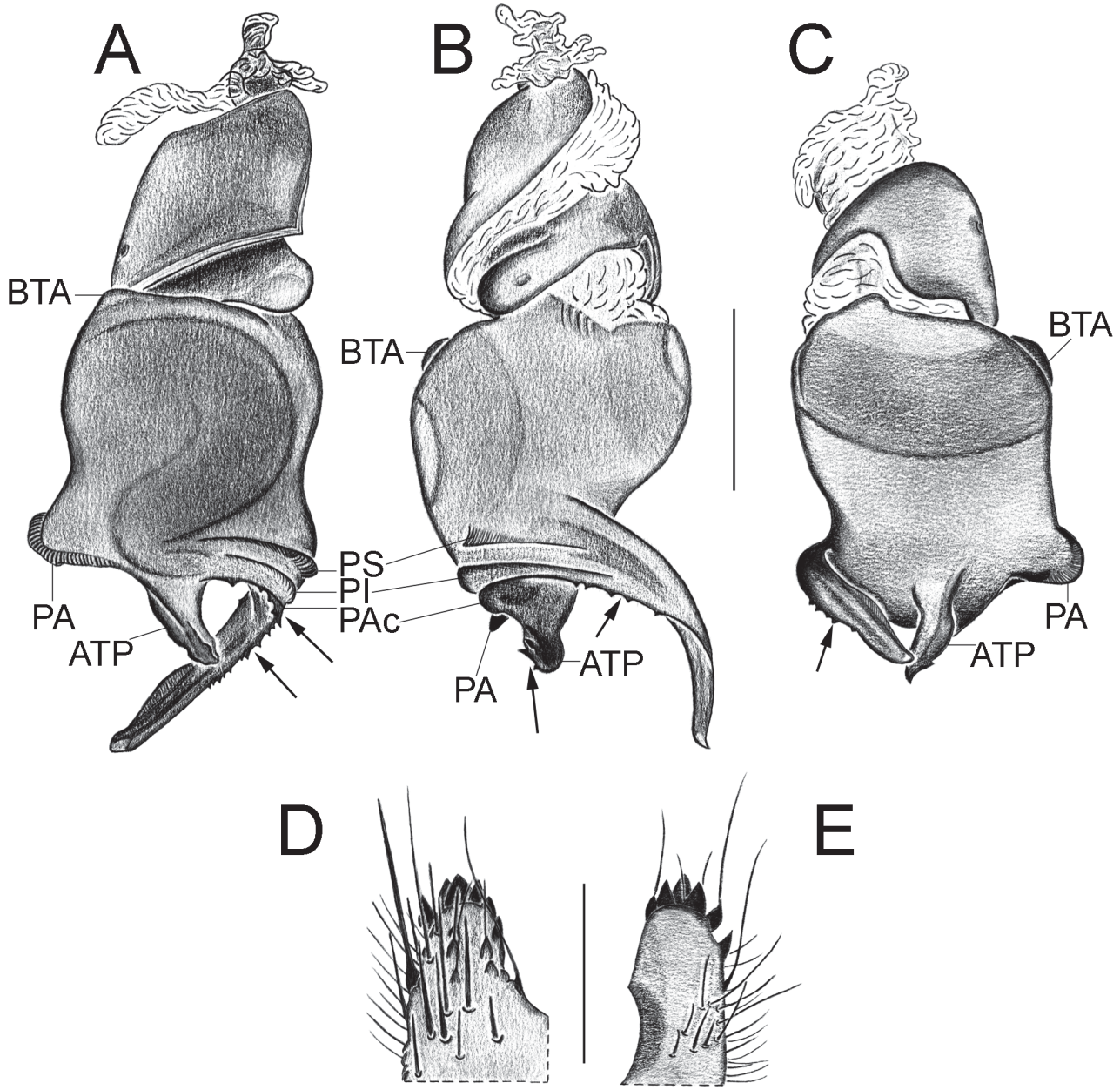


FIGURE 189. *Actinopus palmar* Ríos-Tamayo & Goloboff, 2018, male: A–E MACN 19826: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated area. E. Rastellum, dorsal; F. Rastellum, ventral. Scales lines: A–C: 1 mm; D–E: 0.5 mm.

Parque Nacional "El Palmar", [58° 19' 21" S 31° 51' 11" W], 1♂, 12–16.ii.1980, Grosson & P. A. Goloboff leg. (MACN 19826); iii.1995, C. J. Grismado leg. (MACN 19839).

Distribution. ARGENTINA. Entre Ríos (Map 11).

***Actinopus guajara* sp. nov.**

Figs 190–192, Map 11

Type material. Holotype male from [10º 47' 27.33" S 65º 19' 55.98" W], Guajará-Mirim, Rondônia, Brazil, i.2001, M. Carvalho leg. (IBSP 114463).

Diagnosis. Males of *Actinopus guajara* are similar to those of *A. cucutaensis* (Fig. 176 A–C) and *A. lomalinda* (Fig. 186 A–C) by the ATP parallel to the embolus in prolateral view. They differ from those of both these species by the longer tegulum, and by the slender, less robust ATP (Fig. 192 A–C).

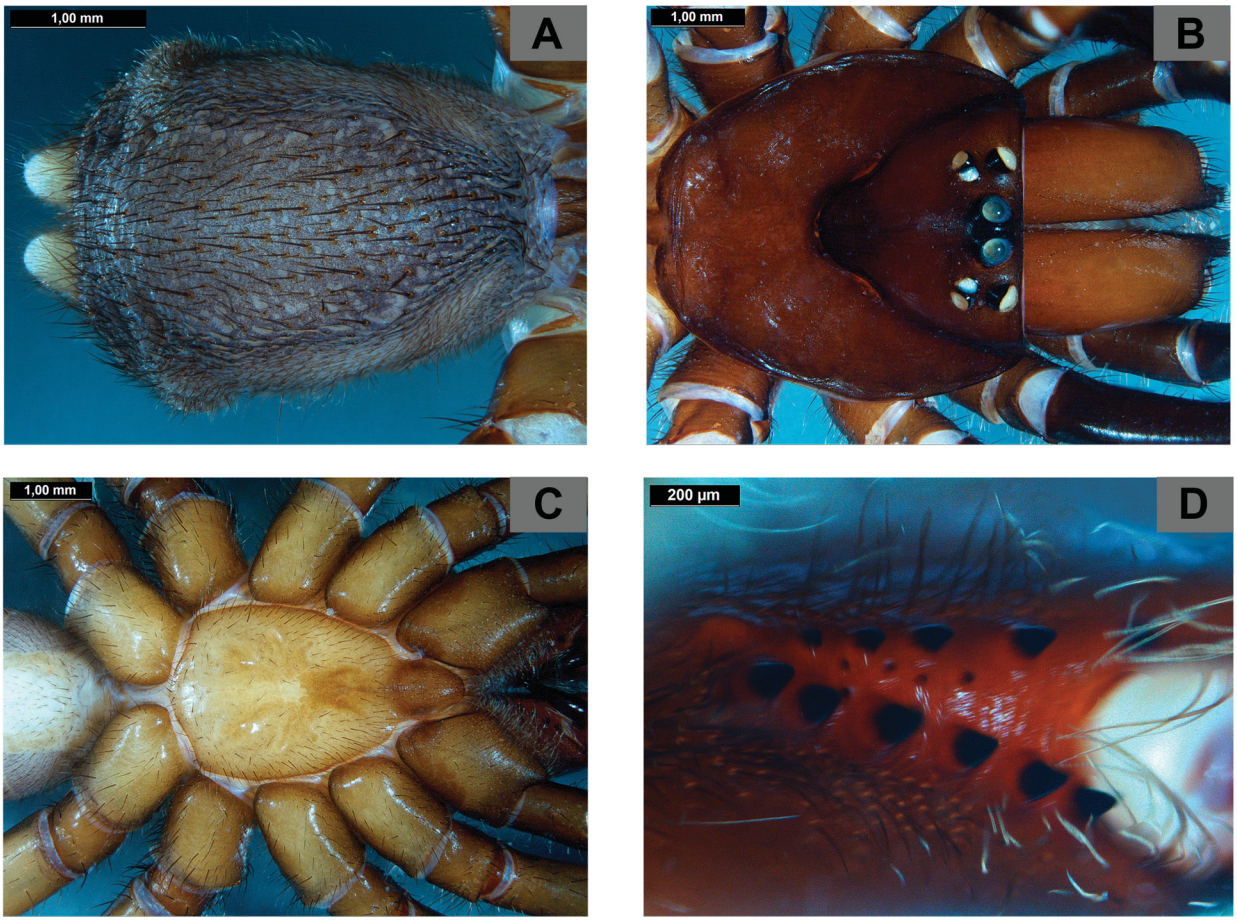


FIGURE 190. *Actinopus guajara* sp. nov., male: A–D IBSP 114463: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral.

Etymology. The specific name is a noun in apposition from the type locality name.

MALE (Holotype): Total length 7.9; Carapace, long 4; wide 3.7. Carapace anterior part rounded. Eyes. Anterior eye slightly procurved, posterior row recurved (Fig. 190 B). With four bristles between AME-clypeus. One long bristle between ALE–ALP and 14 short and weak bristles between PE-fovea. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 190 C). Rastellum protuberant, inverted V-shaped, hirsute, with strong widespread spines apically (Fig. 192 D–E). Chelicerae with four denticles along Prolateral row and one denticle along retrolateral row of teeth. Prolateral row with five megateeth. Retrolateral row with six megateeth (Fig. 190 D). Patella and tibia III with distal crown of well-developed thorns, interrupted in middle on patella III and not interrupted in middle on tibia III (Fig. 191 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 191 A, C). Tibia IV without spines on prolateral surface (Fig. 191 D). Ventral pseudoscopulae occupying 20% of tarsus I, 40% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; on tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae tibiae, metatarsi and tarsi pale brown; Abdomen pale gray (Fig. 190 A). **Eyes: Diameters:** PME 0.24, PLE 0.28, ALE 0.36, AME 0.28; MOQ: Length 0.76, front width 1.8, back width 1.76; **Interdistances:** PME–PME 1, PLE–PME 0.04, AME–AME 0.16, ALE–AME 0.4, ALE–PLE 0.32, AME–PME 0.28. **Ocular area:** OAL 2.88, OAW 2.32, and IF 0.44. **Body:** Clypeus: 0.12; Fovea: 1.6; Labium: long 0.9; wide 0.8; Chelicerae: long 1.9; wide 1.2; Sternum: long 2.8; wide 2.2. Abdomen: long 3.5; wide 2.8. **Leg measurements:** I: Fe 3.87/ Pa 1.75/ Ti 2.62/ Me 3.12/ Ta 1.75/ total 13.12. II: 4.25/ 1.75/ 2.75/ 3.25/ 1.87/ 13.87. III: 3.37/ 1.75/ 2.12/ 3.75/ 1.87/ 12.87. IV: 4.5/ 2.12/ 4/ 4.12/ 1.12/ 15.87. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v2-2-4, d0, p0, r2-2-4; Me v4-8-5, d0, p0-0-2, r2-4-7; ta v4-2-2, d0, p2-2-2, r4-4-10. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v2-5-6, d0, p0-0-1, r1-6-7; Me v3-7-7, d0, p0-0-1, r2-6-5; ta v4-3-2, d0, p1-3-2, r2-4-6. III—Fe v0, d0, p0,

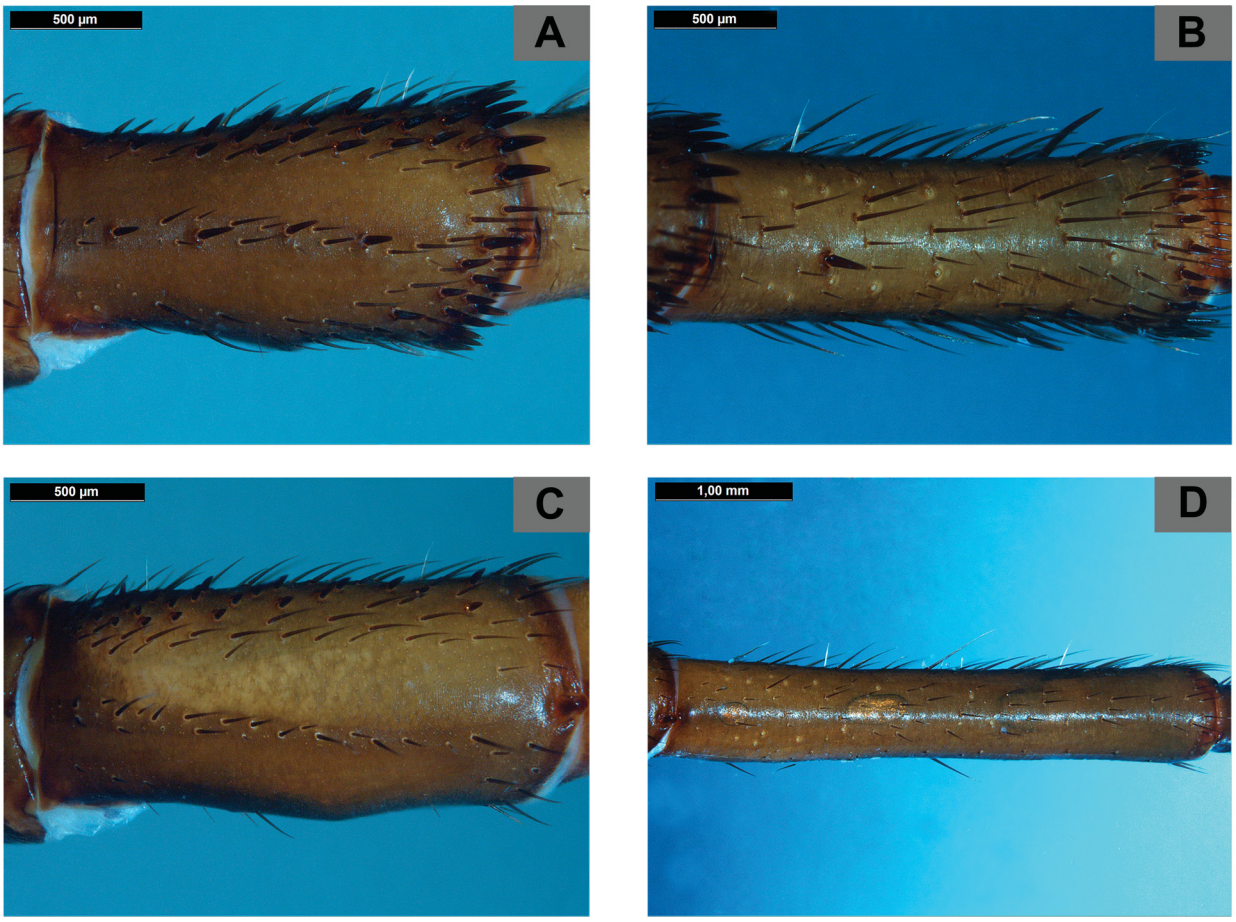


FIGURE 191. *Actinopus guajara* sp. nov., male: A–D IBSP 114463: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

r0; Pa v0, d2-10-30, p0, r0-0-2; ti v1-1-2, d1-0-17, p0-0-4, r0-0-6; Me v0-7-8, d4-5-5, p1-2-3, r2-4-4; ta v0, d0-0-2, p1-1-5, r1-2-3; IV—Fe v0, d0, p0, r0; Pa v0, d12-7-4, p0, r0; ti v2-1-5, d0, p1-1-0, r0; Me v2-3-6, d0, p0-1-0, r0-1-1; ta v0, d0, p0-1-5, r0-1-1. **Palp:** poorly developed PA poorly developed, embolus without prolateral keels. Basal surface of tegulum smooth; BTA small but visible in prolateral and retrolateral views, displaced ventrally on prolateral tegular surface; prolateral embolus with denticles along base. ATP nearly 75% of embolus length; embolar base thin (Fig. 192 A–C).

Distribution. BRAZIL. Rondônia: Guajará-Mirim (Map 11).

Actinopus concinnus sp. nov.

Figs 193–195, Map 11

Type material. Holotype male from forested ravine in woodland, FIT 87–36, Puente Cocoizas, 70km WC Bolivar, [6º 21’ N 63º 34’ W], Bolivar, Venezuela, 19.VI–3.viii.1987, S&J Peck leg. (AMNH). **Paratype:** VENEZUELA: Caracas, [10° 29’ 00” N 66° 55’ 00” W]: San Jose del Avila, 1♂, 1940, Padre C. Vogl leg. (AMNH).

Etymology. The specific name is a Latin adjective meaning bizarre, referring to the odd apical tegular process in this species, protruding from the tegulum in a unique way.

Diagnosis. Males of *Actinopus concinnus* resemble those of *A. tarsalis* (Fig. 9 A–C), *A. castelo* (Fig. 12 A–C) and *A. jamari* (Fig. 198 A–C) by the absence of BTA, and those of the group *cucutaensis* by having an apical tegular process (ATP). They differ from those of all species in the genus by the ATP being inserted obliquely in relation to the embolus, with many cusps covering the ATP surface (Fig. 195 A–C).

MALE (Holotype): Total length 11; Carapace, long 5; wide 5.87. Carapace anterior part tapering. Eyes. Anterior row slightly procurved, posterior row recurved (Fig. 193 B). Many short bristles between AME-clypeus and one long bristle ALE–PLE. Many short bristles between

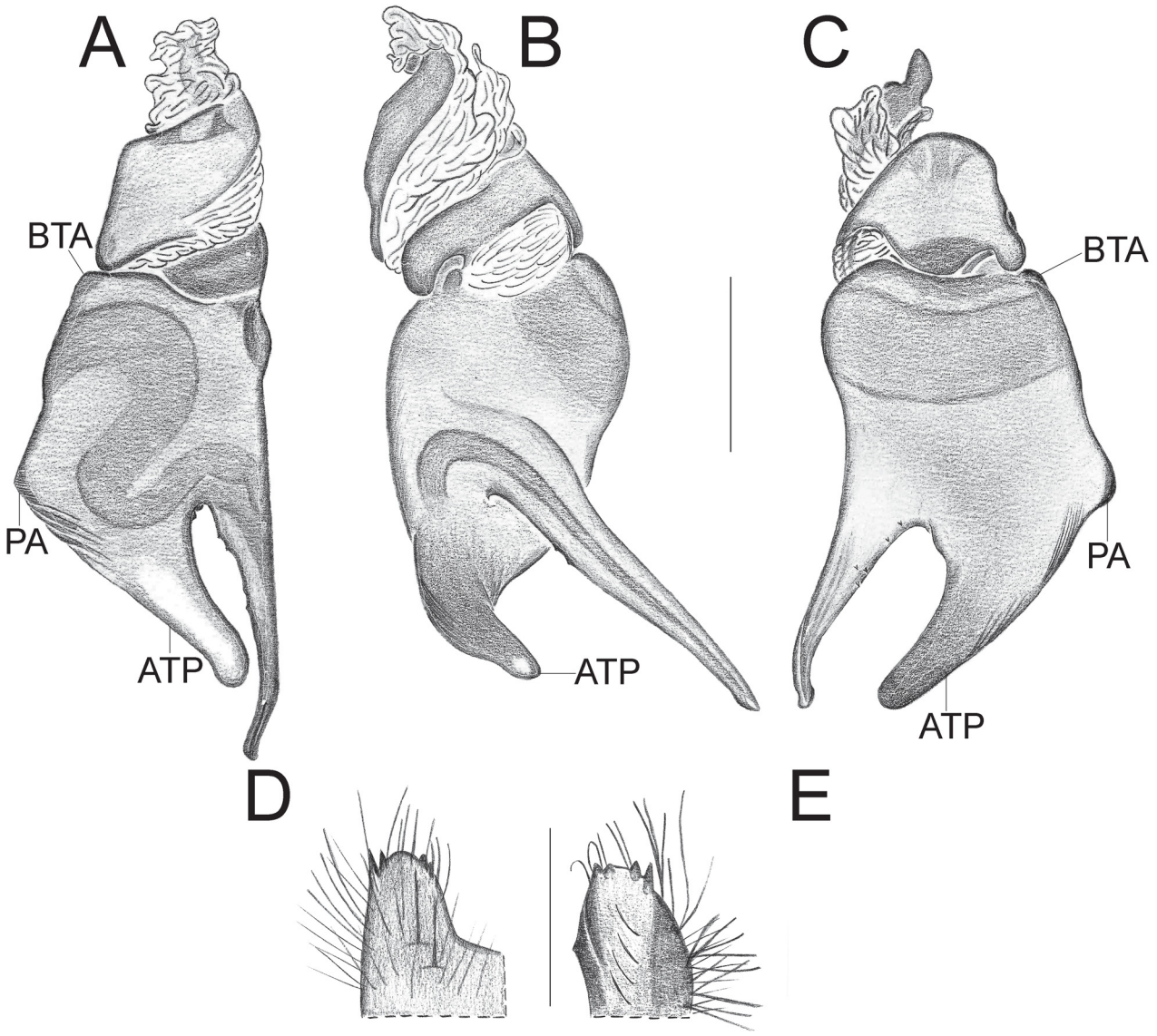


FIGURE 192. *Actinopus guajara* sp. nov., male: A–C IBSP 114463: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **ATP-**Apical Tegular Process. D. Rastellum, dorsal; E. Rastellum, ventral. Scales lines: A–C: 1 mm; D–E: 0.5 mm.

posterior-fovea and some between lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more demarcated than others (Fig. 193 C). Rastellum protuberant, inverted V-shaped, hirsute, with few widespread spines in apex (Fig. 195 D–E). Chelicerae with denticles along Prolateral row and one denticle after the last basal tooth. With seven teeth on prolateral row and seven on retrolateral too (Fig. 193 D). Patella and tibia III with distal crown of well developed thorns (Fig. 194 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 194 A, C). Tibia IV without spines on dorsal surface (Fig. 194 D). Without ventral pseudoscopulae on tarsus I, ventral pseudoscopulae occupying 10% of length of tarsi I, 30% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles, on tarsi III and IV, compact. Carapace, chelicera, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi of legs reddish brown; Abdomen gray (Fig. 193 A). **Eyes: Diameters:** PME 0.2, PLE 0.24, ALE 0.32, AME 0.36; MOQ: Length 0.76, front width 2, back width 1.88; **Interdistances:** PME–PME 1.08, PLE–PME 0.04, AME–AME 0.08, ALE–AME 0.36, ALE–PLE 0.32, AME–PME 0.28. **Ocular area:** OAL 3.36, OAW 2.88, and IF 2.25. **Body:** Clypeus: 0.12; Fovea: 1.87; Labium: long 1.25; wide 0.87; Chelicerae: long 2.25; wide 1.25; Sternum: long 3; wide 2.5. Abdomen: long 6; wide 4.12. **Leg measurements:** I: Fe 5/ Pa 2.12/ Ti 3.12/ Me 3.75/ Ta 2.25/ total 16.25. II: 5/ 2.12/ 3.25/ 4/ 2.5/ 16.87. III:

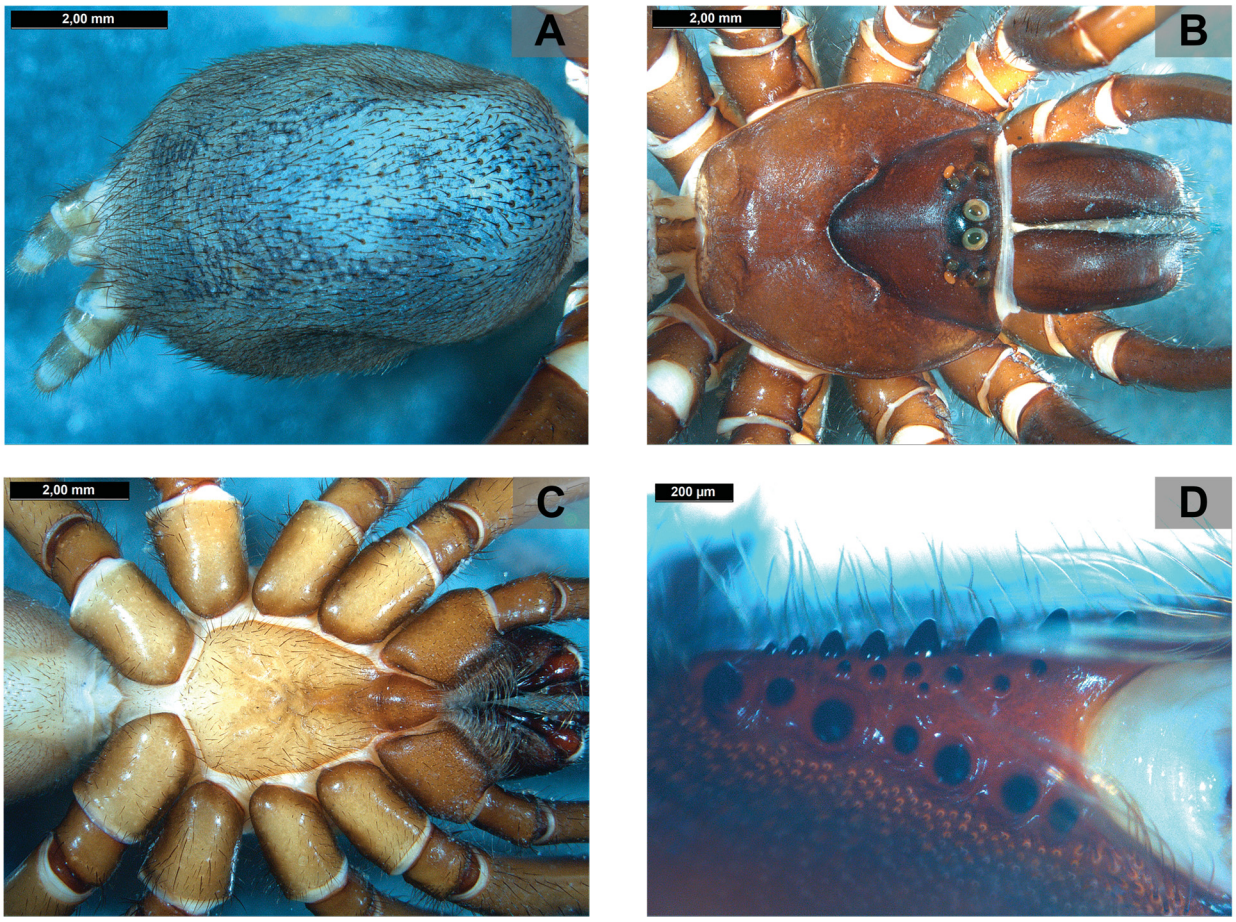


FIGURE 193. *Actinopus concinnus* sp. nov., female: A–D AMNH: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral.

4.25/ 2.25/ 2.75/ 5/ 2.87/ 17.12. IV: 6/ 2.37/ 4.25/ 5.375/ 3/ 21. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0-0-1, d0, p0, r0; ti v3-3-5, d0, p0, r0; Me v3-6-4, d0, p1-2-2, r1-3-2; ta v0-1-4, d0, p0-2-2, r2-2-2. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v3-3-5, d0, p0-1-1, r0; Me v3-8-7, d0, p1-0-0, r0-0-2; ta v0-0-1, d0, p1-2-2, r3-3-6. III—Fe v0, d0, p0, r0; Pa v0-0-1, d14-20-28, p0-0-2, r0; ti v3-2-4, d1-1-15, p0-1-3, r0-0-3; Me v1-10-6, d2-0-1, p1-1-1, r1-2-4; ta v1-10-6, d0, p0-1-3, r1-7-3; IV—Fe v0, d0, p0, r0; Pa v0, d24-15-9, p2-2-2, r0; ti v2-2-4, d0, p1-1-0, r0; Me v1-5-6, d0, p1-2-1, r0-0-1; ta v0, d0, p0-5-5, r0-4-5. **Palp:** PA well developed, isolated from any keel. Embolus without keels. Without BTA; inferior surface of tegulum and embolus with extensive serrated area; very large, conspicuous ATP located between PA and embolus base; embolar base thin (Fig. 195 A–C).

VARIATION

MALES (n=10): **Eyes: Diameters:** PME 0.16–0.2, PLE 0.2–0.24, ALE 0.32–0.36, AME 0.36; MOQ: Length 0.76–0.84, front width 2, back width 1.84–1.88; **Interdistances:** PME–PME 1.08–1.12, PLE–PME 0.04–0.08, AME–AME 0.08–0.16, ALE–AME 0.36–0.44, ALE–PLE 0.32–0.48, AME–PME 0.28–0.32. **Ocular area:** OAL 3–3.36, OAW 2.6–2.88, and IF 2.25. **Body:** Total length: 8.87–11; Carapace: long 4.5–5; wide 4.5–5.87; Clypeus: 0.12; Fovea: 1.12–1.87; Labium: long 1.12–1.25; wide 0.87–0.87; Chelicerae: long 1.87–2.25; wide 1.25; Sternum: long 2.87–3; wide 2.5. Abdomen: long 4.37–6; wide 4–4.12. **Leg measurements:** I: Fe 5–5.12/ Pa 2–2.12/ Ti 3.12–3.62/ Me 3.75/ Ta 2.25/ total 16.25–16.75. II: 4.87–5/ 1.87–2.12/ 3.25–3.5/ 4–4.12/ 2.37–2.5/ 16.75–16.87. III: 4.25/ 2.12–2.25/ 2.5–2.75/ 4.25–5/ 2.75–2.87/ 15.87–17.12. IV: 4.62–6/ 2.37/ 4.25–5/ 5.37/ 2.12–3/ 19.5–21. Formula 4123.

Distribution. VENEZUELA. Bolivar; and Caracas: San Jose del Avila (Map 11).

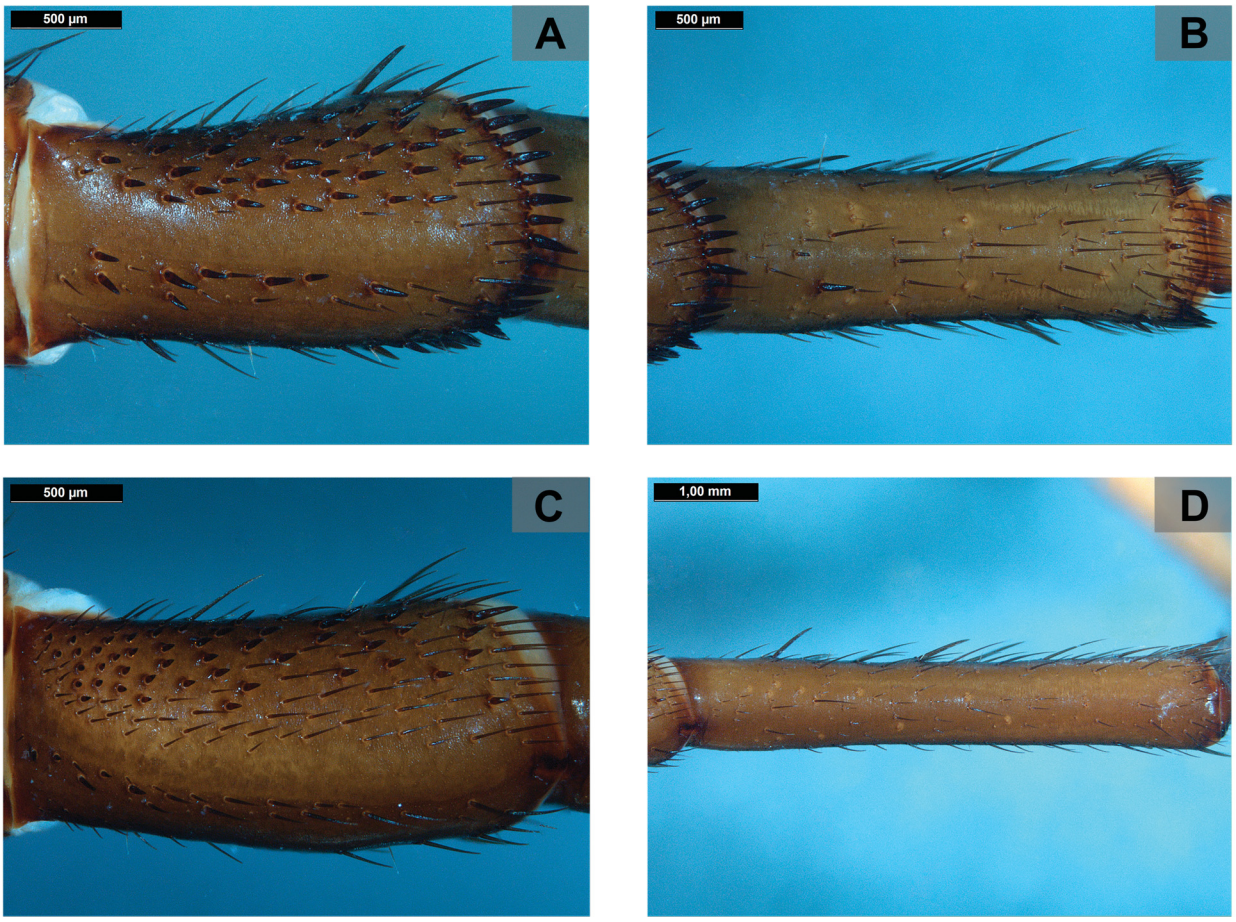


FIGURE 194. *Actinopus concinnus* sp. nov., female: A–D AMNH: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

Group *goloboffi*

Diagnosis. The species in the group *goloboffi* are readily recognized by discontinuous thoracic fovea that is interrupted in middle (Ríos-Tamayo & Goloboff, 2018, fig. 42 A) and the sternum with a deep central depression (Ríos-Tamayo & Goloboff, 2018, fig. 42 B). The resemble all other species of type II morphology proposed by Ríos-Tamayo & Goloboff, 2018 (which include most species described here) by triangular shape of the post-labial sigilla, sternal sigilla I–II elongated, and, in females, by the abundant retrolateral thorns on tibia II and by the lobed spermathecae. They resemble *A. crassipes* (Fig. 107 A), *A. dubiomaculatus* (Fig. 112 A) and *A. laventana* (Fig. 129 A), included on group *crassipes*, by the PA continuous to PI. Females of group *goloboffi* share with *A. dubiomaculatus* (Fig. 112 D–H) and *A. laventana* (Fig. 129 D) the similar shape of receptacles. They differ from *A. laventana* by the absence of lateral swelling on receptacles.

Species included. *Actinopus goloboffi* Ríos, 2014; *Actinopus balcarce* Ríos-Tamayo & Goloboff, 2018; *Actinopus excavatus* Ríos-Tamayo & Goloboff, 2018.

Actinopus goloboffi Ríos, 2014

Actinopus goloboffi Ríos, 2014: 73, fig. 1–12 (holotype ♂ and paratype ♀, Andalgalá (camino a Belén), 3km SW, Catamarca, MACN-Ar 31441, not examined); World Spider Catalog, 2020.

Diagnosis. According to Ríos-Tamayo & Goloboff (2018), males of *Actinopus goloboffi* can be distinguished from those of *A. balcarce* and *A. excavatus* by the presence of a projection in the anterior angle of coxae I–II (Ríos-Tamayo & Goloboff 2018, fig. 41 B). Females have subquadrate spermathecae, with a protruding external lobe (Ríos-Tamayo & Goloboff 2018, fig. 42 C).

Description. See Ríos (2014).

Distribution. ARGENTINA: Catamarca.

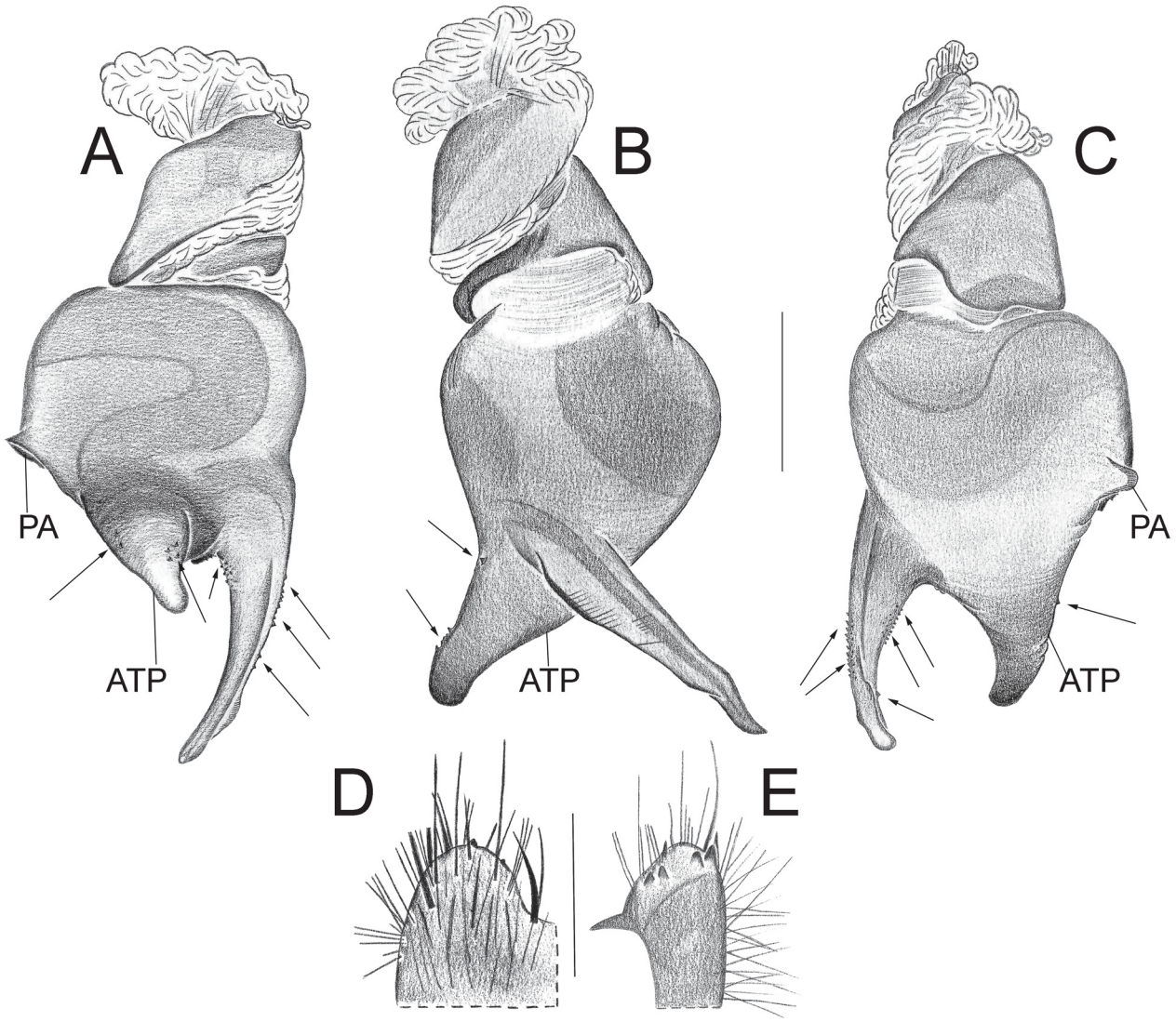


FIGURE 195. *Actinopus concinnus* sp. nov., male: A–E AMNH: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **ATP**-Apical Tegular Process; Arrows: Serrated area. D. Rastellum, dorsal; E. Rastellum, ventral. Scales lines: A–C: 1 mm; D–E: 0.5 mm.

Actinopus balcarce Ríos-Tamayo & Goloboff, 2018

Actinopus balcarce Ríos-Tamayo & Goloboff, 2018: 73, fig. 38 A–G, 46 (holotype ♂, [37º 51' S 58º 15' W], Balcarce, Buenos Aires, Argentina, iv.1950, C. de la Serna leg., MACN-Ar 2864, not examined); World Spider Catalog, 2020.

Diagnosis. According to Ríos-Tamayo & Goloboff (2018), males of *Actinopus balcarce* differ from those of *A. goloboffi* (Ríos, 2014, figs 6–8) and *A. excavatus* (Ríos-Tamayo & Goloboff, 2018, fig. 39 E–G) by having BTA well developed, PA porly developed (Ríos-Tamayo & Goloboff, 2018, fig. 38 D–F) and by the lower number of retrolateral thorns on tibia II (Ríos-Tamayo & Goloboff, 2018, fig. 38 B).

Description. See Ríos-Tamayo & Goloboff (2018: 73).

Distribution. ARGENTINA: Buenos Aires, Balcarce.

Actinopus excavatus Ríos-Tamayo & Goloboff, 2018

Actinopus excavatus Ríos-Tamayo & Goloboff, 2018: 76, fig. 39 A–H, 40 A–D, 46 (holotype ♂, [32º 16' S 64º 37' W], Calamuchita, Córdoba, Argentina, iii–iv.1958, Viana leg., MACN-Ar 36629; paratype ♀, [30º 06' S 63º 55' W], Cerro Colorado, Córdoba, Argentina, 20.ix.1959, March leg. MACN-Ar 19830, not examined); World Spider Catalog, 2020.

Diagnosis. According to Ríos-Tamayo & Goloboff (2018), males of *A. excavatus* can be distinguished from those of *A. goloboffi* by the thinner and slender bulb (Ríos-Tamayo & Goloboff, 2018, fig. 39 E–G) and from those of *A. balcarce* by the poorly developed BTA, well-developed PA. Females present small subquadrate

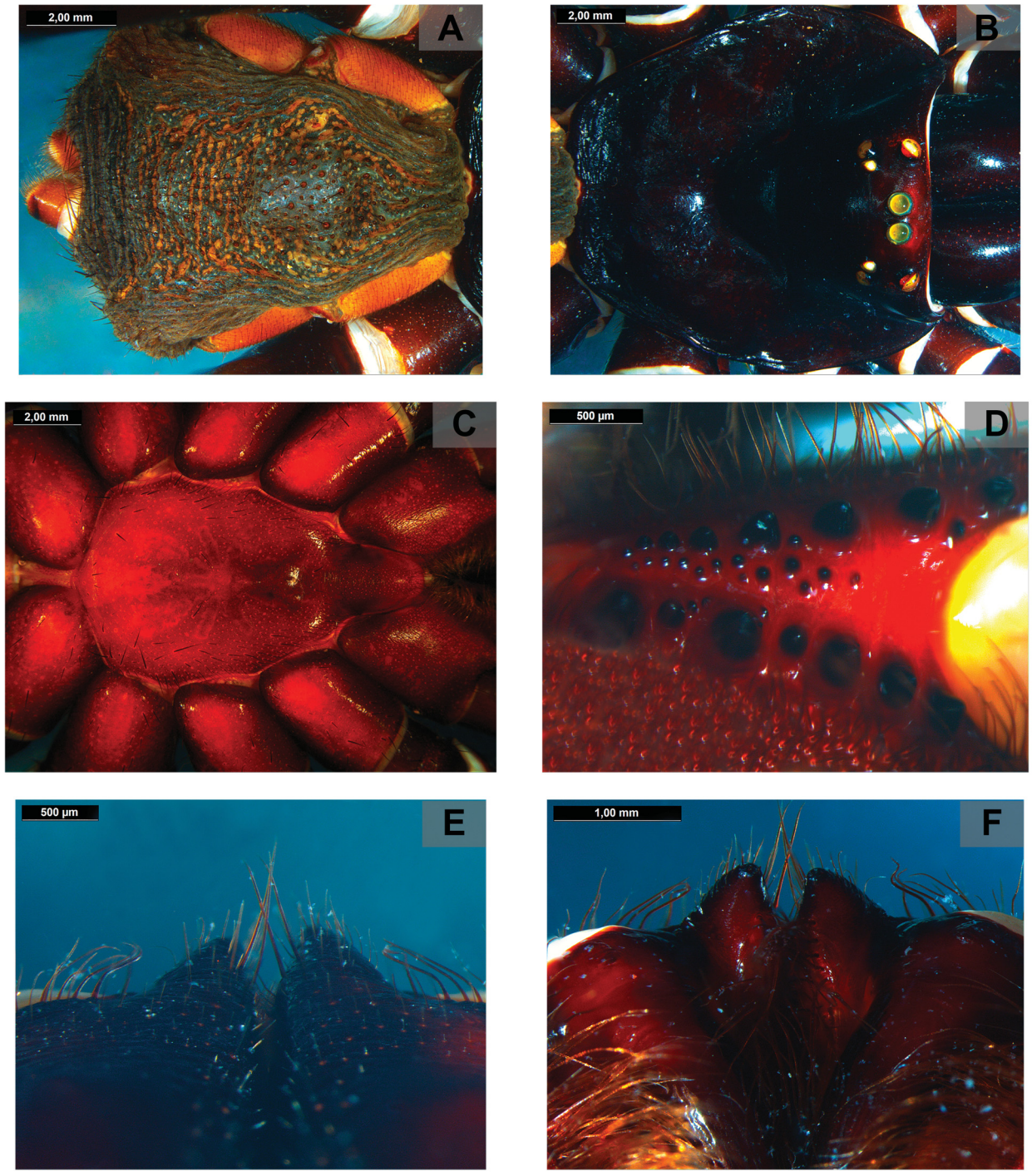


FIGURE 196. *Actinopus jamari* sp. nov., male: A–F IBSP: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

spermathecae with a small external apical lobe (Ríos-Tamayo & Goloboff, 2018, fig. 40 C).

Description. See Ríos-Tamayo & Goloboff (2018: 76).

Distribution. ARGENTINA: Córdoba.

Ungrouped Species

***Actinopus jamari* sp. nov.**
Figs 196–198, Map 12

Type material. Holotype male from [09° 04' S 63° 06' W], Floresta Nacional do Jamarí, Porto Velho, Rondônia, Brazil, F. Terrassini & S. Albuquerque leg. (IBSP).

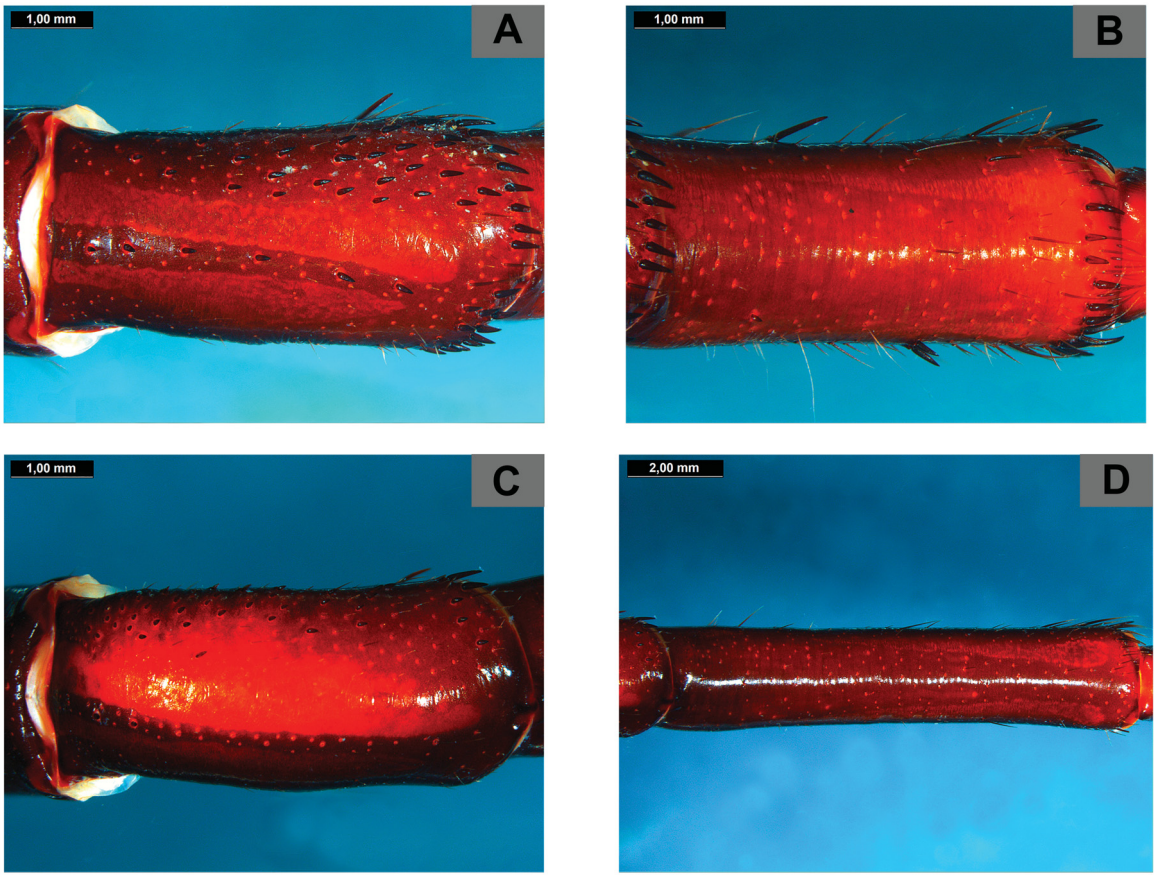
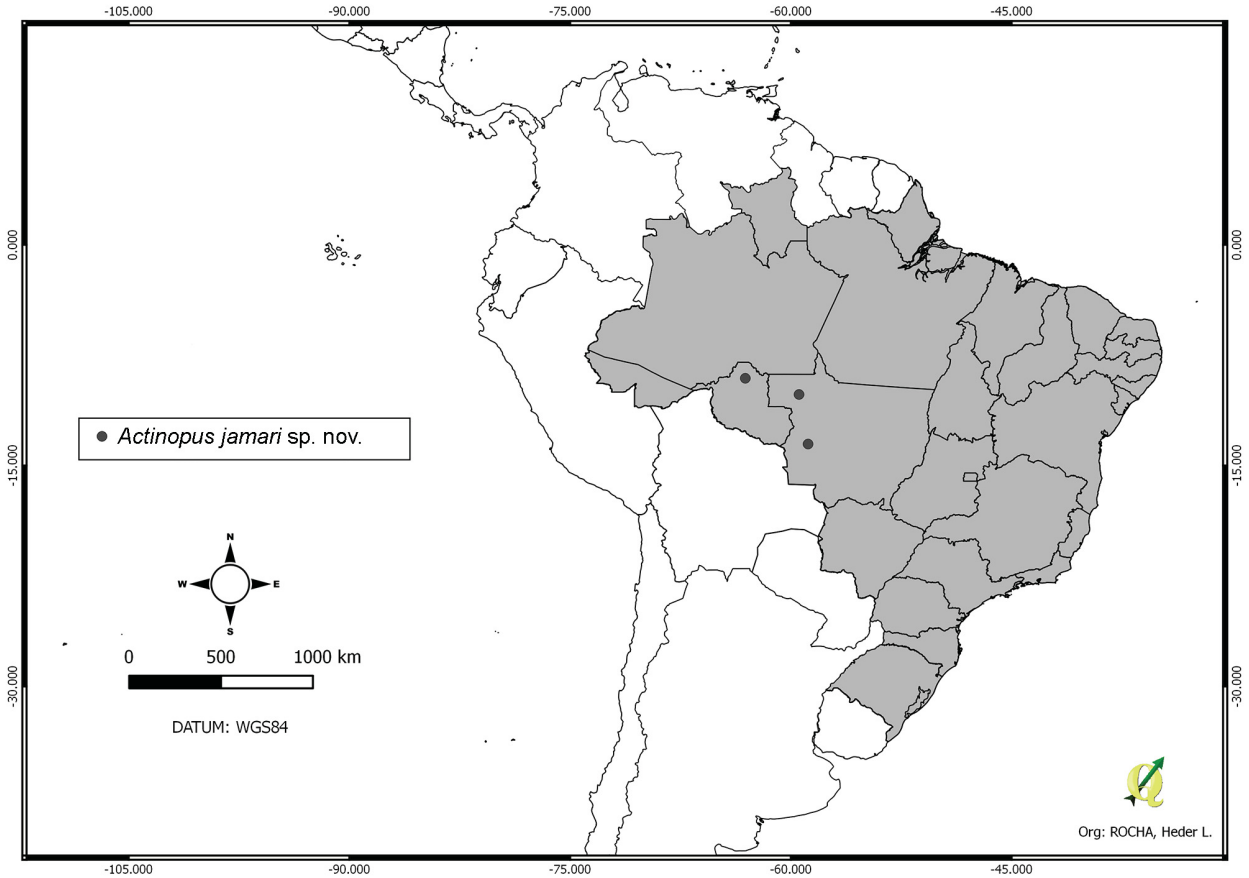


FIGURE 197. *Actinopus jamari* sp. nov., male: A–D IBSP: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.



MAP 12. Distribution map of *Actinopus jamari* sp. nov.

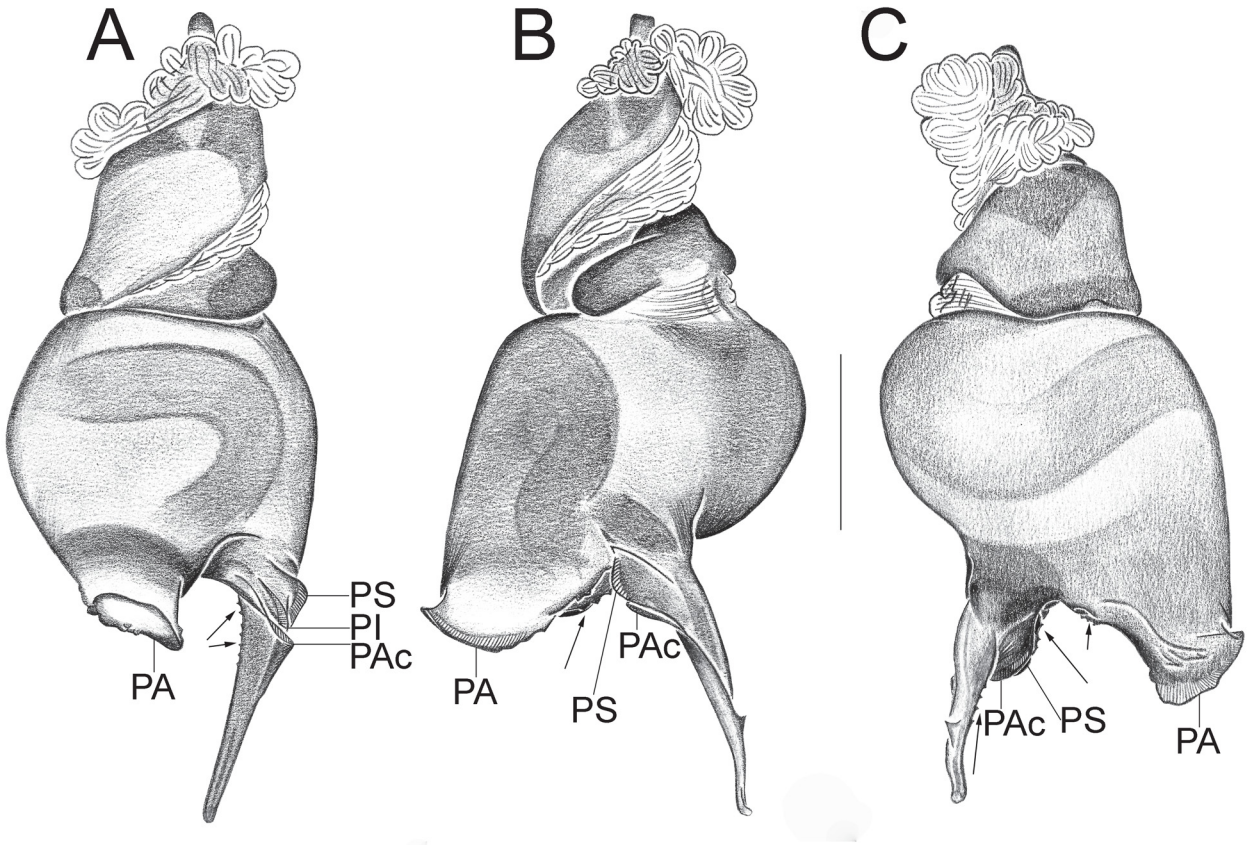


FIGURE 198. *Actinopus jamari* sp. nov., male: A–C IBSP: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated area. Scale line: 1 mm.

Paratypes: BRASIL: *Mato Grosso:* Aripuanã, [10° 10' S 59° 27' W], 1♂, 22.viii–02.ix.1997, G. Skuk leg. (MZSP 18054); Sapezal, [13° 32' S 58° 50' W], Usina Hidroelétrica de Sapezal, 4♂, 2007, F. D. de Godoy leg. (IBSP 113754).

Etymology. The specific name refers to the type locality, Floresta Nacional do Jamarí, Porto Velho, Rondônia, Brazil.

Diagnosis. Males of *Actinopus jamari* resemble those of *A. tarsalis* (Fig. 9 A–C), *A. castelo* (Fig. 12 A–C) and *A. concinnus* (Fig. 195 A–C) by the absence of BTA, but are readily recognized by the large PA with a keel inserted apically on bulb, flattened and apically folded, oblique in relation to embolus (Fig. 198 A–C).

MALE (IBSP): Total length 20.25; Carapace, long 11.5; wide 10.87. Carapace anterior part tapering and posterior part triangular. Anterior eye row slightly procurved, posterior row recurved (Fig. 196 B). With few short bristles between AME-clypeus, between ALE–ALP, between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 196 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines apically (Fig. 196 E–F). Chelicerae with 15 denticles along prolateral row of teeth. Prolateral row with five megateeth and two basal tooth. Retrolateral row with five megateeth, two basal teeth between three basal megateeth and three denticles along two basal megateeth (Fig. 196 D). Patella and tibia III with distal crown of well-developed thorns, not interrupted in middle (Fig. 197 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 197 A, C). Tibia IV without spines on dorsal surface (Fig. 197 D). Ventral pseudoscopulae occupying 30% of tarsus I, 40% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; on tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish-dark-brown; Abdomen pale gray with small orange spots of unpigmentation on dorsal surface (Fig. 196 A). **Eyes: Diameters:** PME 0.25, PLE 0.5, ALE 0.75, AME 0.62; MOQ: Length 1.25, front width 4.62, back width 4.37; **Interdistances:** PME–PME 2.75, PLE–PME 0.12, AME–AME 0.12, ALE–AME 1.25, ALE–PLE

0.87, AME–PME 1. **Ocular area:** OAL 7.5, OAW 6.5, and IF 3.12. **Body:** Clypeus: 0.37; Fovea: 4.12; Labium: long 2.37; wide 1.87; Chelicerae: long 4.37; wide 3.12; Sternum: long 6.75; wide 6.25. Abdomen: long 9.37; wide 7.62. **Leg measurements:** I: Fe 11/ Pa 5.25/ Ti 6.5/ Me 6.87/ Ta 4.37/ total 34. II: 11/ 5.12/ 6.87/ 7.75/ 4.5/ 35.25. III: 9.37/ 6/ 5.37/ 10.62/ 5.12/ 36.5. IV: 12.62/ 6.12/ 9.75/ 11.37/ 5.75/ 45.62. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0, r0; Me v1-0-4, d0, p0, r0-0-4; ta v0-3-3, d0, p0, r1-3-3. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v1-4-4, d0, p0-0-1, r0; Me v1-4-4, d0, p0-3-5, r0; ta v1-2-2, d0, p2-5-5, r1-2-4. III—Fe v0, d0, p0, r0; Pa v0, d5-15-28, p0, r0; ti v0, d1-0-12, p0-1-2, r0-2-3; Me v1-1-4, d0-0-3, p1-3-3, r2-7-6; ta v0, d0, p1-5-4, r3-3-5; IV—Fe v0, d0, p0, r0; Pa v0, d28-8-5, p0, r0; ti v0-0-2, d0, p0, r0; Me v1-3-11, d0, p1-6-8, r0-0-2; ta v0, d0, p1-6-7, r3-7-7. **Palp:** PA conspicuous, displaced dorsally in relation to middle longitudinal line along prolateral tegular surface and away from tegular border. Embolus with two keels (PI and PS). BTA developed and displaced dorsally in relation to a middle longitudinal line along prolateral tegular surface; serrated area with three rows of big notable cusps below PA in prolateral view; PA continuous to PS; Embolar base flattened, PI rotating the length of embolus from base to apex; several grooves covering prolateral tegular surface (Fig. 198 A–C).

Distribution. BRAZIL. Rondônia: Porto Velho; Mato Grosso: Aripuanã, and Sapezal (Map 12).

Actinopus apiacas sp. nov.

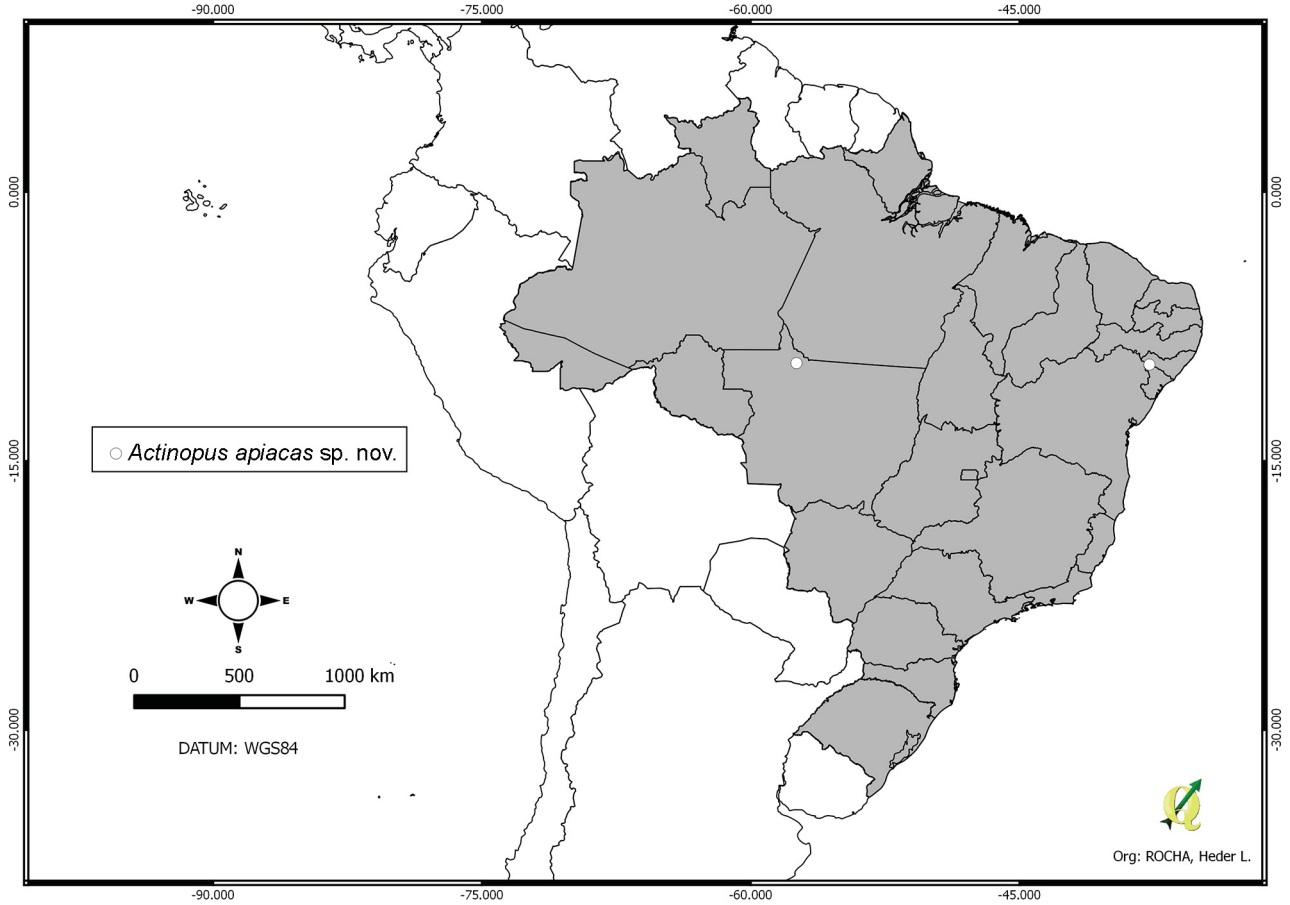
Figs 199–201, Map 13

Type material. Holotype male from [09º 32’ 39.98” S 57º 27’ 03.83” W], Apiacás, Mato Grosso, Brazil, ii.1997, M. Calletto leg. (IBSP 110503). **Paratypes:** BRAZIL. Mato Grosso: Apiacás, [09º 32’ 39.98” S 57º 27’ 03.83” W], 2♂, ii.1997, M. Calletto leg. (IBSP 110503).

Etymology. The specific name is a noun in apposition from the type locality name.

Diagnosis. Males of *Actinopus apiacas* resemble those of *A. paranensis* (Fig. 114 A–D) and *A. hirsutus* (Fig. 37 A–D) by hirsute legs. They differ from those of all species of the genus by the PA displaced dorsally in relation to a middle longitudinal line along prolateral tegular surface and separated from prolateral tegular border; embolar serrated area extremely developed, with three rows of large cusps (Fig. 201 A–C).

MALE (IBSP 1105003): Total length 20; Carapace, long 9; wide 8.75. Carapace rounded. Anterior eye row slightly procurved, posterior row recurved (Fig. 199 B).



MAP 13. Distribution map of *Actinopus apiacas* sp. nov.

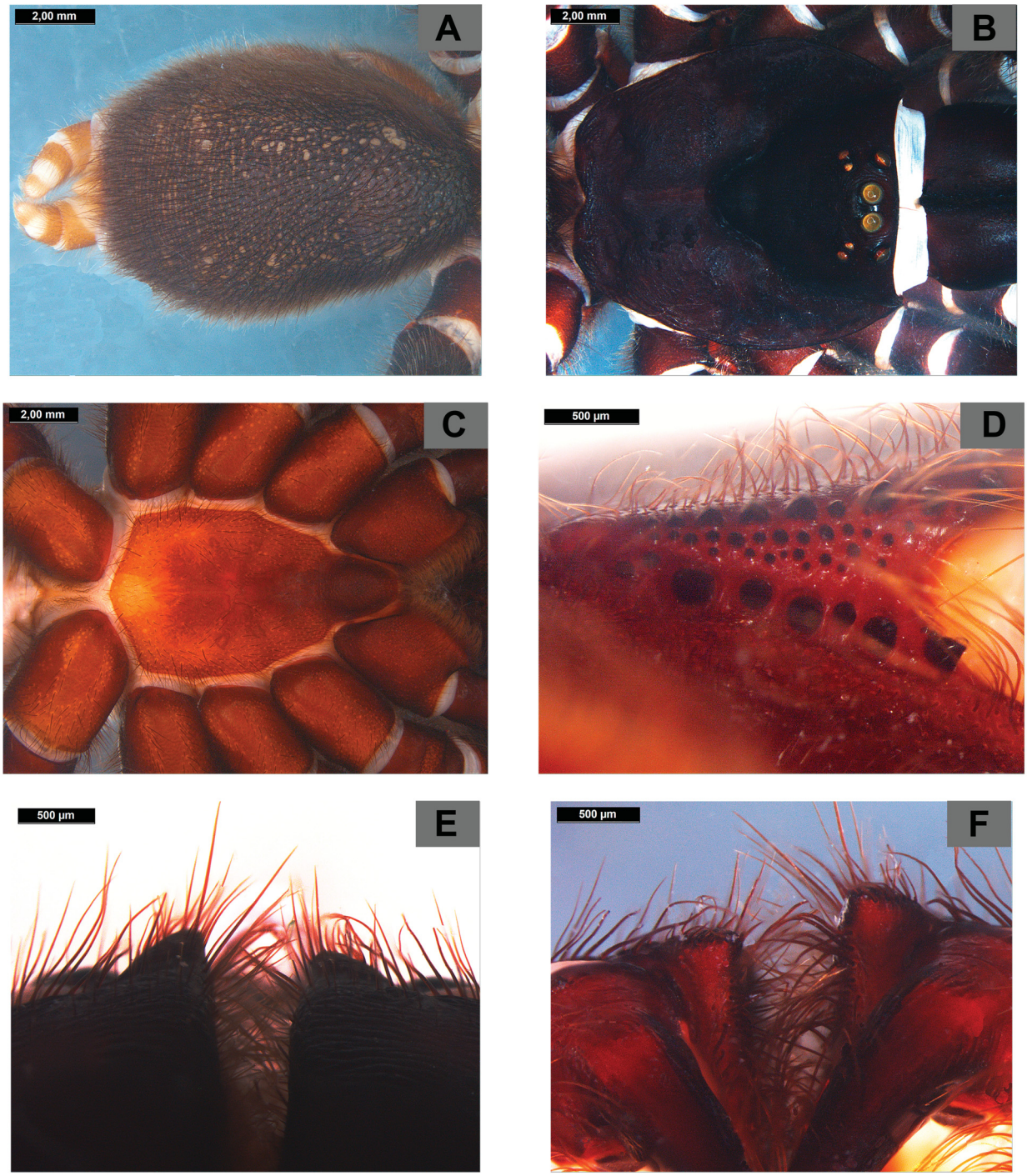


FIGURE 199. *Actinopus apiacas* sp. nov., male: A–F IBSP 110503: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

One long bristle between AME-clypeus and row of short and weak bristles on border of clypeus. One long bristle between ALE–ALP and many short, weak bristles between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 199 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines apically (Fig. 199 E–F). Chelicerae with 25 denticles along prolateral row of teeth. Prolateral row with seven megateeth and two basal teeth. Retrolateral row with six megateeth and two basal teeth (Fig. 199 D). Patella and tibia III with distal crown of well-developed thorns, not interrupted in middle (Fig. 200 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 200 A, C).

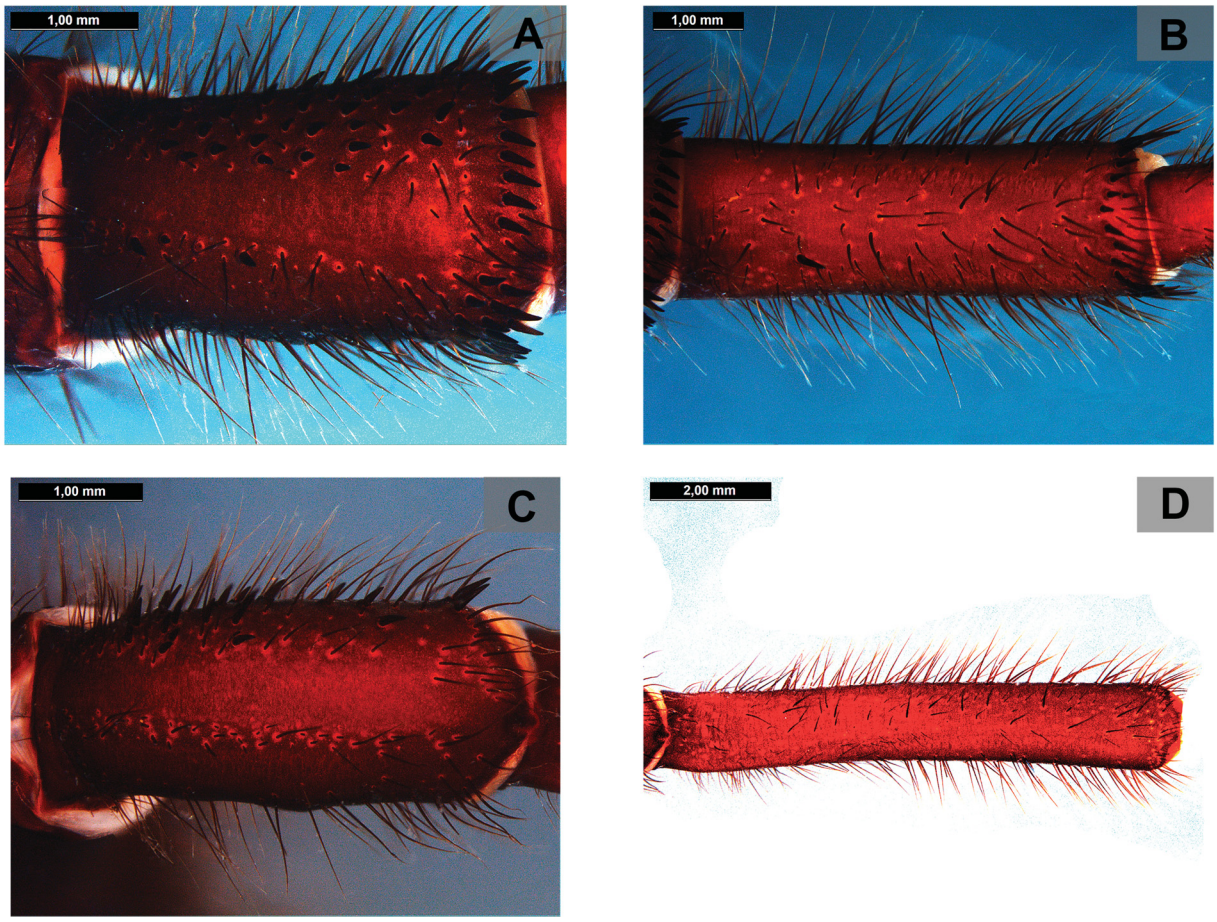


FIGURE 200. *Actinopus apiacas* sp. nov., male: A–D IBSP 110503: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

Tibia IV without spines on dorsal surface (Fig. 200 D). Legs and body, hirsute, with many long bristles. Ventral pseudoscopulae occupying 20% of tarsus I, 60% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact. Carapace and chelicerae dark brown; sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish brown; Abdomen pale gray, with many spots of unpigmentation on dorsal surface and many long bristles (Fig. 199 A). **Eyes: Diameters:** PME 0.25, PLE 0.33, ALE 0.5, AME 0.58; MOQ: Length 1.58, front width 3.42, back width 3.33; **Interdistances:** PME–PME 2.17, PLE–PME 0.17, AME–AME 0.33, ALE–AME 0.67, ALE–PLE 0.83, AME–PME 0.58. **Ocular area:** OAL 6.25, OAW 5.62, and IF 3.87. **Body:** Clypeus: 0.37; Fovea: 3.12; Labium: long 2.12; wide 2.2; Chelicerae: long 4.37; wide 2.75; Sternum: long 5.87; wide 5.87. Abdomen: long 9; wide 6.75. **Leg measurements:** I: Fe 10.25/ Pa 4/ Ti 6/ Me 7.25/ Ta 4.12/ total 31.62. II: 10/ 4.12/ 6.12/ 6.5/ 4.12 /30.87. III: 7.5/ 4/ 5/ 8.5/ 3.87/ 28.87. IV: 10/ 3.87/ 8.12/ 8.5/ 4.62/ 35.12. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0, r0; Me v1-2-1, d0, p0, r0; ta v0, d0, p0-1-1, r0. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-0-6, d1-0-16, p0, r0; Me v3-5-6, d0, p0-0-2, r0; ta v0-0-3, d0, p1-2-5, r0; III—Fe v0, d0, p0, r0; Pa v0, d8-13-31, p0, r0-0-1; ti v0, d1-0-14, p0-0-1, r0-0-2; Me v0-0-2, d0, p1-2-7, r0-1-7; ta v0, d0, p2-4-5, r2-4-3. IV—Fe v0, d0, p0, r0; Pa v0, d8-8-4, p0, r0; ti v0, d0, p0, r0; Me v0, d0, p0, r0; ta v0, d0, p0-3-4, r0-0-10. **Palp:** PA conspicuous, displaced dorsally in relation to a middle longitudinal line along prolateral tegular surface and away from tegular border. Embolus with two keels (PI and PS). BTA developed and displaced dorsally in relation to middle longitudinal line along prolateral tegular surface; serrated area represented by three rows of big notable cusps below PA in prolateral view; PA continuous to PS; Embolar base flattened, large, PI rotating length of embolus from base to apex; several grooves cover prolateral tegular surface, distal third of embolus with prolateral lamelae (Fig. 201 A–C).

Distribution. BRAZIL. Sergipe: Canindé de São Francisco; Mato Grosso: Apiacás (Map 13).

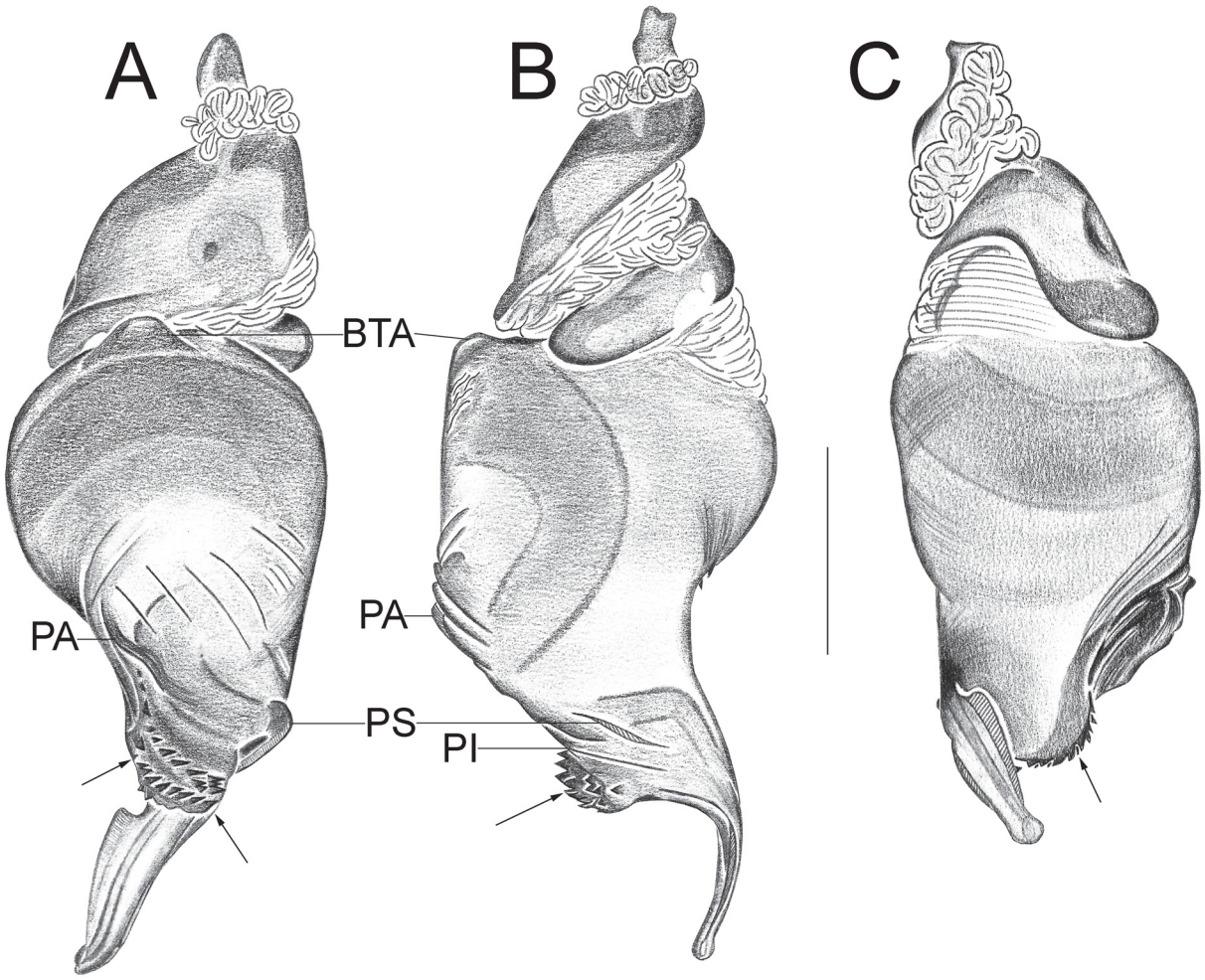


FIGURE 201. *Actinopus apiacas* sp. nov., male: A–C MACN 1105003: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel; Arrows: Serrated area. Scale line: 0.5 mm.

Material examined (burned in fire). BRAZIL. Sergipe: Rio São Francisco, Canindé de São Francisco, Usina Hidroelétrica Xingó, 09º 37' 34" S 37º 45' 22" W, 1♂, 16.ii.2000 (IBSP 114465).

***Actinopus panguana* sp. nov.**
Figs 202–206, Map 14

Type material. Holotype male from 09º 37' S 74º 06' W, Estación Biológica, Rio Yuyapichis, Panguana, Huánuco, Peru, 24.xi–21.i.1984, H. Hofer leg. (IBSP 113689). **Paratypes:** PERU: Amazonas: [05° 30' S 78° 32' W], Rio Marañó, 1km downstream from Pongo de Requena, 2♀ 2J, 26.xii.1990, P. A. Goloboff, Santisteban & McHugh leg. (AMNH); Cajamarca: [05° 47' S 79° 25' W], El Limón, Km 90 A, Rd. Olmos-Pucará, 1150m, 2♀, 20.xii.1990, P. A. Goloboff, Santisteban & McHugh leg. (AMNH); [06° 00' S 78° 57' W], Km 170, Rd. Olmos-Bagua, 2km S Puente Zonanga, 2♀, 26.xii.1990, P. A. Goloboff, Santisteban & McHugh leg. (AMNH); Km 72, Puente Zonanga, Rd. Olmos-Bagua, 650m, 3♀, 21.xii.1990, P. A. Goloboff, Santisteban & McHugh leg. (AMNH); Lambayeque: [05° 47' S 79° 25' W], Km 26, Rd. Olmos-Pucará, 1100m, 3♀, 20.vii.1990, P. A. Goloboff, Santisteban & McHugh leg. (AMNH); Alvarado, [06° 00' S 78° 57' W], Km 110, Rd. Olmos-Bagua, 1♀, 27.xii.1990, P. A. Goloboff, Santisteban & McHugh leg. (AMNH); Huánuco: Panguana, Estación Biológica, Rio Yuyapichis, 09º 37' S 74º 06' W, 1♂, 24.xi–21.i.1984, H. Hofer leg. (IBSP 113687, 113690).

Etymology. The specific name is a noun in apposition from the type locality name.

Diagnosis. Males differ from those of all other species

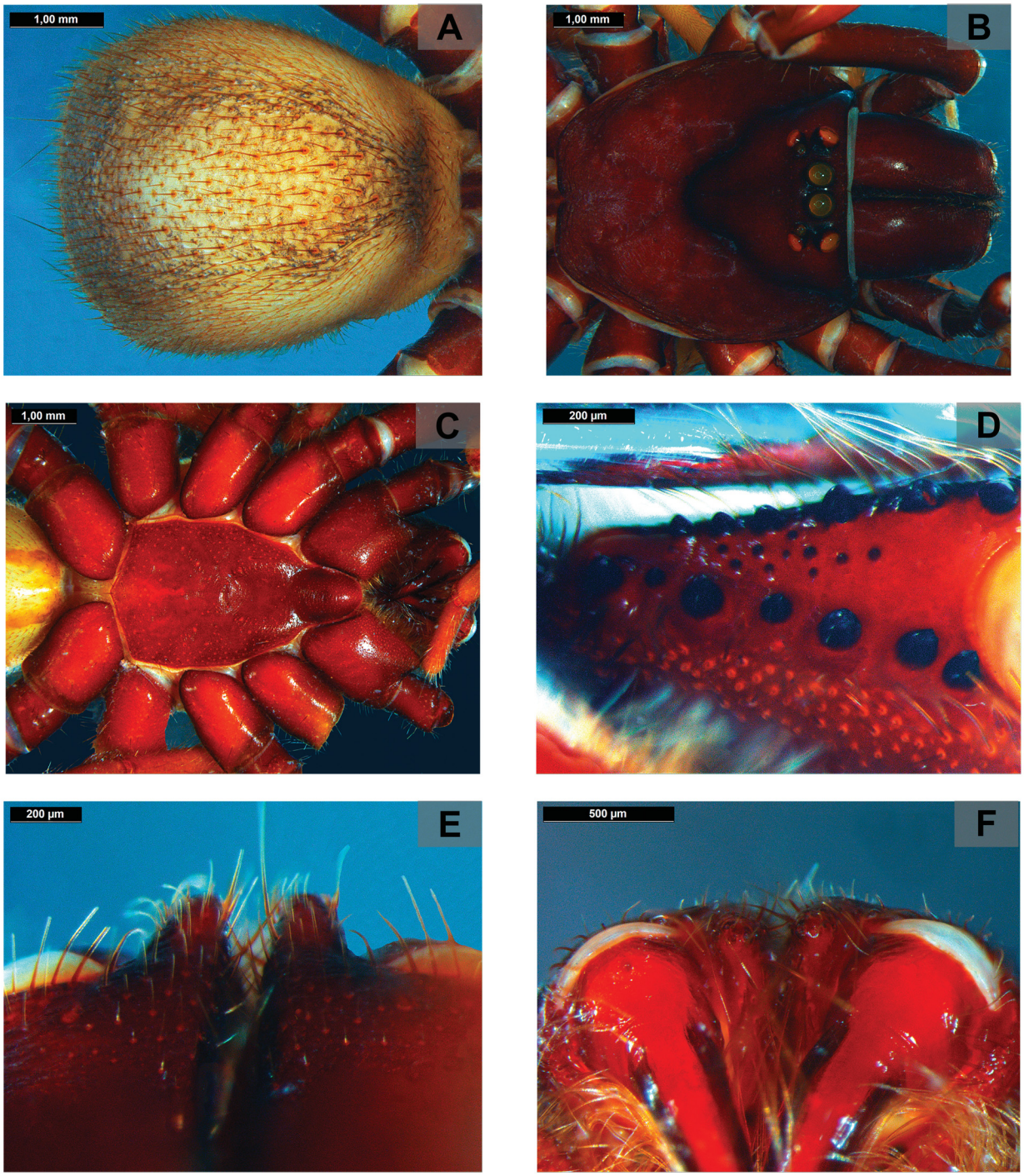


FIGURE 202. *Actinopus panguana* sp. nov., male: A–F IBSP 113689: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

of the genus by the following combination of characters: PA conspicuous and prolaterally bended; BTA developed and placed medially on prolateral tegular surface; serrated area absent; PA continuous to PS; DTP on dorsal tegular surface, conspicuous in prolateral view; embolus inserted obliquely on ventral view, embolar base elongated and thin (Fig. 206 A–C). Females are similar to those of *A. nattereri* (Fig. 67 D), *A. rufipes* (Fig. 72 D), *A. xenus* (Fig. 214 A), *A. azaghal* (Fig. 148 D), *A. echinus* (Fig. 212 A) and *A. tutu* (Fig. 143 D) by presence of two unilobed receptacles, differing from all of these species but *A. tutu*, by the irregular receptacles. They differ from those of those of *A. tutu* by the laterally directed receptacles (Fig. 206 D).

MALE (IBSP 113689): Total length 9.12; Carapace, long 4.5; wide 4.12. Carapace rounded. Anterior eye

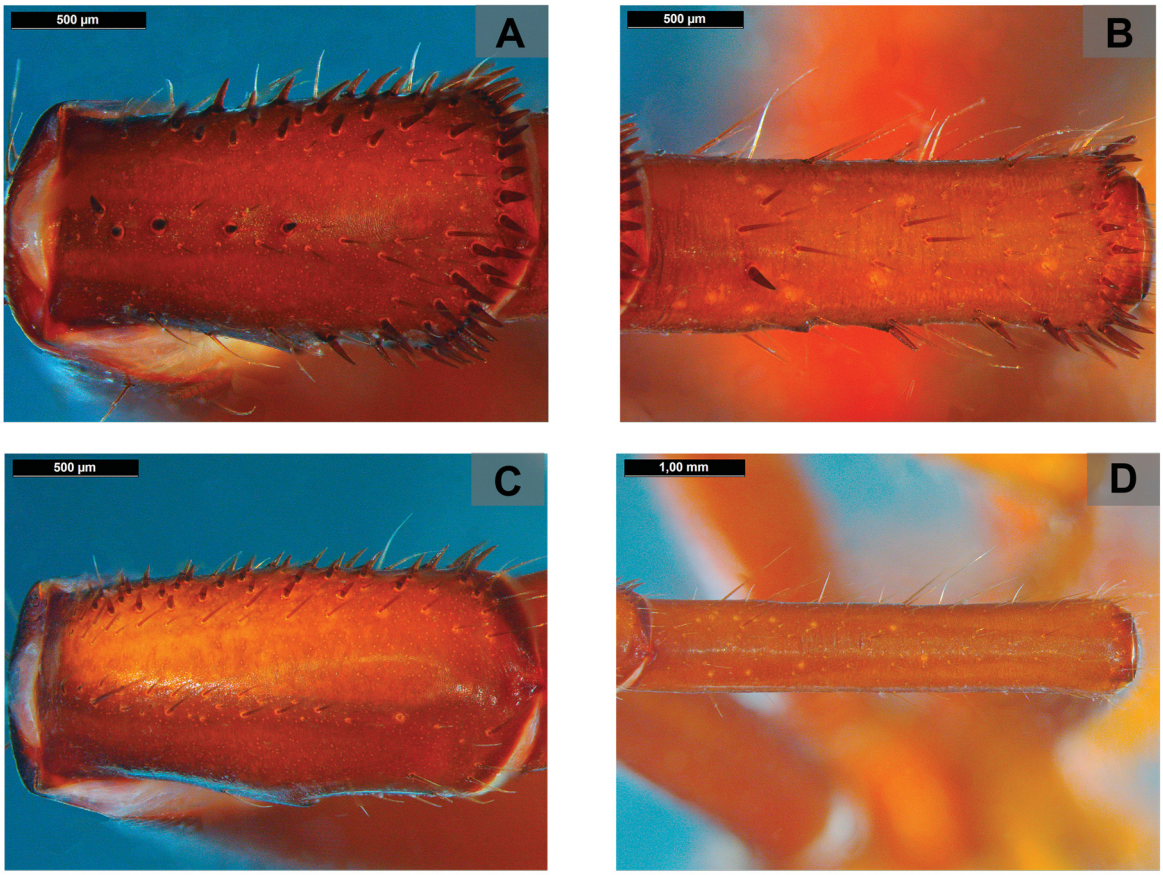
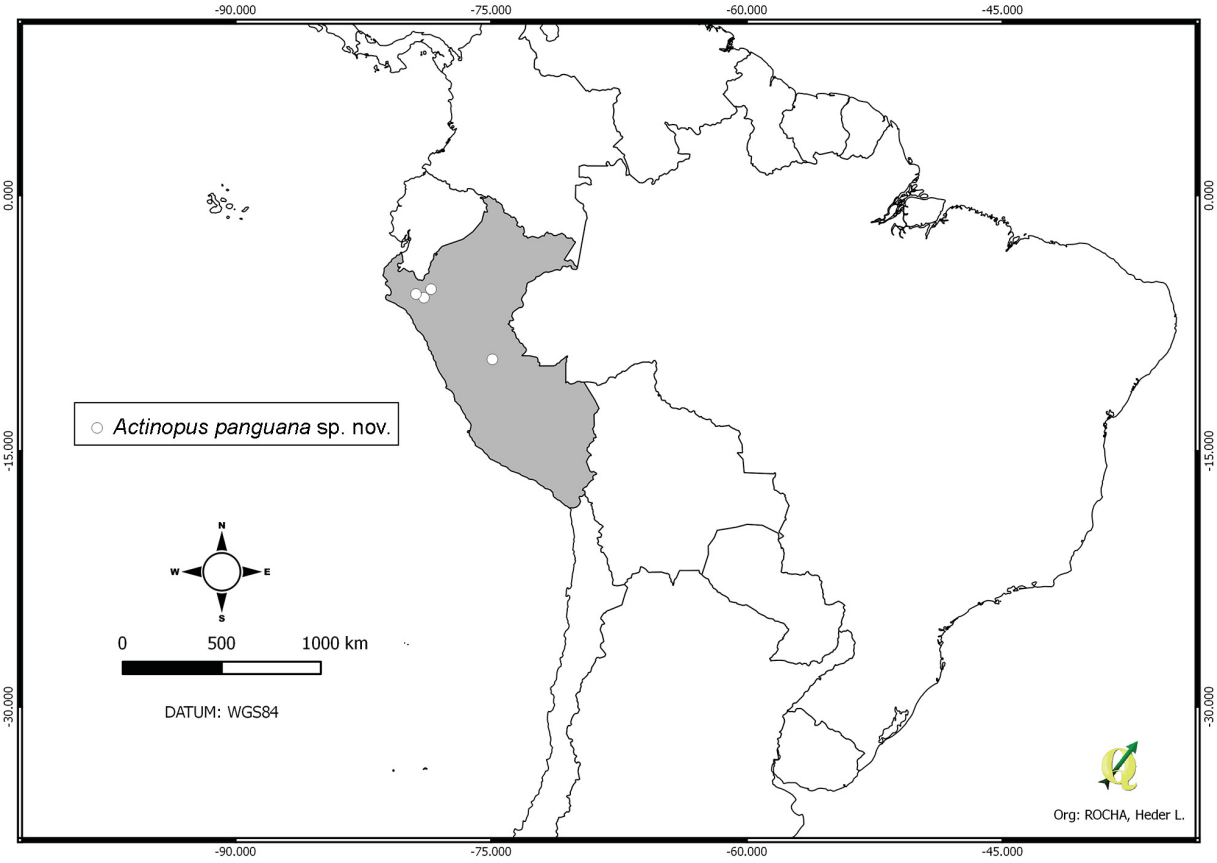


FIGURE 203. *Actinopus panguana* sp. nov., male: A–D IBSP 113689: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.



MAP 14. Distribution map of *Actinopus panguana* sp. nov.

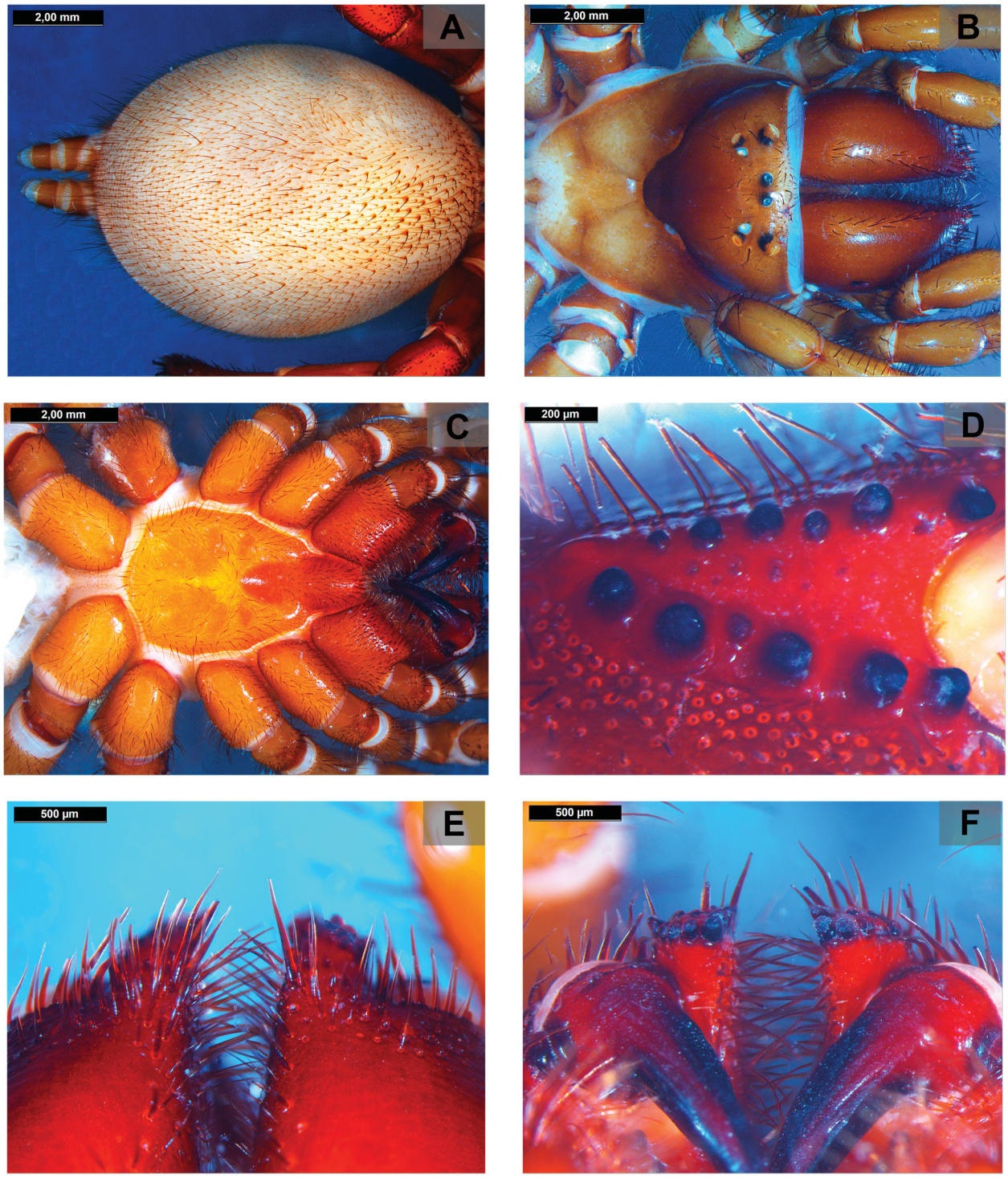


FIGURE 204. *Actinopus panguana* sp. nov., female: A–F AMNH: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

row slightly procurved, posterior row recurved (Fig. 202 B). With few, short and sparse bristles between AME-clypeus, between ALE–ALP, between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla fused medially, two distal sigilla more fused than others (Fig. 202 C). Rastellum protuberant, inverted V-shaped, hirsute, without spines apically (Fig. 202 E–F). Chelicerae with eleven denticles along prolateral row of teeth. Prolateral row with six megateeth. Retrolateral row with seven megateeth and one denticle between the two basal megateeth (Fig. 202 D). Patella and tibia III with distal crown of well-developed thorns, interrupted

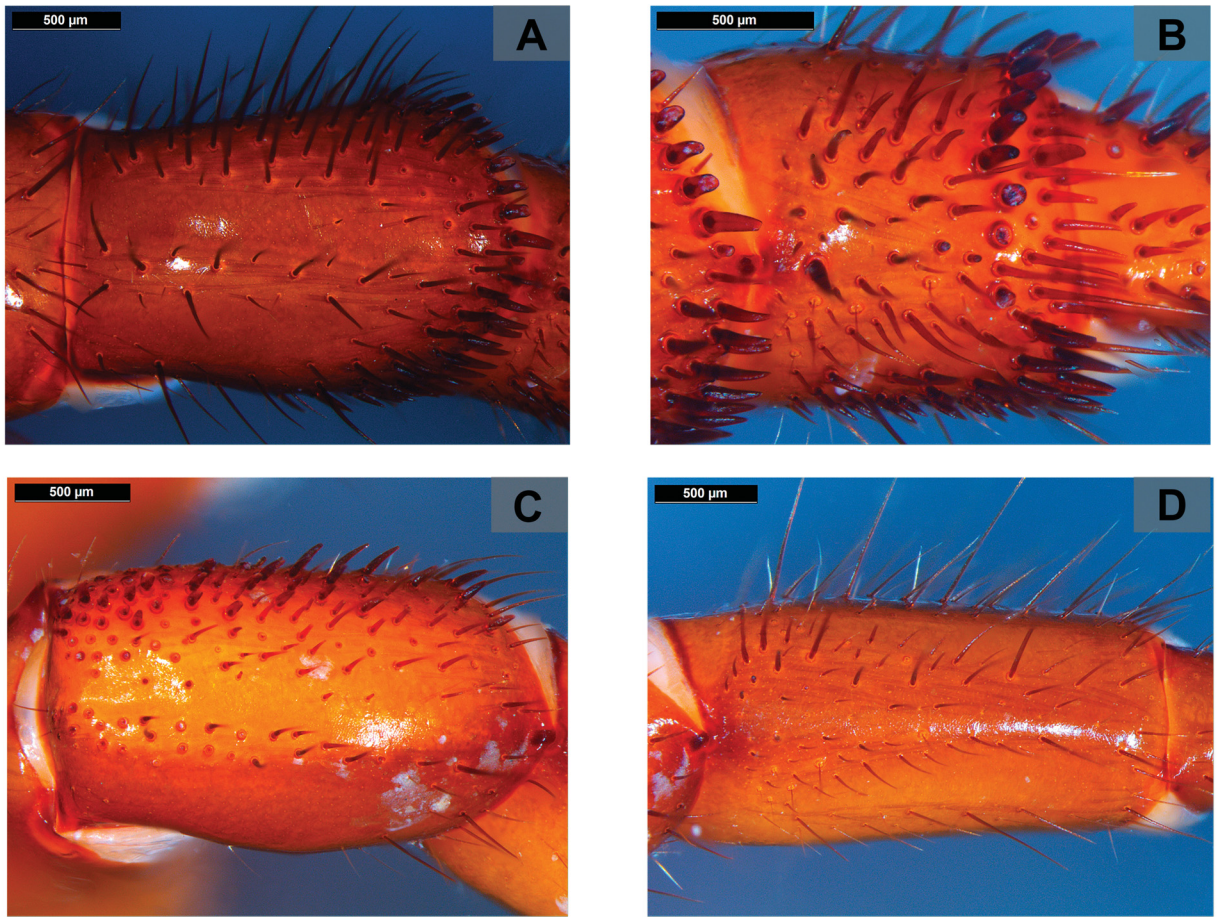


FIGURE 205. *Actinopus panguana* sp. nov., female: A–D AMNH: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

in middle (Fig. 203 A–B). Patellae III and IV with spines on prolaterodorsal face (Fig. 203 A, C). Tibia IV without spines on dorsal surface (Fig. 203 D). Ventral pseudoscopulae occupying 40% of tarsus I, 60% of II and 100% of III and IV. Pseudoscopula of tarsi I and II with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish brown; Abdomen pale brown (Fig. 202 A). **Eyes: Diameters:** PME 0.16, PLE 0.28, ALE 0.32, AME 0.36; MOQ: Length 0.52, front width 1.84, back width 1.76; **Interdistances:** PME–PME 1.12, PLE–PME 0.04, AME–AME 0.08, ALE–AME 0.24, ALE–PLE 0.24, AME–PME 0.2. **Ocular area:** OAL 2.87, OAW 2.62, and IF 1.37. **Body:** Clypeus: 0.12; Fovea: 1.62; Labium: long 0.87; wide 0.75; Chelicerae: long 1.25; wide 1.12; Sternum: long 2.75; wide 2.12. Abdomen: long 4.25; wide 4.25. **Leg measurements:** I: Fe 3.87/ Pa 0.12/ Ti 3/ Me 3.12/ Ta 1.87/ total 12. II: 3.75/ 1.62/ 3/ 3.37/ 2/ 13.75. III: 3.62/ 1.87/ 1.87/ 2.12/ 2/ 11.5. IV: 4.75/ 2/ 4.12/ 3.37/ 2.25/ 16.5. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v1-4-4, d0, p0-0-1, r0-0-2; Me v1-3-4, d0, p0-3-2, r1-2-2; ta v1-2-2, d0, p1-2-2, r0-2-3. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v1-2-1, d0, p0, r0-3-12; Me v2-3-2, d0, p1-2-1, r1-5-5; ta v1-2-3, d0, p3-4-6, r5-3-4. III—Fe v0, d0, p0, r0; Pa v0, d7-18-25, p0-0-2, r0-0-4; ti v0-0-6, d1-0-12, p0-0-2, r0-2-4; Me v3-5-6, d0-1-2, p1-2-3, r1-2-5; ta v0, d0, p0-3-4, r2-10-4; IV—Fe v0, d0, p0, r0; Pa v0, d25-8-5, p0, r0; ti v0-0-2, d0, p0, r0; Me v2-4-3, d0, p0-2-3, r0-0-1; ta v0, d0, p1-6-7, r1-4-4. **Palp:** PA conspicuous and prolaterally bended. Embolus with three keels (PAc, PI and PS). BTA developed and placed medially on prolateral tegular surface; serrated area absent; PA continuous to PS; Dorsal tegular process, on dorsal tegular surface in prolateral view (DTP). Embolus inserted on oblique orientation on ventral view and embolar base elongated and thin (Fig. 206 A–C).

FEMALE (AMNH): Total length 20; Carapace, long 7.25; wide 6.62. Carapace anterior part square and posterior part triangular. Eyes. Anterior row procurved, posterior row slightly recurved (Fig. 204 B). Many short and long bristles between AME-clypeus, one long bristle between PLE–ALE, short and long bristles between posterior eyes-fovea and short bristles between lateral

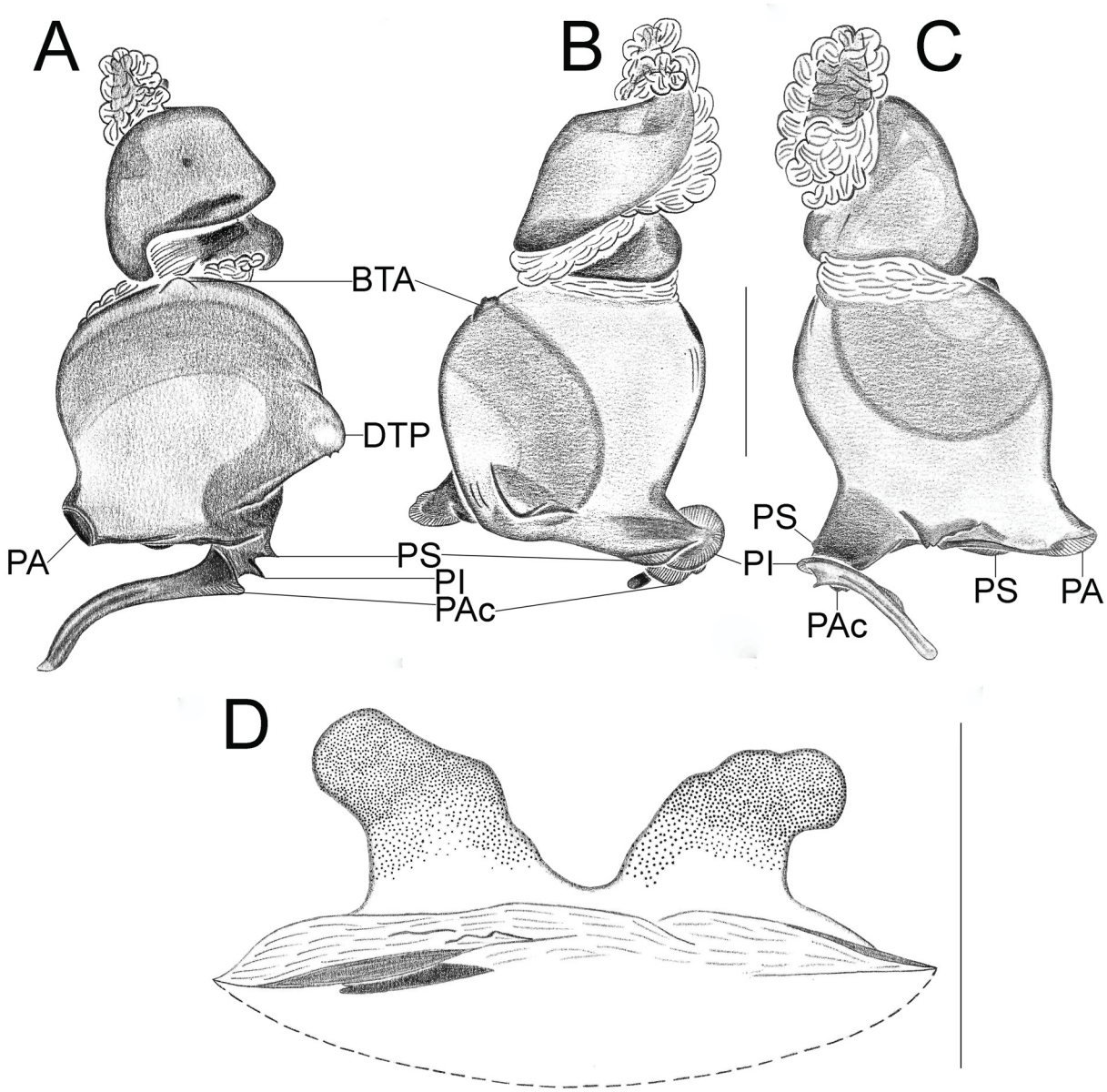


FIGURE 206. *Actinopus panguana* sp. nov., male: A–C IBSP 113687: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **DTP**-Distal Tegular Process; **PAc**-Prolateral Accessory keel; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel. Paratype, female: D AMNH: D. Spermathecae, dorsal view. Scale line: Male 0.5 mm, female: 1mm.

eyes-edge of carapace. Sternum with ten sigilla fused medially, all sigilla very fused to each other (Fig. 204 C). Rastellum protuberant, subquadrate, hirsute, with a row of short spines on the edge of rastellum and o lot of short spines covering the dorsal rastellum (Fig. 204 E–F). Chelicerae with 17 denticles along prolateral row of teeth. Prolateral row with five megateeth and one basal tooth, basal to megateeth. Retrolateral row with five megateeth and three teeth along retrolatera row (Fig. 204 D). Patella III and tibiae III with distal developed crown of thorns (Fig. 205 A–B). Patella IV with prolaterodorsal short spines along extension of article (Fig. 205 C). Tibia IV without spines, with long bristles along prolaterodorsal surface (Fig. 205 D). Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi, tarsi and palp reddish brown; Abdomen pale brown (Fig. 204 A). **Eyes: Diameters:** PME 0.16, PLE 0.24, ALE 0.44, AME 0.2; MOQ: Length 1.08, front width 3.4, back width 2.8; **Interdistances:** PME–PME 1.68, PLE–PME 0.2, AME–AME 0.28, ALE–AME 0.96, ALE–PLE 0.72,

AME–PME 0.76. **Ocular area:** OAL 6.62, OAW 7.37, and IF 2.37. **Body:** Clypeus: 0.5; Fovea: 3; Labium: long 1.75; wide 1.25; Chelicerae: long 3.75; wide 2.62; Sternum: long 4.37; wide 4.12. Abdomen: long 10.75; wide 8.37. **Leg measurements:** I: Fe 3.87/ Pa 2.62/ Ti 1.87/ Me 2.37/ Ta 1.12/ total 11.87. II: 3.87/ 2.75/ 2/ 2.5/ 1.12/ 12.25. III: 3.75/ 3.12/ 1.37/ 3/ 1.37/ 12.62. IV: 5/ 3.37/ 3/ 3/ 1.37/ 15.75. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-1-1, d0, p0, r0; Me v2-1-2, d0-0-4, p5-5-6, r0; ta v0-0-2, d0, p3-3-3, r0. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0-7-6, r6-9-5; Me v0-0-2, d0, p5-3-1, r7-4-4; ta v0-0-5, d0, p5-3-4, r3-4-2. III—Fe v0, d0, p0, r0; Pa v0, d0-4-32, p0, r0; ti v0, d0-5-3, p0-0-2, r14-22-23; Me v0-0-4, d9-12-9, p0, r8-1-2; ta v12-9-1, d2-4-6, p0-0-4, r3-3-3; IV—Fe v0, d0, p0, r0; Pa v0, d19-17-9, p0, r0; ti v0, d0, p0, r0; Me v0-, d0-0-1, p0-1-5, r0; ta v0-4-6, d0, p1-4-3, r0-0-4. **Spermathecae:** Represented by a two seminal receptacles, divergent, with irregular apical border on each receptacle. Without sclerotized region on basal part of spermathecae. Pore distribution reaching 75% apical on each receptacle. Absence of lateral swelling (Fig. 206 D).

Distribution. PERU: Huánuco: Panguana; Amazonas; Cajamarca; Alvarado; and Lambayeque (Map 14).

Material examined (burned in fire). PERU: Huánuco: Panguana, Estación Biológica, Rio Yuyapichis, 09º 37' S 74º 06' W, 1♂, 26.xi–24.xii.1983, M. Verheagh leg. (SMNK 3554); 21.i–18.ii.1984, M. Verheagh leg. (SMNK 3552, 3553).

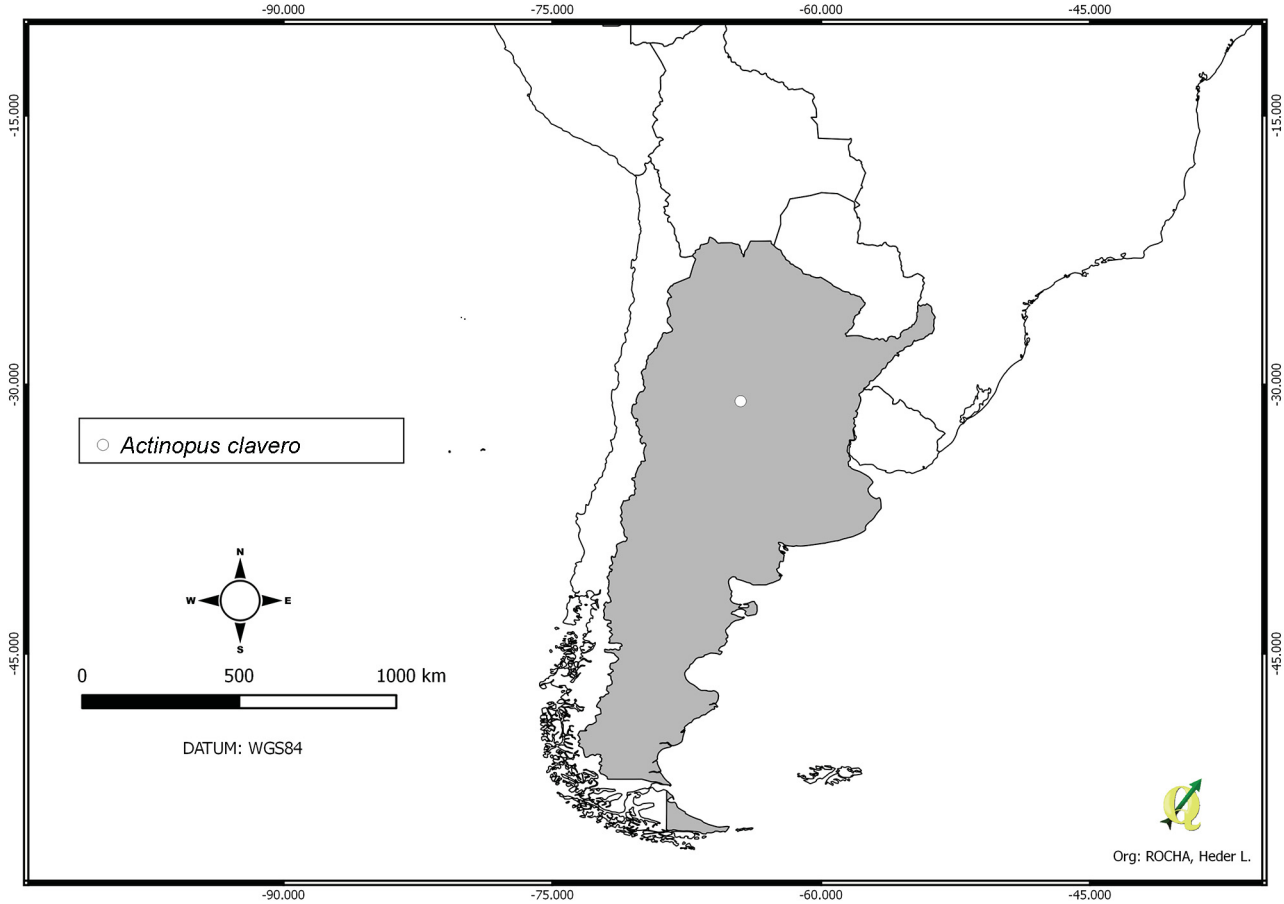
Actinopus clavero Ríos-Tamayo & Goloboff, 2018

Figs 207–209, Map 15

Actinopus clavero Ríos-Tamayo & Goloboff, 2018: 14, fig. 4 A–H, 5 A–D, 43 (holotype ♂, [31º 46' S 64º 59' W], Nono, Córdoba, Argentina, i.1998, P. Goloboff and C. Szumik leg., MACN-Ar 36533; paratype ♀, [31º 36' S 64º 54' W], Camino a Villa Carlos Paz, 15km de Mina Clavero, Córdoba, Argentina, i.1981, P. Grosso, A. Zanetic and A. Goloboff leg., MACN-Ar 36533); World Spider Catalog, 2020.

Diagnosis. Males of *Actinopus clavero* are unique in *Actinopus* by the shape of the copulatory bulb, with embolus elongated and winding along longitudinal line of tegulum, resembling in that regard the shape of the copulatory bulb in *Missulena*. (Fig. 209 A–C); they also present the dorsal surface of ocular area and chelicerae slightly granulated (Fig. 207 B) and three spines on basal third on dorsal surface of tibia III (Fig. 208 C). Females are unique in *Actinopus* by the shape of receptacles, very elongated and with a tapered apex.

MALE (MACN-Ar 19827): Total length 12.25;



MAP 15. Distribution map of *Actinopus clavero* Ríos-Tamayo & Goloboff, 2018.

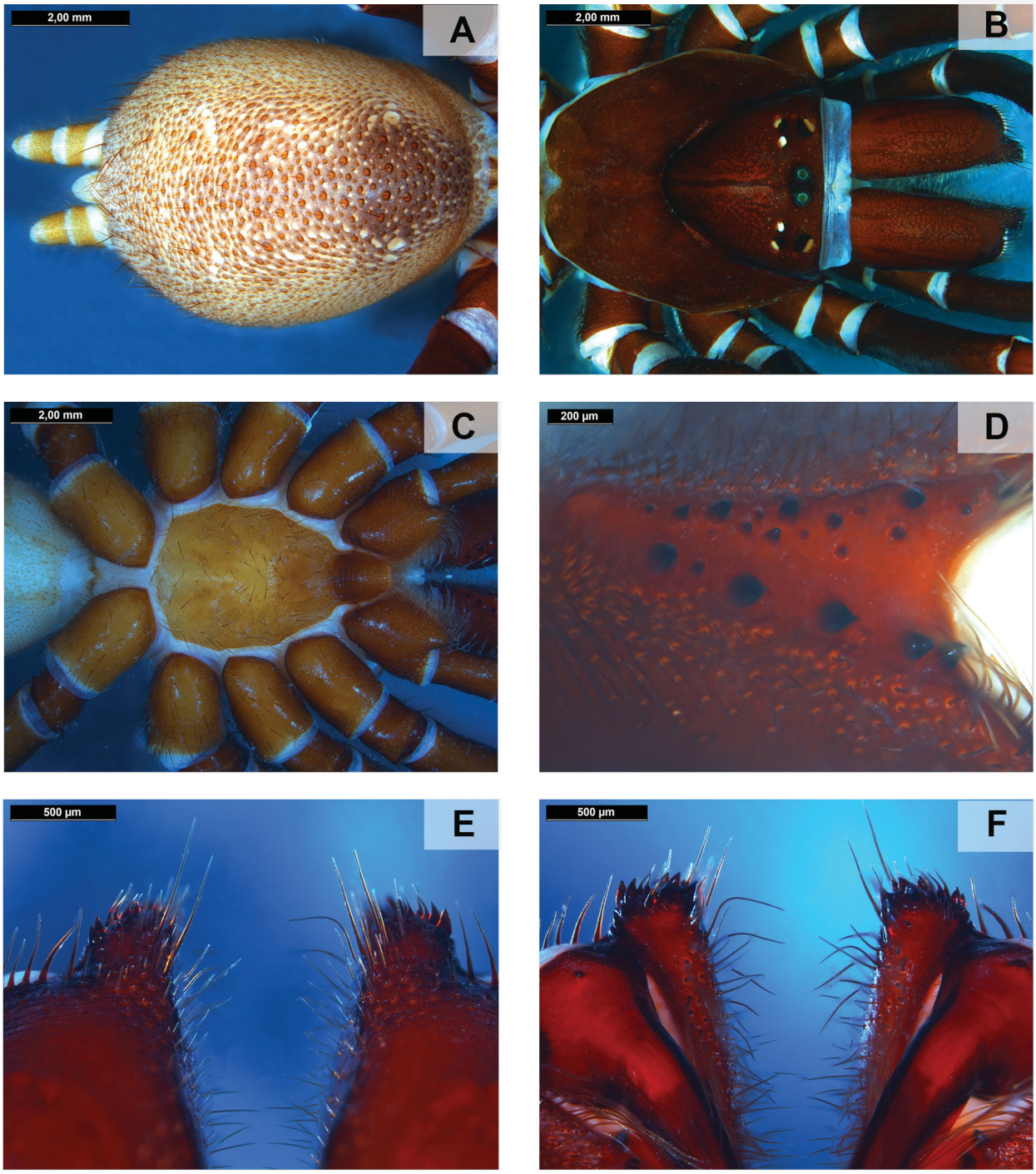


FIGURE 207. *Actinopus clavero* Ríos-Tamayo & Goloboff, 2018, male: A–F MACN-Ar 19827: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

Carapace, long 5.37; wide 5. Carapace rounded. Anterior eye row slightly procurved, posterior row slightly recurved (Fig. 207 B). With short and weak bristles between AME-clypeus, between ALE–ALP, between posterior eyes-fovea and lateral eyes-edge of carapace. Sternum with eight sigilla converging to the middle but separeted (Fig. 207 C). Rastellum protuberant, digitiform, hirsute, with many short spines covering apex (Fig. 207 E–F). Chelicerae with twelve denticles along prolateral row of teeth. Prolateral row with six megateeth. Retrolateral row with five megateeth and one tooth between two basal megateeth (Fig. 207 D). Patella and tibia III with distal crown of well-developed thorns, not interrupted in middle (Fig. 208 A–B). Patellae III and IV with spines on prolaterodorsal

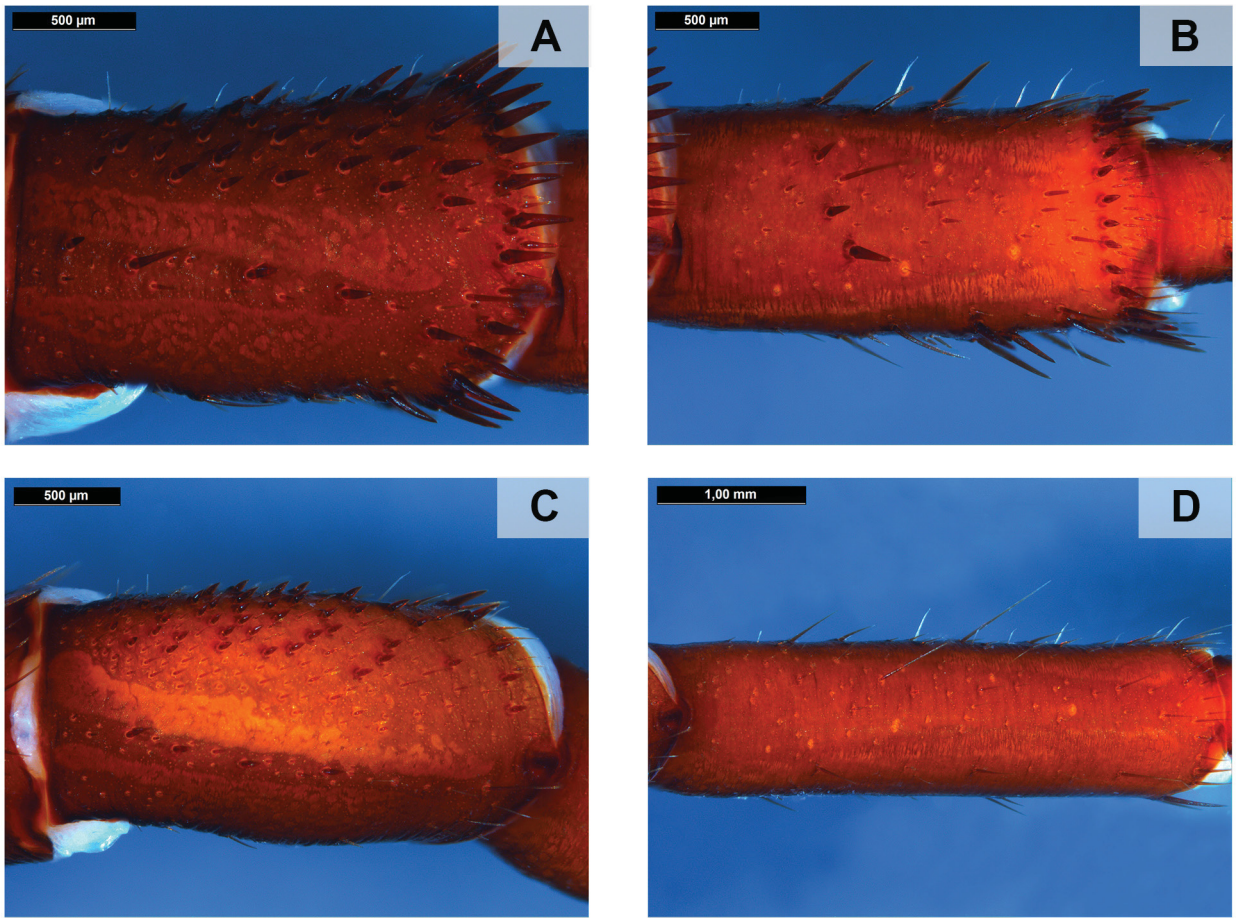


FIGURE 208. *Actinopus clavero* Ríos-Tamayo & Goloboff, 2018, male: A–D MACN-Ar 19827: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

face (Fig. 208 A, C). Tibia IV without spines on dorsal surface (Fig. 208 D). Ventral pseudoscopulae occupying 50% of tarsus I, 70% of II, 20% of metatarsi IV and 100% of III and IV. Pseudoscopula of tarsi I, II and metatarsi IV with setae spaced, forming diffuse group of bristles; On tarsi III and IV, compact. Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, tibiae, metatarsi and tarsi reddish brown; Abdomen pale brown with a scutum covering 1/3 of anterior dorsal surface o abdomen (Fig. 207 A). **Eyes: Diameters:** PME 0.2, PLE 0.24, ALE 0.32, AME 0.2; MOQ: Length 0.8, front width 2.64, back width 2.56; **Interdistances:** PME–PME 1.4, PLE–PME 0.2, AME–AME 0.28, ALE–AME 0.8, ALE–PLE 0.44, AME–PME 0.52. **Ocular area:** OAL 3.75, OAW 3.12, and IF 1.75. **Body:** Clypeus: 0.25; Fovea: 2.25; Labium: long 1.12; wide 1.12; Chelicerae: long 3.12; wide 1; Sternum: long 3.37; wide 3.12. Abdomen: long 6.5; wide 5. **Leg measurements:** I: Fe 5.62/ Pa 2.25/ Ti 3.12/ Me 3.87/ Ta 2/ total 16.87. II: 5.12/ 2.25/ 3/ 3.75/ 2/ 16.12. III: 3.87/ 2.25/ 2.37/ 3.75/ 2.12 /14.37. IV: 5/ 2.5/ 3.87/ 4.25/ 2.25/ 17.87. Formula 4123. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v3-6-15, d0, p0-0-4, r2-2-4; Me v6-9-10, d0, p1-3-2, r1-3-3; ta v3-6-4, d0, p0-1-3, r1-2-3. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v4-5-7, d0, p1-3-3, r0-0-2; Me v4-5-1, d0, p1-2-2, r1-2-3; ta v0-4-4, d0, p1-1-2, r1-0-1. III—Fe v0, d0-4-8, p0, r0; Pa v0, d8-10-29, p3-0-11, r0-0-4; ti v0, d3-0-11, p1-1-1, r0-2-4; Me v0-0-2, d4-7-5, p1-1-2, r1-2-2; ta v0-0-2, d0, p1-2-3, r0-3-4; IV—Fe v0, d0, p0, r0; Pa v0, d21-23-8, p0, r0; ti v0, d0, p0, r0; Me v0, d0-0-1, p1-0-2, r0-0-1; ta v0, d0, p1-6-7, r1-4-3. **Palp:** PA conspicuous and continuous to surface between PS and PI. Embolus with two keels (PI and PS). BTA developed and displaced dorsally in relation to a middle longitudinal line along prolateral tegular surface; serrated area absent; embolus elongated, thin, winding along longitudinal line of tegulum (Fig. 209 A–C).

Material examined. ARGENTINA: *Córdoba:* Los Cocos [30º 55'24.03" S 64º 29' 56.73" W], 1♂, x–xi.1995, M. Rumboll leg. (MACN-Ar 19827).

Distribution. ARGENTINA: Córdoba: Los Cocos (Map 15).

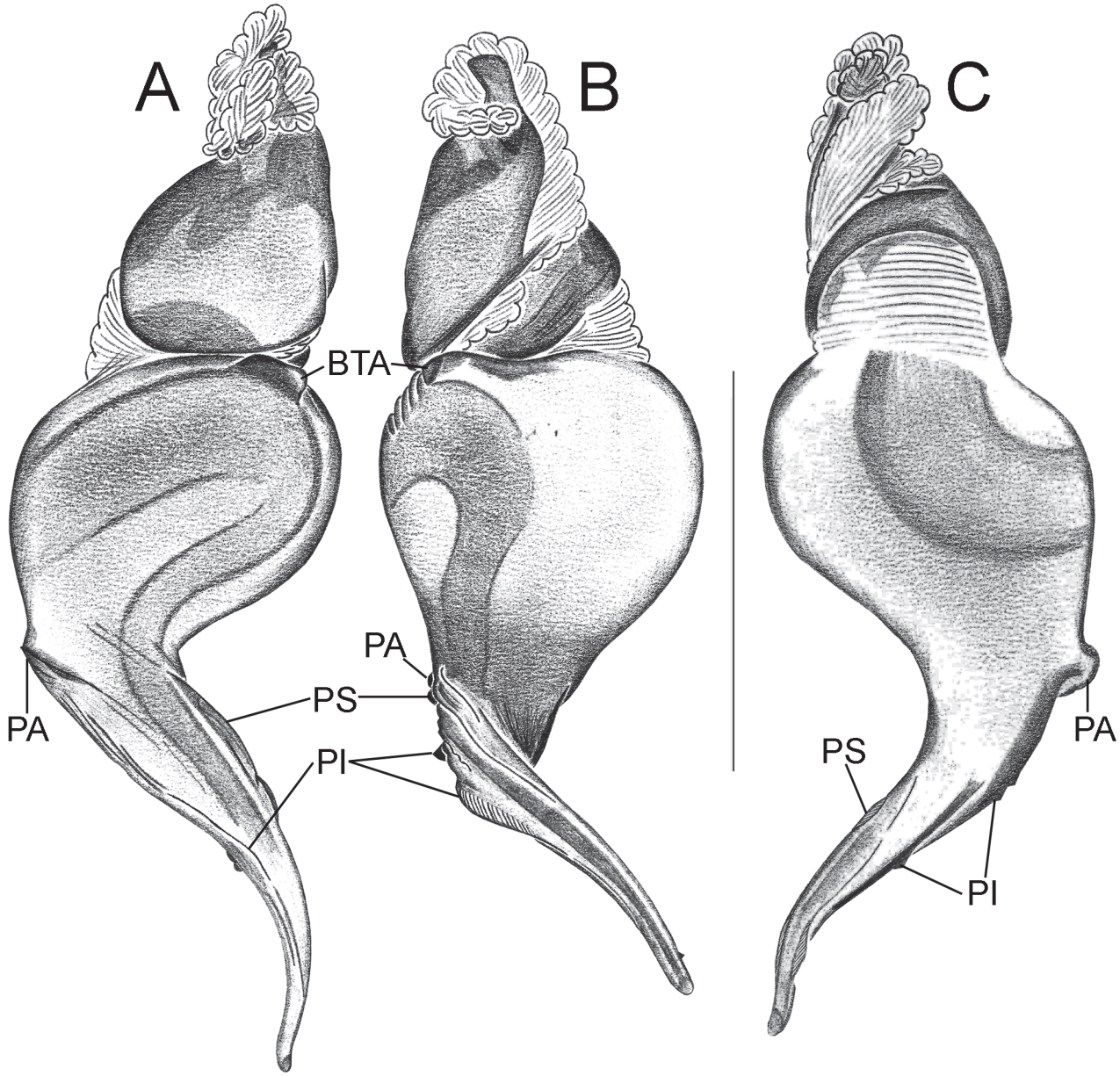


FIGURE 209. *Actinopus clavero* Ríos-Tamayo & Goloboff, 2018, male: A–C MACN-Ar 19827: A. Copulatory bulb, prolateral; B. Copulatory bulb, dorsal; C. Copulatory bulb, retrolateral. **PA-**Paraembolic apophysis; **BTA**-Basal Tegular Apophysis; **PI**-Prolateral Inferior keel; **PS**-Prolateral Superior keel. Scale line: 1mm.

Actinopus echinus Mello-Leitão, 1949

Figs 210–212, Map 16

Actinopus echinus Mello-Leitão, 1949: 1 (holotype ♀, Confluence of the river Koluene with river Xingu, Reserva Indígena do Xingu, northeast of Gaúcha do Norte, Mato Grosso, Brazil, MNRJ, lost in assault on transport truck); World Spider Catalog, 2020.

Note. The material examined can be identified as *A. echinus* by the following characters which are congruent with the original description: arrangement of cheliceral teeth, spines of rastellum and position and size of eye.

Diagnosis. Females of *A. echinus* can be identified by the following combination of characters: unilobed seminal receptacles, which are subquadrate in shape and parallel to each other (Fig. 212); PLE three times larger than PME; carapace with parallel lateral margins of cephalic region (Fig. 210 B).

FEMALE (IBSP 102907): Total length 20.86; Carapace, long 9.93; wide 10.26. Carapace anterior part square and posterior part triangular. Anterior eye row procurved, posterior row recurved. Long and short bristles between AME-clypeus, rare and widespread on interdistances PME–PME and PLE–PLE. Short bristles

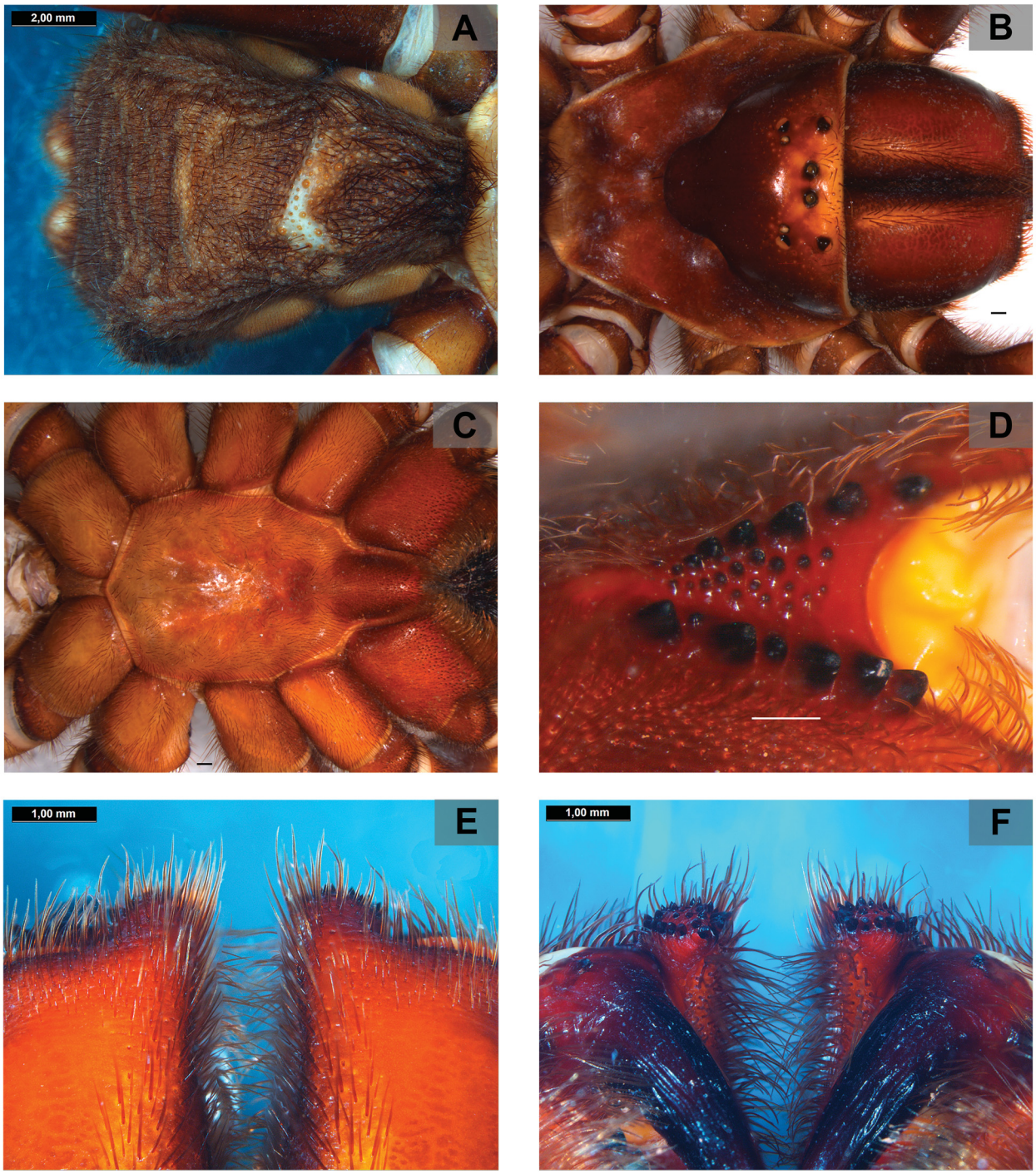


FIGURE 210. *Actinopus echinus* Mello-Leitão, 1949, female: A–F IBSP 102907: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral. Scales lines B–C: 0.5 mm, D: 1 mm.

between lateral eyes-edge of carapace (Fig. 210 B). Sternum with eight sigilla fused medially, two distal sigilla more fused to each other than others (Fig. 210 C). Rastellum protuberant, rectangular, hirsute, with many dorsal spines (Fig. 210 E–F). Prolateral row of Chelicerae teeth with teeth decreasing on distal-proximal way. Denticles widespread along Prolateral row (Fig. 210 D). Patella III and IV and Tibia III with distal developed crowns of thorns (Fig. 211 A–C). Patella III and IV with prolaterodorsal short spines along extension of article (Fig. 211 A, C). Tibia IV without spines and with long bristles on prolaterodorsal surface (Fig. 211 D). Many robust spines on the distal parts of the prolateroventral and retrolateroventral surfaces of tarsi III; and in the

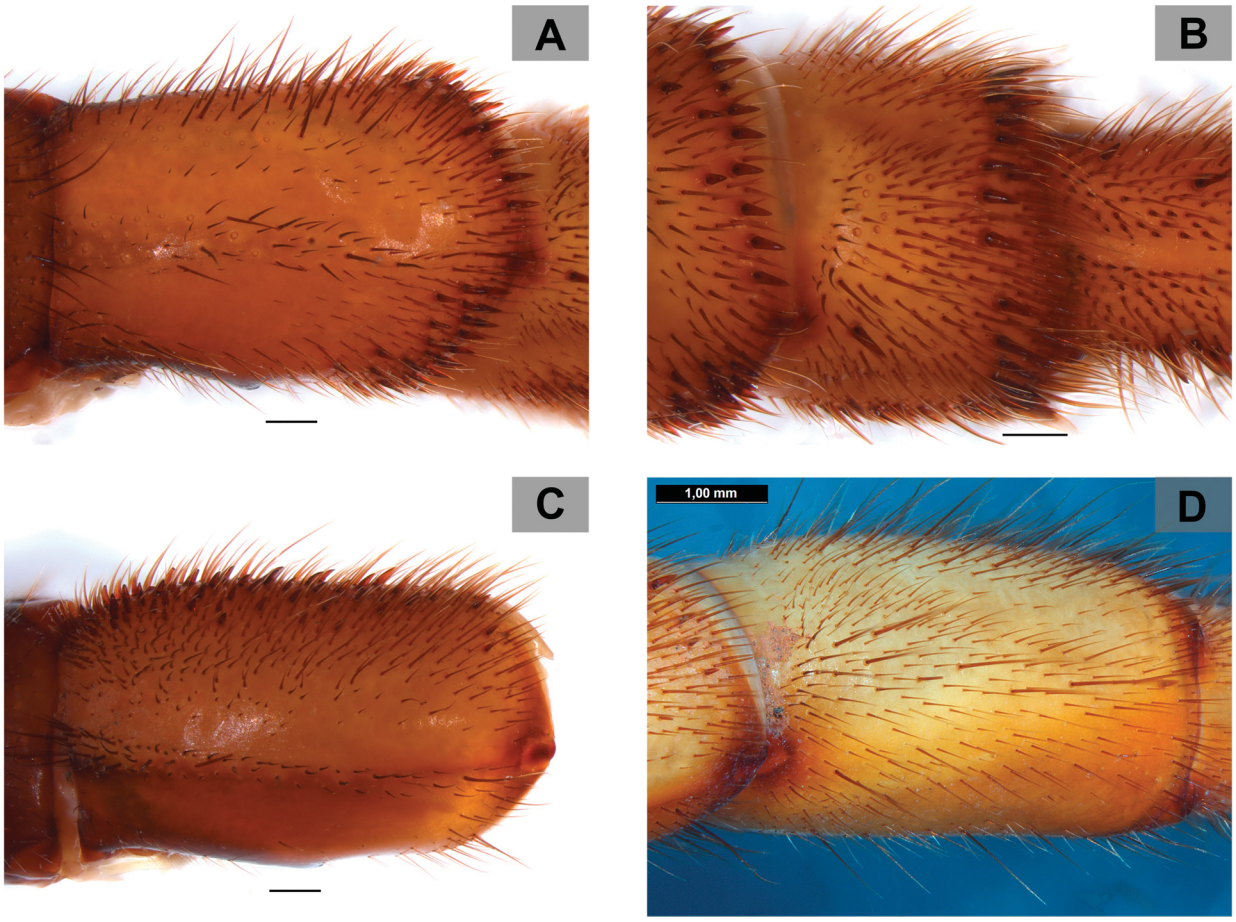


FIGURE 211. *Actinopus echinus* Mello-Leitão, 1949, female: A–D IBSP 102907: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal. Scales lines A–C: 0.5 mm.

ventral and prolateral surfaces of tarsi IV; and prolateral and retrolateral surfaces of tarsi and metatarsi I and II. Reddish brown carapace with a diffuse orangish region extending from the posterior area of AME to chilum (Fig. 210 B). Reddish-brown Chelicerae with a row of dorsal bristles disposed on a region yellowish; sternum orangish; legs with coxae, trochanters and femora reddish-brown and the rest of articles orange; brown abdomen with a big spot of unpigmented area on dorsal surface (Fig. 210 A). 58 labial cuspules, 231 on right maxilla and 165 on left. **Eyes: Diameters:** PME 0.29, PLE 0.52, ALE 0.47, AME 0.31; MOQ: Length 1.67, front width 1.45, back width 3.26; **Interdistances:** PME–PME 2.6, PLE–PME 0.22, AME–AME 0.67, ALE–AME 1.46, ALE–PLE 1.18, AME–PME 1.12. **Ocular area:** OAL 7.88, OAW 5.97, and IF 4.43. **Body:** Clypeus: 0.37; Fovea: 3.97; Labium: long 3.26; wide 2.37; Chelicerae: long 5.9; wide 4.27; Sternum: long 7.42; wide 6.47. Abdomen: long 11.7; wide 8.05. **Leg measurements:** I: Fe 6.06/ Pa 4.33/ Ti 3.04/ Me 3.5/ Ta 1.61/ total 18.54. II: 6.43/ 4.39/ 2.89/ 4.1/ 2.18/ 19.99. III: 4.83/ 4.9/ 1.26/ 3.1/ 1.15/ 15.24. IV: 7.39/ 5.1/ 3.8/ 3.04/ 1.27/ 20.6. Fórmula 4123. **Spinulation:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-1-3, d0, p0-0-8, r8-29-16; Me v3-5-4, d0, p10-15-4, r6-11-7; ta v1-0-3, d0, p5-9-4, r4-5-3. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d4-42-9, p0-0-3, r11-27-20; Me v0-3-2, d0, p9-12-6, r7-14-11; ta v0-0-3, d0, p8-9-5, r6-7-9. III—Fe v0, d0, p0, r0; Pa v0, d0-0-35, p0, r0-0-10; ti v0, d1-0-19, p7-9-12, r0; Me v0-0-5, d0-5-3, p0, r10-14-11; ta v19-29-10, d0-4-2, p0-4-7, r9-15-8; IV—Fe v0, d0, p0, r0; Pa v0, d2-0-22-9, p7-10-3, r0; ti v0, d0, p0, r0; Me v0-0-2, d0-2-1, p0-1-4, r0; ta v8-7-12, d0-1-2, p0-5-8, r0-0-1. **Spermathecae:** Subquadrates seminal receptacles, one parallel to each other, as long as wide, with short duct. Left receptacle with sclerotized region reaching the half of the receptacle. In dorsal view, right receptacle without sclerotized area in the basal region, pores distributed asymetrically (Fig. 212 A).

Distribution. BRAZIL. Mato Grosso; and Mato Grosso do Sul: Brilhante (Map 16).

Examined material: BRAZIL: Mato Grosso do Sul: Brilhante, [21° 48' 0" S 54° 32' 59.9994" W], 1♀, 1952, D. Mariano leg. (IBSP 102907).

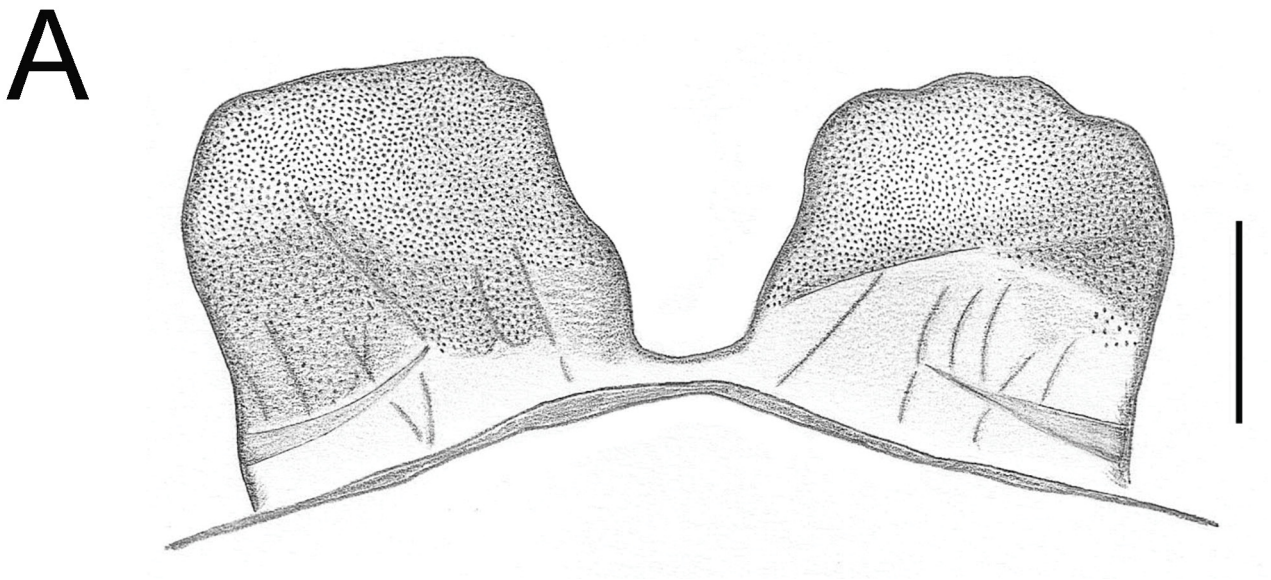
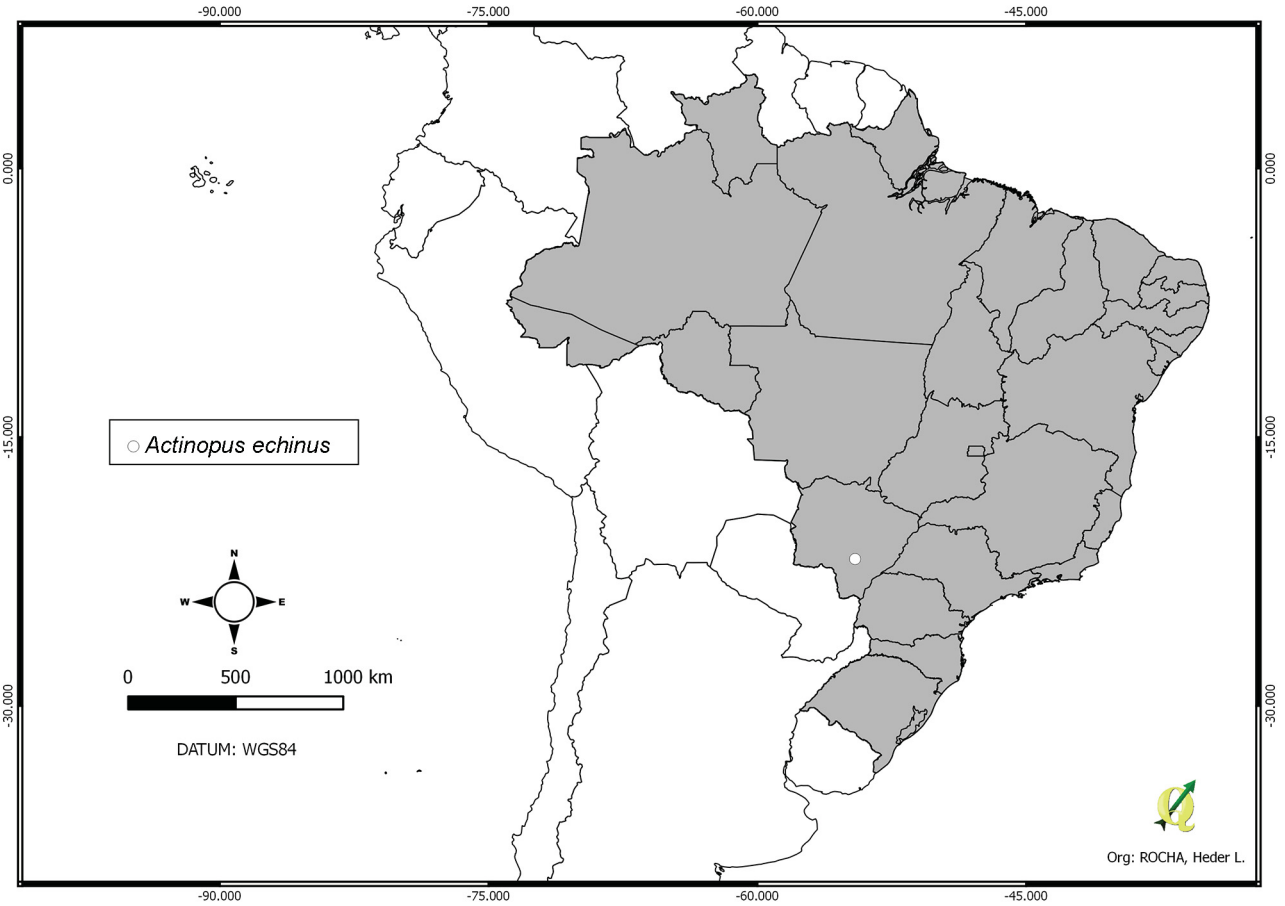


FIGURE 212 A. *Actinopus echinus* Mello-Leitão, 1949, female: A IBSP 4907: A. Spermathecae, dorsal view. Scale line: 0.5 mm.



MAP 16. Distribution map of *Actinopus echinus* Mello-Leitão, 1949.

Actinopus xenus Chamberlin, 1917

Figs 213–214

Actinopus xenus Chamberlin, 1917: 29 (holotype ♀, South America, MCZ 3, examined); World Spider Catalog, 2020.

Note. The redescriptions below was based on images and measurements of the holotype, taken by R. Saturnino.

Diagnosis. Females of *A. xenus* are characterized by the following combination of characters: unilobed seminal

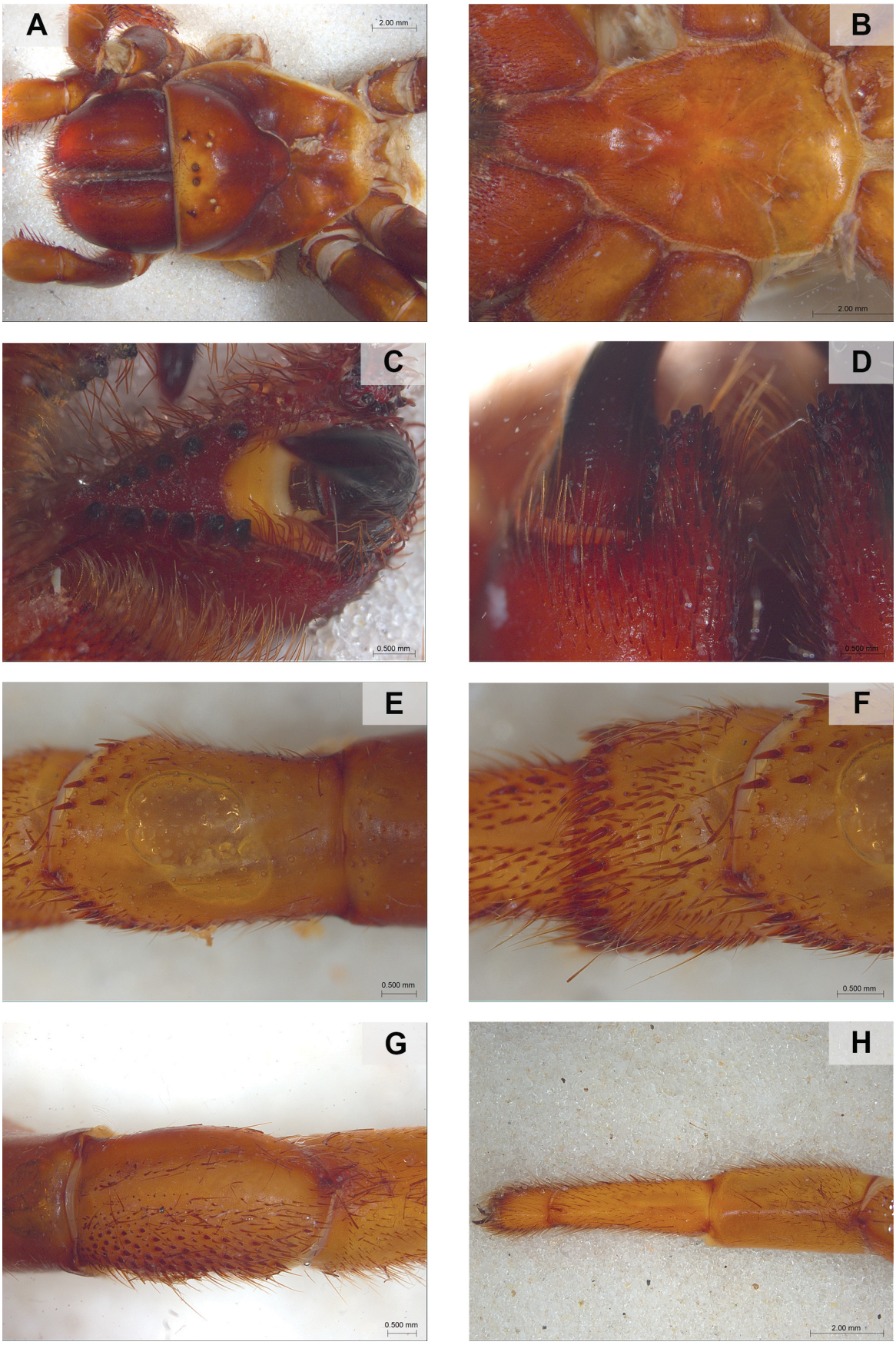


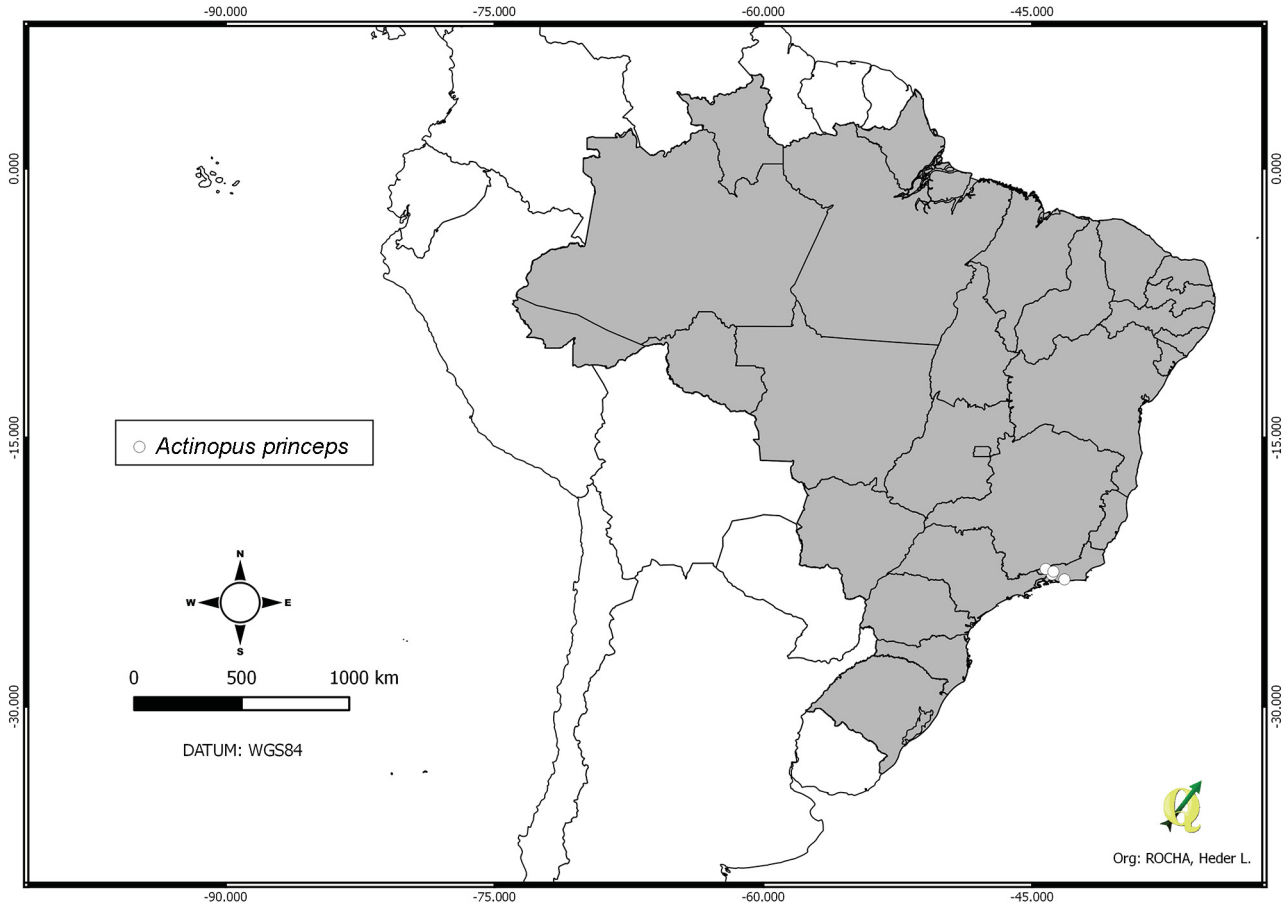
FIGURE 213. *Actinopus xenus* Chamberlin, 1917, holotype, female: A–H MCZ 3: A. Carapace and chelicerae, dorsal; B. Sternum, ventral; C. Cheliceral teeth, ventral; D. Rastellum, dorsal; E. Patella III, dorsal; F. Tibia III, dorsal; G. Patella IV, dorsal; H. Tibia, metatarsos and tarsus IV, dorsal. Photos: R. Saturnino.



FIGURE 214 A. *Actinopus xenus* Chamberlin, 1917, holotype, female: A MCZ 03: A. Spermathecae, dorsal view. Photo: R. Saturnino.

receptacles, which are subquadrate in shape and parallel to each other; apical external edge of each receptacle longer than internal edge (Fig. 214 A). Smooth corrugated area on inner surface of Chelicerae less evident than in *A. echinus* (Fig. 210 B).

FEMALE (Holotype): Total length 15.38; Carapace, long 9.14; wide 8.9. Carapace anterior part square and posterior part triangular. Anterior eye row procurved, posterior row slightly recurved. Many short and long bristles between AME-clypeus, one long bristle between PLE–ALE, short and long bristles between posterior eyes-fovea and short bristles between lateral eyes-edge of carapace (Fig. 213 A). Sternum with eight sigilla strongly fused medially (Fig. 213 B). Rastellum protuberant, digitiform, hirsute, with a row of short spines on the edge of rastellum and many short spines covering the dorsal rastellum (Fig. 213 D). Chelicerae with denticles along prolateral row of teeth. Prolateral row with four megateeth and two teeth, decreasing in distal-proximal way. Retrolateral row with five megateeth and two teeth between three basal megateeth (Fig. 213 C). Patella III with distal interrupted crown of developed thorns and tibia III with distal crown of thorns (Fig. 213 E–F). Patella IV with prolaterodorsal short spines along extension of article (Fig. 213 G). Tibiae IV without spines and with long bristles on prolaterodorsal surface; Metatarsus with few thorns on basal part of dorsal surface and along prolateral surface; tarsus with thorns on prolateral and retrolateral surfaces (Fig. 213 H). Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, Tibia, metatarsi, Tarsi and palp orangish-brown; And abdomen pale brown. **Eyes: Diameters:** MOQ: Length 1.51, front width 4.07, back width 3.83; **Ocular area:** OAL 8.22, OAW 5.50, and IF 3.42. **Body:** Fovea: 1.77. Abdomen: long 6.23; wide 3.97. **Leg measurements:** I: Fe 5.73. II: 3.63. III: 2.50. IV: 3.45. Formula 4123. **Spermathecae:** Subquadrates seminal receptacles, one parallel to each other, as long as wide, with short duct. Left receptacle with sclerotized region reaching the half of the receptacle. Right receptacle without sclerotized area in the basal region (Fig. 214 A).



MAP 17. Distribution map of *Actinopus princeps* Chamberlin, 1917.

Distribution. South America (exact location unknown).

Examined material. Only the types.

Actinopus princeps Chamberlin, 1917

Figs 215–217, Map 17

Actinopus princeps Chamberlin, 1917: 31 (holotype ♀, Rio de Janeiro, Rio de Janeiro, Brazil, MCZ 5, examined); World Spider Catalog, 2020.

Note. The redescriptions below was based on images of the holotype, taken by E. H. Wienskosk and R. Saturnino.

Diagnosis. Females of *A. princeps* are recognized by the following combination of characters: bilobed receptacles, swelling laterally, with internal lobe slightly smaller than external lobe (Fig. 217 A–D); PME with the same size as PLE; carapace triangular and slightly rounded anteriorly (Fig. 215 B).

FEMALE (IBSP 114503): Total length 23.24; Carapace, long 9.21; wide 8.48. Carapace anterior part triangular and posterior part rounded. Anterior eye row procurved, posterior row recurved. Many long and short bristles between AME-clypeus, many widespread bristles in interdistances PME–PME and PLE–PLE. Short bristles between lateral eyes-edge of carapace (Fig. 215 B). Sternum with eight sigilla strongly fused medially (Fig. 215 C). Rastellum protuberant, rectangular, hirsute, with many short spines covering the dorsal surface of rastellum (Fig. 215 E–F). Subinguinal sulci with many denticles bordering prolateral row of teeth. Teeth of prolateral row decreasing in distal-proximal way; teeth of retrolateral row with three denticles forming parallel row (Fig. 215 D). Patella and tibia III with distal developed crowns of thorns (Fig. 216 A, B). Distal part of prolateral and retrolateral surfaces of patellae III with strong spines (Fig. 216 A). Tibia III with strong spines along retrolateral surface of article and patellae IV with the same spines at prolaterodorsal surface (Fig. 216 B–C). Tibia IV without spines on dorsal surface and with long bristles on prolaterodorsal surface (Fig. 216 D). Many robust spines on the ventral surface of the tarsi III and IV; And at prolateral and retrolateral surfaces of tarsi and metatarsi I and II. Carapace reddish-brown, with a conspicuous yellowish triangular region in the ocular region (Fig. 215 B). Sternum pale orange; chelicerae red-brown; legs with

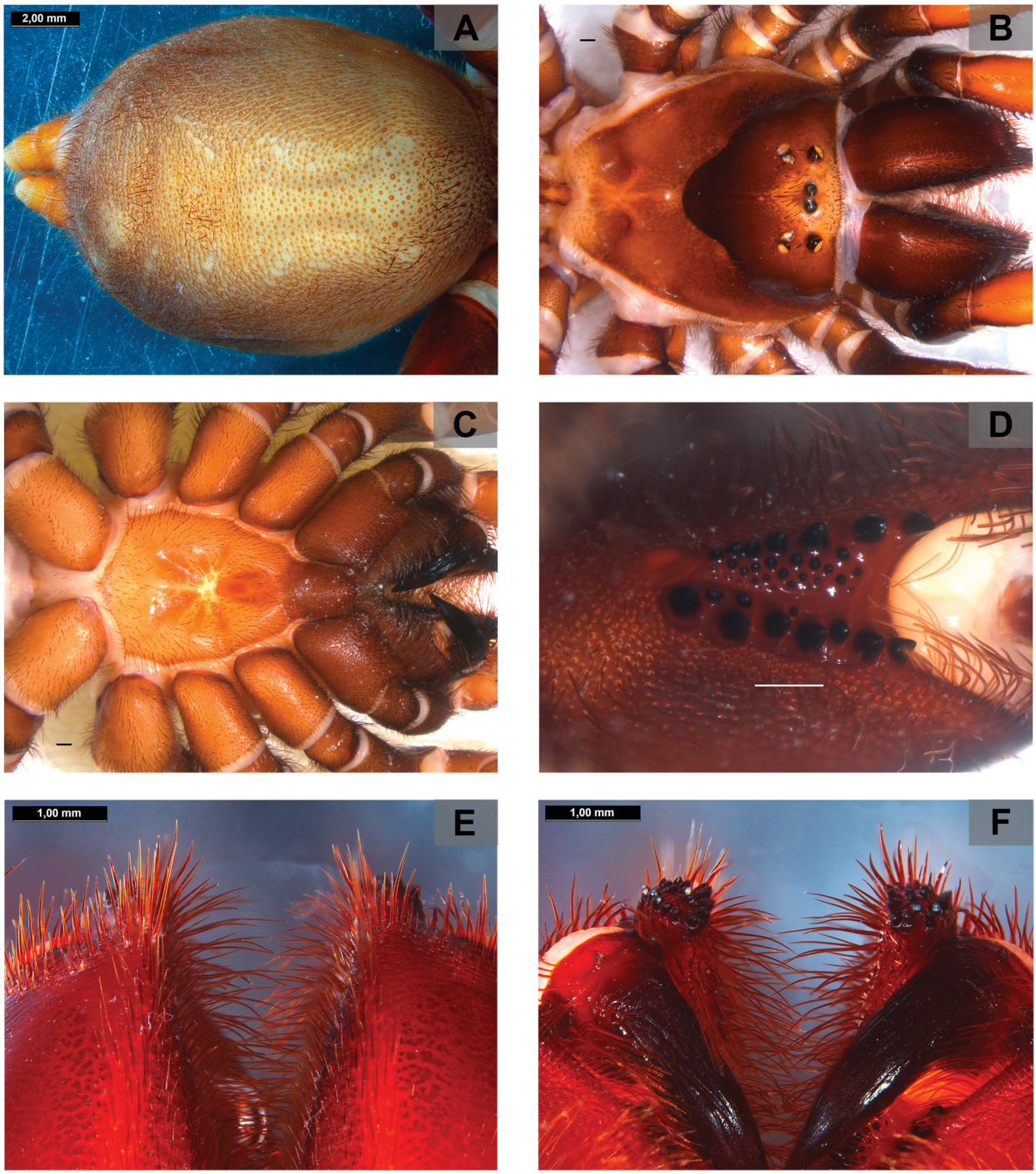


FIGURE 215. *Actinopus princeps* Chamberlin, 1917, female: A–F IBSP 14503: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral. Scales lines: B: 0.5 mm, D: 1 mm.

femora reddish-brown and the rest of articles clearest than femora; sternum slightly orange; And abdomen pale beige (Fig. 215 A). 18 labial cuspules, 105 on right maxilla and 163 on left. **Eyes: Diameters:** PME 0.51, PLE 0.47, ALE 0.48, AME 0.46; MOQ: Length 1.68, front width 2.89, back width 1.01; **Interdistances:** PME–PME 2.26, PLE–PME 0.19, AME–AME 0.32, ALE–AME 0.87, ALE–PLE 0.83, AME–PME 0.87. **Ocular area:** OAL 6.77, OAW 5.35, and IF 3.68. **Body:** Clypeus: 0.38; Fovea: 3.94; Labium: long 2.48; wide 1.79; Chelicerae: long 5.53; wide 3.09; Sternum: long 6.32; wide 5.25. Abdomen: long 12.46; wide 9.66. **Leg measurements:** I: Fe 5.15/ Pa 3.15/ Ti 2.3/ Me 2.86/ Ta 1.54/ total 15. II: Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v5-22-23, d0, p0, r0-9-11; Me v0-4-3, d0,

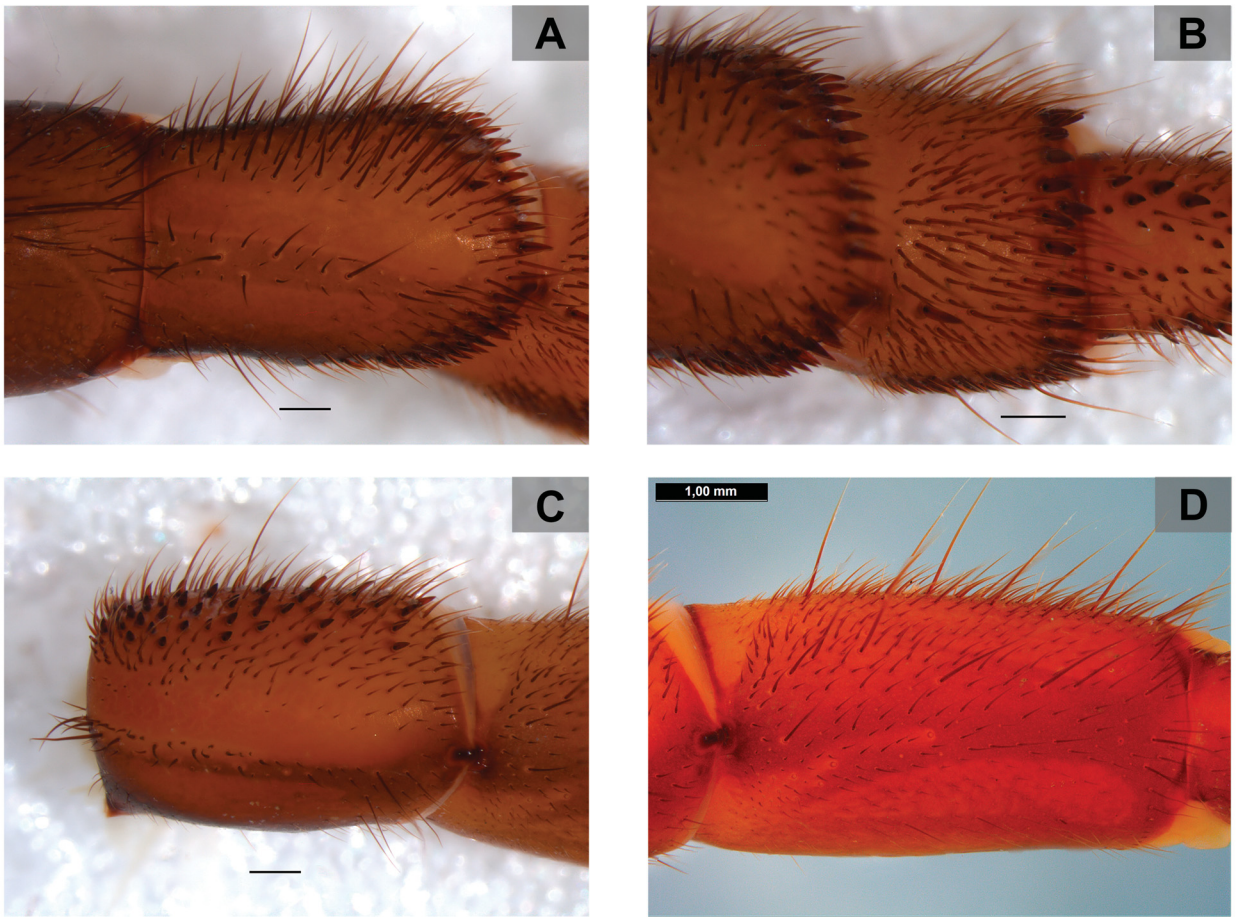


FIGURE 216. *Actinopus princeps* Chamberlin, 1917, female: A–D IBSP 14503: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal. Scales lines A–C: 0.5 mm.

p3-5-5, r5-12-5; ta v2-2-3, d0, p2-2-3, r3-5-3. III: Fe v0, d0, p0, r0; Pa v0, d0-4-29, p0-1-0, r0-2-11; ti v2-9-13, d0-1-15, p0-0-3, r0-9-12; Me v0-10-16, d10-6-5, p0, r0-5-9; ta v19-20-26, d0-0-4, p7-11-9, r1-7-4; IV: Fe v0, d0, p0, r0; Pa v0, d16-13-7, p2-0-0, r0; ti v0, d0, p0-0-1, r0; Me v0-0-3, d0-0-1, p0-1-3, r0; ta v7-9-16, d0-0-2, p7-9-12, r0. **Spermathecae:** Seminal receptacles longer than wide, with short ducts and a constriction in the middle. Lobes of external receptacles longest than internal lobes. In both receptacles, sclerotized region reaching the receptacles distal half (Fig. 217 A–D).

VARIATION

FEMALES (n=6): **Eyes: Diameters:** PME 0.24–0.51, PLE 0.32–0.52, ALE 0.29–0.6, AME 0.19–0.46; MOQ: Length 1.11–1.68, front width 0.73–3.05, back width 1.01–3.43; **Interdistances:** PME–PME 1.59–2.64, PLE–PME 0.19–0.23, AME–AME 0.15–0.45, ALE–AME 0.53–1.24, ALE–PLE 0.54–0.92, AME–PME 0.68–0.89. **Ocular area:** OAL 4.91–7.9, OAW 3.66–5.92, and IF 2.26–3.81. **Body:** Total length: 12.52–29.32; Carapace: Length 6.29–10.09; wide 5.99–10.27; Clypeus: 0.19–0.53; Fovea: 2.42–4.24; Labium: Length 1.88–3.09; wide 1.41–2.16; Chelicerae: Length 3.91–6.69; wide 2.11–3.69; Sternum: Length 4.95–7.25; wide 4.1–6.16. Abdomen: Length 6.58–16.19; wide 5.72–12.07. **Legs:** I: Fe 2.19–6.08/ Pa 1.62–4.09/ Ti 1.25–2.53/ Me 1.1–3.62/ Ta 0.88–1.93/ total 7.04–18.21. II: 2.52–6.2/ 1.65–4.15/ 1.11–2.73/ 1.57–3.87/ 0.82–2.02/ 7.67–18.51. III: 3.29–5.63/ 2.72–4.77/ 1.35–1.77/ 1.98–3.77/ 0.78–1.51/ 10.14–17.17. IV: 4.63–7.69/ 2.86–4.92/ 2.57–4.47/ 2.86–4.72/ 1.2–2.13/ 14.09–23.56. **Spermathecae:** External lobes on each receptacle fluctuate in size than longer than internal lobes to the same size. The constriction in the middle of the receptacles can be pronounced (Fig. 217 A, D) or discrete (Fig. 217 B, C).

Distribution. BRASIL. Rio de Janeiro: Rio de Janeiro, Nova Friburgo, Itatiaia, Resende, Barra do Piraí, Piraí (Map 17).

Examined material. BRAZIL: Rio de Janeiro: [22º

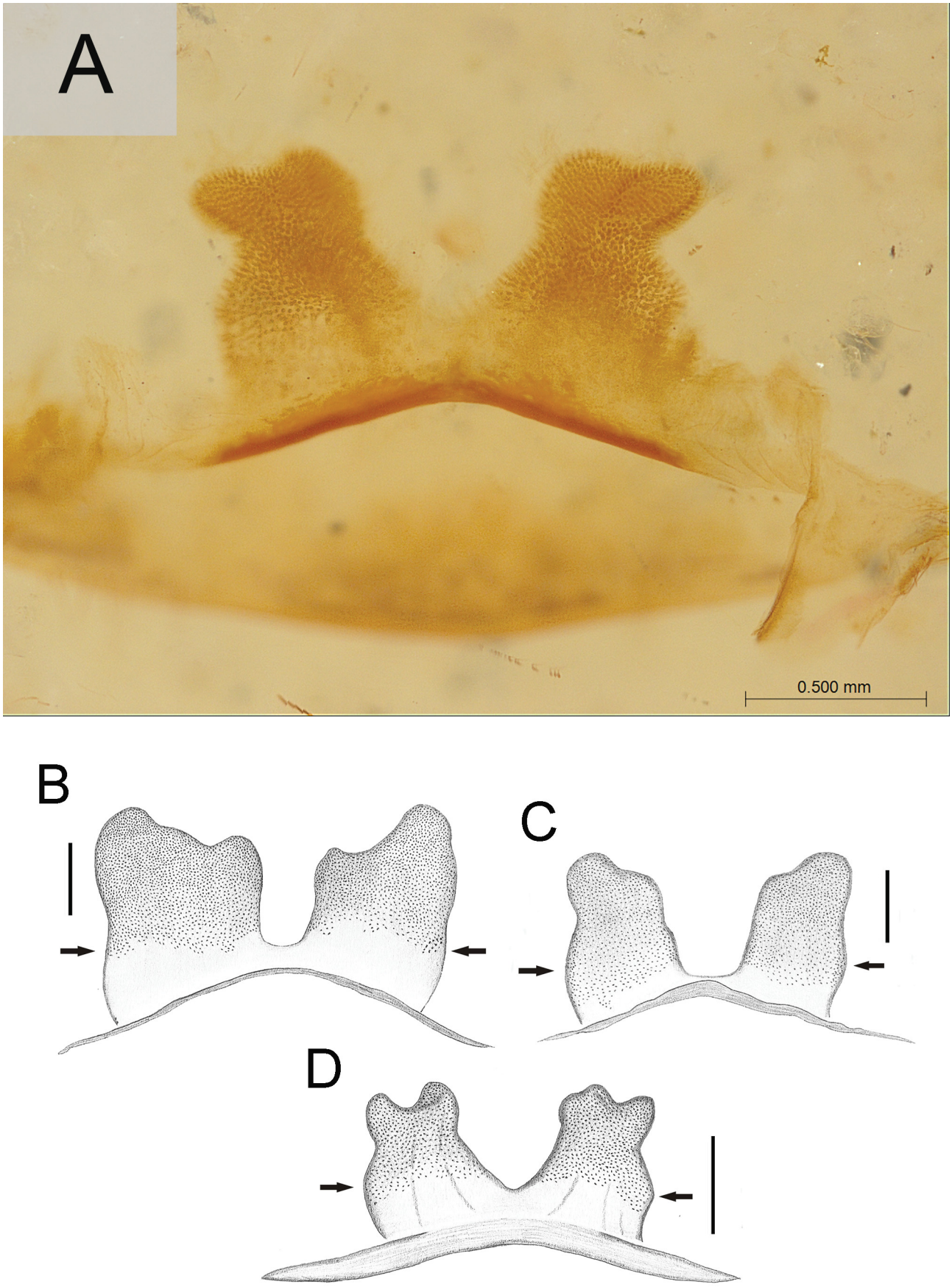


FIGURE 217. *Actinopus princeps* Chamberlin, 1917, holotype, female: A MCZ 5: A. Spermathecae, dorsal view. Photo: R. Saturnino. B IBSP 114503, C IBSP 114470 and D IBSP 108889: B–D Spermathecae, dorsal view. Arrows: Receptacle swellings. Scales lines: 0.5 mm.

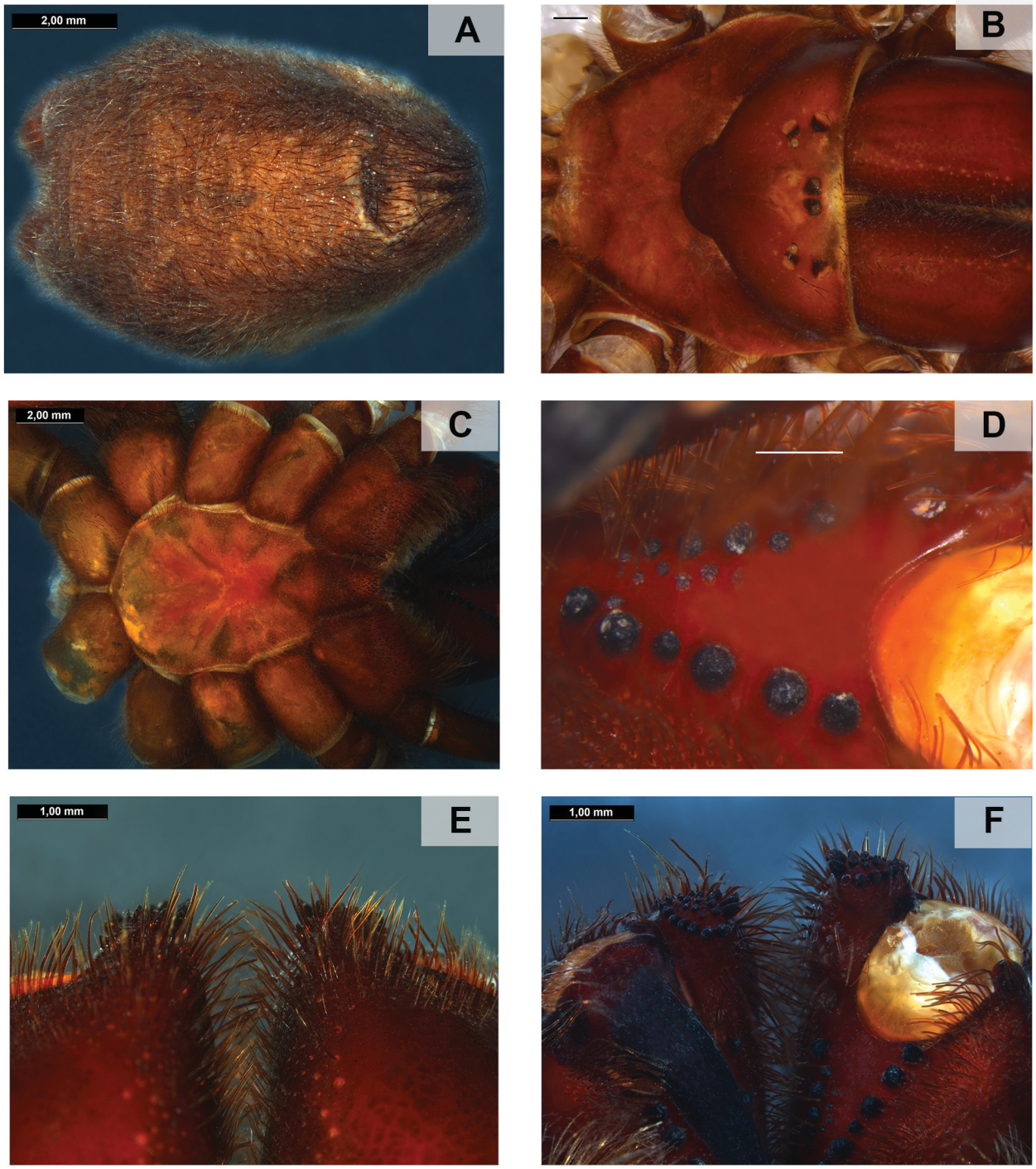


FIGURE 218. *Actinopus trinotatus* Mello-Leitão, 1938, holotype, female: A–F IBSP 103431: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral. Scales lines: B: 1 mm, D: 0.5 mm.

54' S 43º 12' W], 3♀, viii.1986 (IBSP 114503, 123248, 123249); Nova Friburgo, [22° 17' 13.5594" S 42° 32' 0.9594" W], 1♀, ii.1981, P. Mix leg. (IBSP 104607); Itatiaia and Resende, [22º 19'–22º 45' S 44º 15'–44º 50' W], Parque Nacional de Itatiaia, 1♀, 02.iv.1995, C. Late leg. (IBSP 108889); Barra do Piraí, [22º 28' S 43º 49' W], 3♀ (AMNH); Piraí, Bairro Varjão, [22º 37' 46" S 43º 53' 53" W], 1♀, 15.iv.2005, A. B. Vargas and R. P. Indicatti leg. (IBSP 114470).

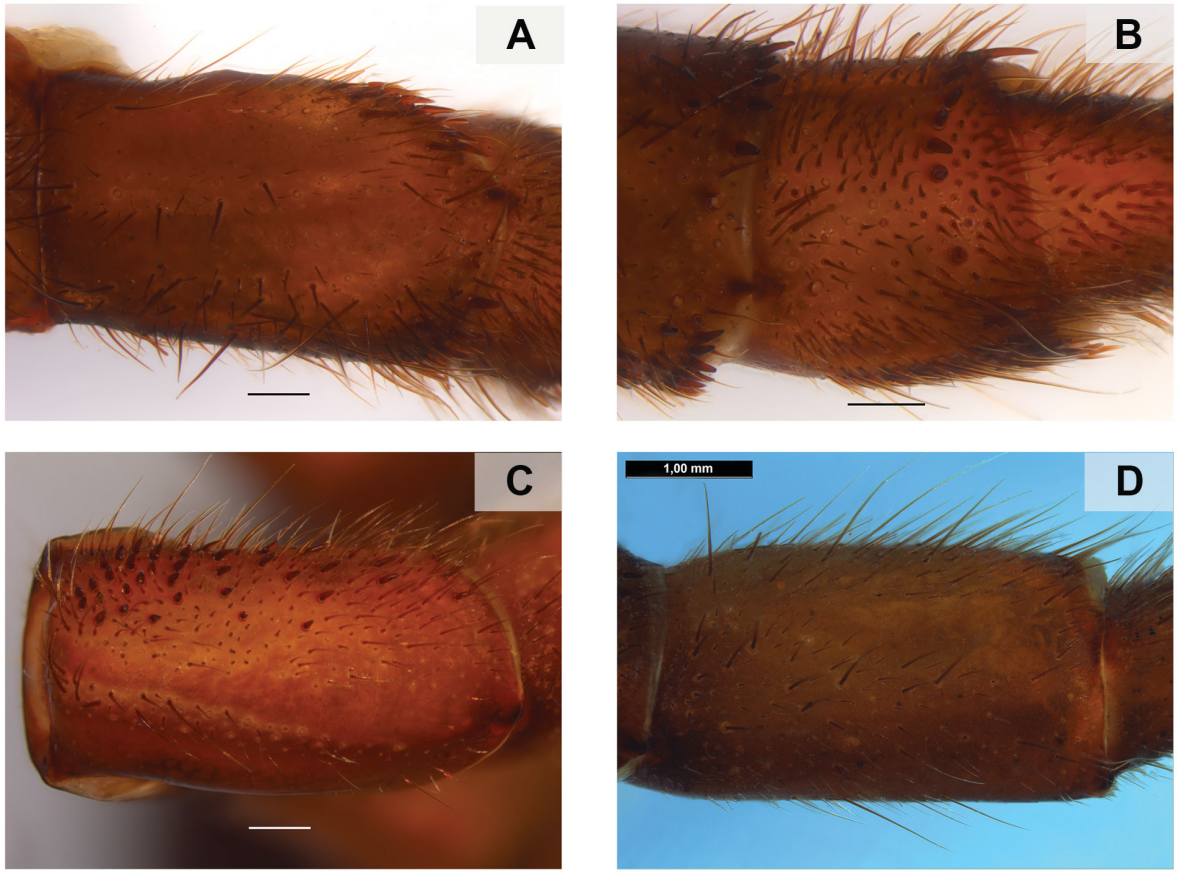
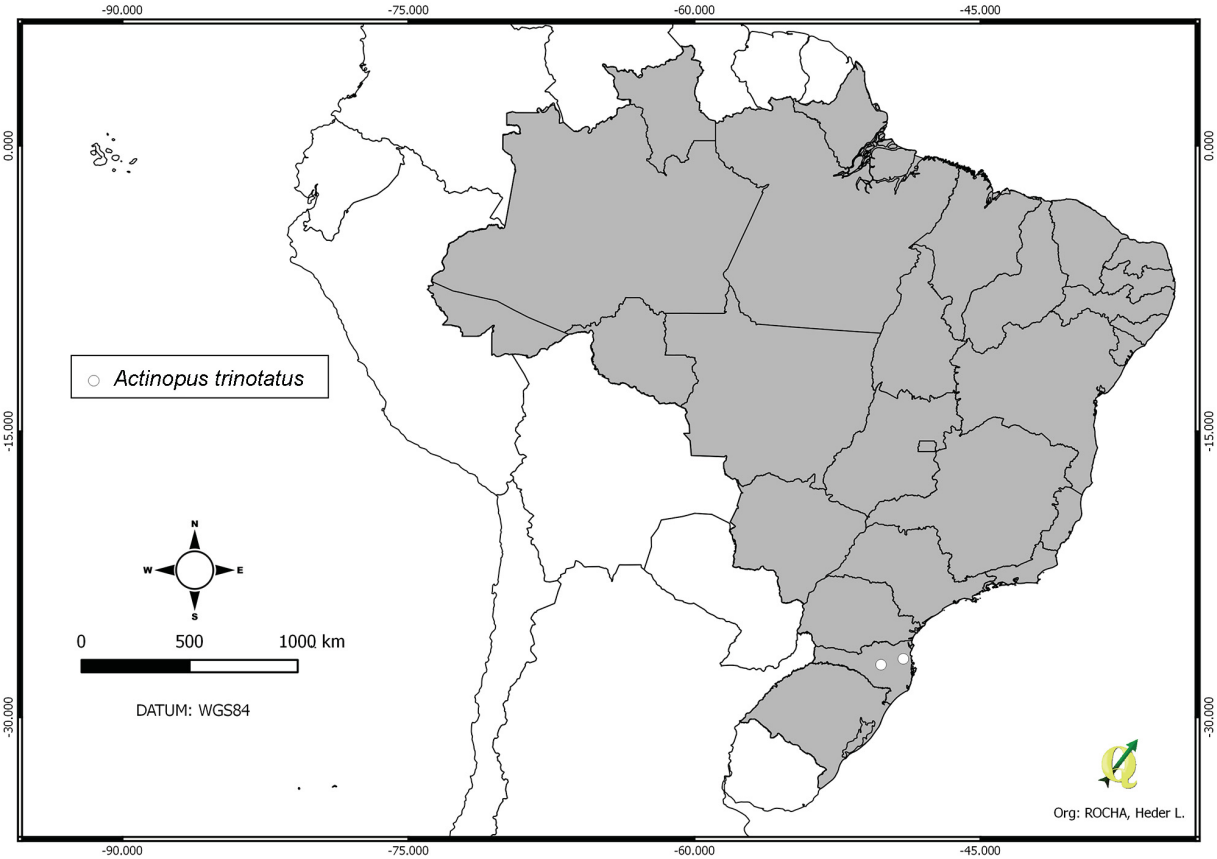


FIGURE 219. *Actinopus trinotatus* Mello-Leitão, 1938, holotype, female: A–D IBSP 103431: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal. Scales lines A–C: 0.5 mm.



MAP 18. Distribution map of *Actinopus trinotatus* Mello-Leitão, 1938.

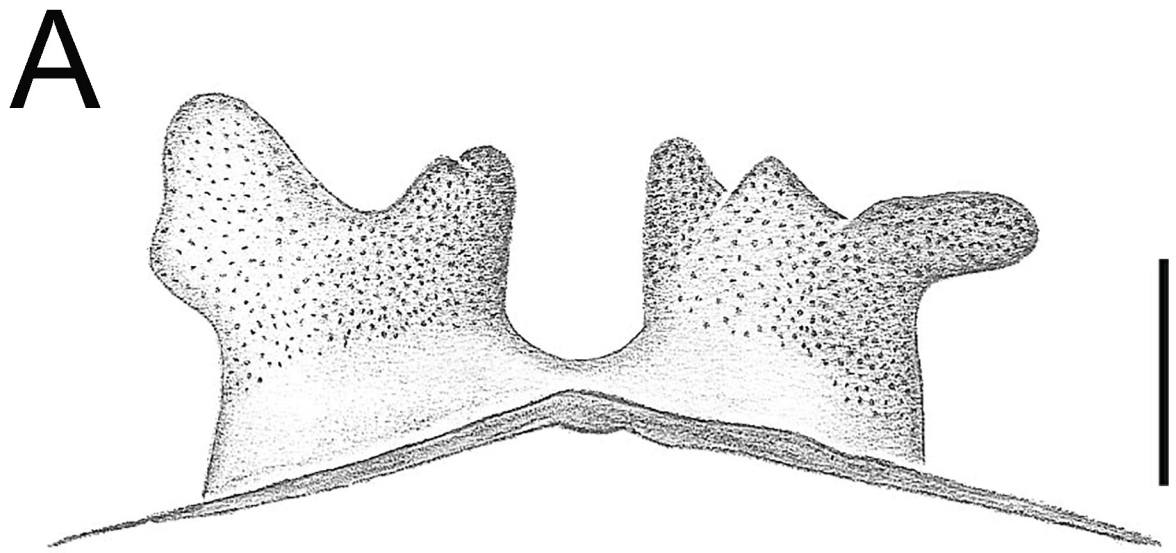


FIGURE 220 A. *Actinopus trinotatus* Mello-Leitão, 1938, holotype, female: A IBSP 3431: A. Spermathecae, dorsal view. Scale line: 0.5 mm.

Actinopus trinotatus Mello-Leitão, 1938

Figs 218–220, Map 18

Actinopus trinotatus Mello-Leitão, 1938: 311 (holotype ♀, Lagoa do Norte, Lagoa da Conceição, Florianópolis, Santa Catarina, Brazil, IBSP 103431, examined); World Spider Catalog, 2020.

Diagnosis. Females of *A. trinotatus* are characterized by the asymetrical seminal receptacles, bilobed or trilobed; receptacles subquadrate, parallel to each other, without lateral swelling (Fig. 220 A); crown of thorns on the patella III interrupted in prolateral and retrolateral faces (Fig. 219 A).

FEMALE (holotype): Total length 15.86; Carapace, long 6.76; wide 8.22. Parallel lateral margins of carapace. Anterior eye row procurved, posterior row recurved. Many long bristles and short bristles between AME-clypeus, forming two slightly procurved rows in interdistances PME–PME and PLE–PLE. Short bristles between AME-clypeus and between lateral eyes-edge of carapace. Long bristles in chilum (Fig. 218 B). Sternum with eight sigilla strongly fused medially (Fig. 218 C). Rastellum protuberant, digitiform, hirsute, with short spines along retrolateral edge of rastellum and dorsally covered by small short spines (Fig. 218 E–F). Chelicerae with denticles along prolateral row of teeth. Denticles in the middle of prolateral and retrolateral rows of teeth (Fig. 218 D). Patella and tibia III with distal developed crowns of thorns (Fig. 219 A–B). Tibia III with recurved distal crown of spines and strong spines along retrolateral surface of article (Fig. 219 B). Patella IV with prolaterodorsal short spines along extension of article (Fig. 219 C). Tibia IV without spines and with long bristles along prolaterodorsal surface (Fig. 219 D). Many strong spines in ventral surface of tarsi III and IV; And prolateral and retrolateral surfaces of tarsi and metatarsi I and II. Carapace and Chelicerae reddish-brow; sternum pale reddish-brown; legs reddish brown; and abdomen brown (Fig. 218 A). 40 labial cuspules, 181 on right maxilla and 192 on left. **Eyes: Diameters:** PME 0.21, PLE 0.44, ALE 0.47, AME 0.21; MOQ: Length 1.32, front width 0.88, back width 2.74; **Interdistances:** PME–PME 2.31, PLE–PME 0.13, AME–AME 0.41, ALE–AME 1.33, ALE–PLE 0.46, AME–PME 0.89. **Ocular area:** OAL 6.97, OAW 3.92, and IF 3.33. **Body:** Clypeus: 0.39; Fovea: 4.24; Labium: long 2.48; wide 1.89; Chelicerae: long 5.91; wide 3.52; Sternum: long 5.67; wide 4.99. Abdomen: long 8.34; wide 6.35. **Leg measurements:** I: Fe 4.07/ Pa 3.28/ Ti 2.34/ Me 3.03/ Ta 1.37/ total 14.09. II: 4.18/ 2.87/ 2.67/ 2.81/ 1.8/ 14.33. III: 4.56/ 4.02/ 1.5/ 3.83/ 1.65/ 15.56. IV: 5.72/ 2.39/ 3.41/ 3.95/ 1.31/ 16.78. **Spination:** I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0-1-1, d0, p0-0-3, r9-11-9; Me v4-3-3, d0, p7-9-7, r12-14-6; ta v0-2-3, d0, p2-4-5, r2-7-6. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v4-36-17, d0, p0, r0-28-15; Me v0-0-2, d0, p9-19-6, r3-6-5; ta v0-3-2, d0, p2-6-8, r3-9-4; III—Fe v0, d0, p0, r0; Pa v0, d0-0-18, p0-0-1, r0-0-5; ti v0, d1-0-15, p0-0-2, r0-12-25; Me v0, d4-7-4, p0, r2-23-18; ta v18-17-11, d0-3-2, p2-6-8, r5-8-1. IV—Fe v0, d0, p0, r0; Pa v0, d17-10-5, p4-5-2, r0; ti v0, d0, p0, r0; Me v0-0-2, d0-0-1, p0-0-2, r0; ta v1-14-9, d0-0-2, p4-6-6, r0. **Spermathecae:** Asymetrical seminal receptacles, as long as wide, with short ducts. in dorsal view, left receptacle

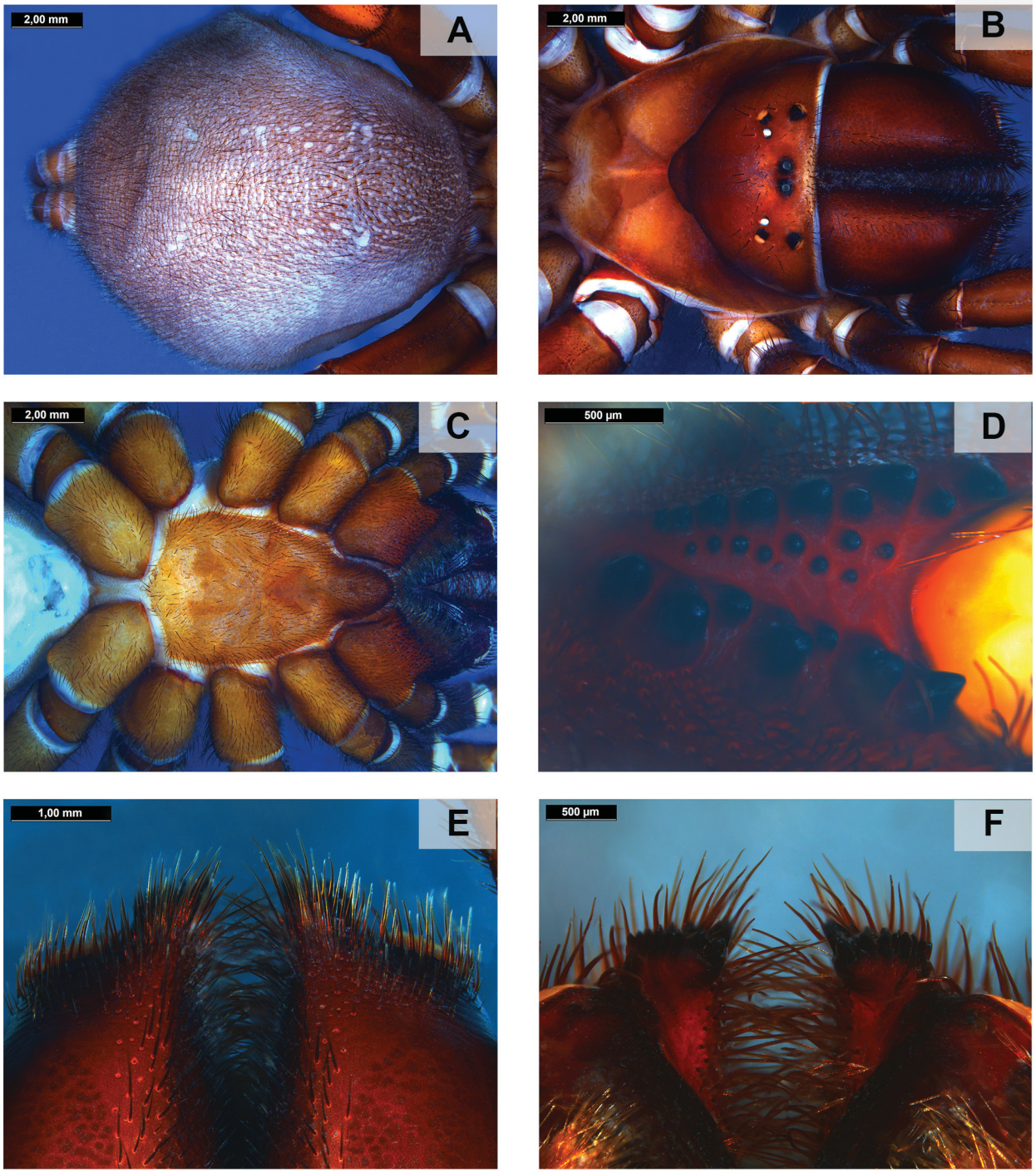


FIGURE 221. *Actinopus wallacei* F. O. Pickard-Cambridge, 1896, female: A–F AMNH: A. Abdomen, dorsal; B. Carapace, dorsal; C. Sternum, ventral; D. Cheliceral teeth, ventral; E. Rastellum, dorsal; F. Rastellum, ventral.

with three lobes, median lobe as long as the internal lobe, and longer than the external lobe; right receptacle with two lobes, outer lobe longer than inner lobe (Fig. 220 A).

Distribution. BRAZIL. Santa Catarina: Florianópolis, and Blumenau (Map 18).

Examined material. BRAZIL: *Santa Catarina:* Blumenau [26° 55' 59.9988" S 49° 2' 59.9994" W], 1♀, xii.1975, M. da R. Guimbra Jr. leg. (IBSP 114126); 3♀, xii.1972, R. L. A. leg. (MZSP 22110).

Actinopus wallacei F. O. Pickard-Cambridge, 1896

Figs 221–225, Map 19

Actinopus wallacei F. O. Pickard-Cambridge, 1896: 728, pl. 35, fig.

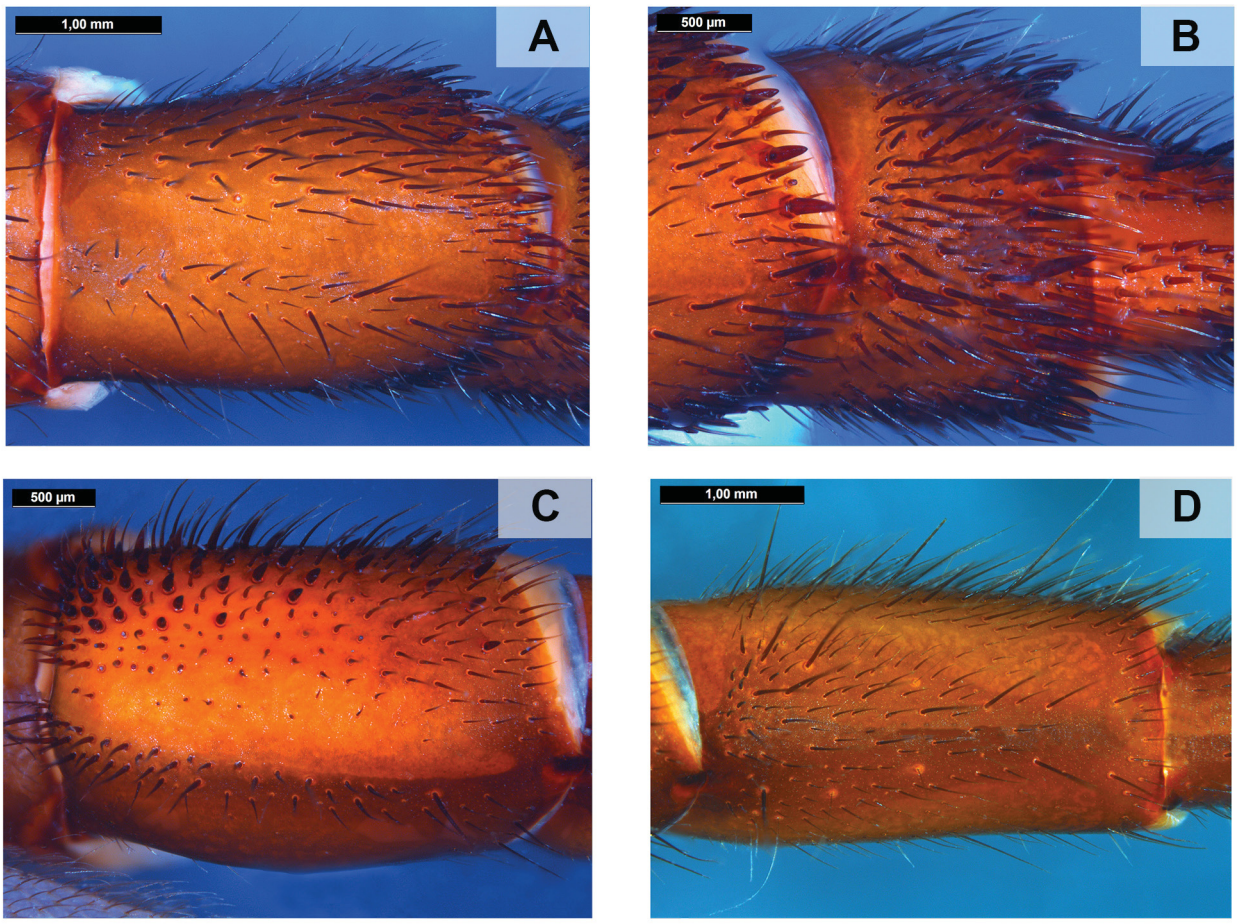


FIGURE 222. *Actinopus wallacei* F. O. Pickard-Cambridge, 1896, female: A–D AMNH: A. Patella III, dorsal; B. Tibia III, dorsal; C. Patella IV, dorsal; D. Tibia IV, dorsal.

18 31 (holotype ♀, Santarém, Pará, Brazil, NHM, examined); Schiapelli & Gerschman, 1945: 167, pl. I; World Spider Catalog, 2020.

Note. The types were not available for study and for this reason the male is not redescribed here. The females here ascribed to *A. wallacei* are from Bolivia but present diagnostic characters congruent with the female type, examined through images by Janet Beccaloni (Figs 223–224).

Diagnosis. Females of *Actinopus wallacei* differ from all other species represented by females by the reddish-brow pattern widespread on legs, Chelicerae and carapace without larger tone differences. They are similar to those of A. *pampulha* by the spermathecae shape: two receptacles, each one with 2 or 3 lobes with same height as each other. They differ from those of *A. pampulha* by the pore distribution reaching reaches 75% of the apical area in each receptacle.

FEMALE (AMNH): Total length 19.12; Carapace, long 6.75; wide 6.87. Carapace anterior part square. Anterior eye row slightly procurved, posterior row recurved. Short and long bristles in three rows between AME-clypeus, one long bristle between PLE–ALE, short and long bristles between posterior eyes-fovea and short and long bristles between lateral eyes-edge of carapace (Fig. 221 B). Sternum with eight sigilla fused medially, all sigilla very fused to each other (Fig. 221 C). Rastellum protuberant, subquadrate, hirsute, with a row of spines on the edge of rastellum and o lot of spines in dorsal part of rastellum (Fig. 221 E–F). Chelicerae with denticles along prolateral row of teeth. Prolateral row with eight megateeth and one tooth after the last basal megateeth. Retrolateral row with five megateeth and two teeth between three medial megateeth (Fig. 221 D). Patella and tibia III with distal developed crowns of thorns (Fig. 222 A–B). Patella IV with prolaterodorsal spines along extension of article (Fig. 222 C). Tibia IV without spines and with many short and long bristles on surface of article (Fig. 222 D). Carapace, chelicerae, sternum, coxae, trochantera, femora, patellae, Tibia, metatarsi, tarsi and palp reddish brown, and abdomen pale gray (Fig. 221 A). 12 labial cuspules, 105 on right maxilla and 99 on left.

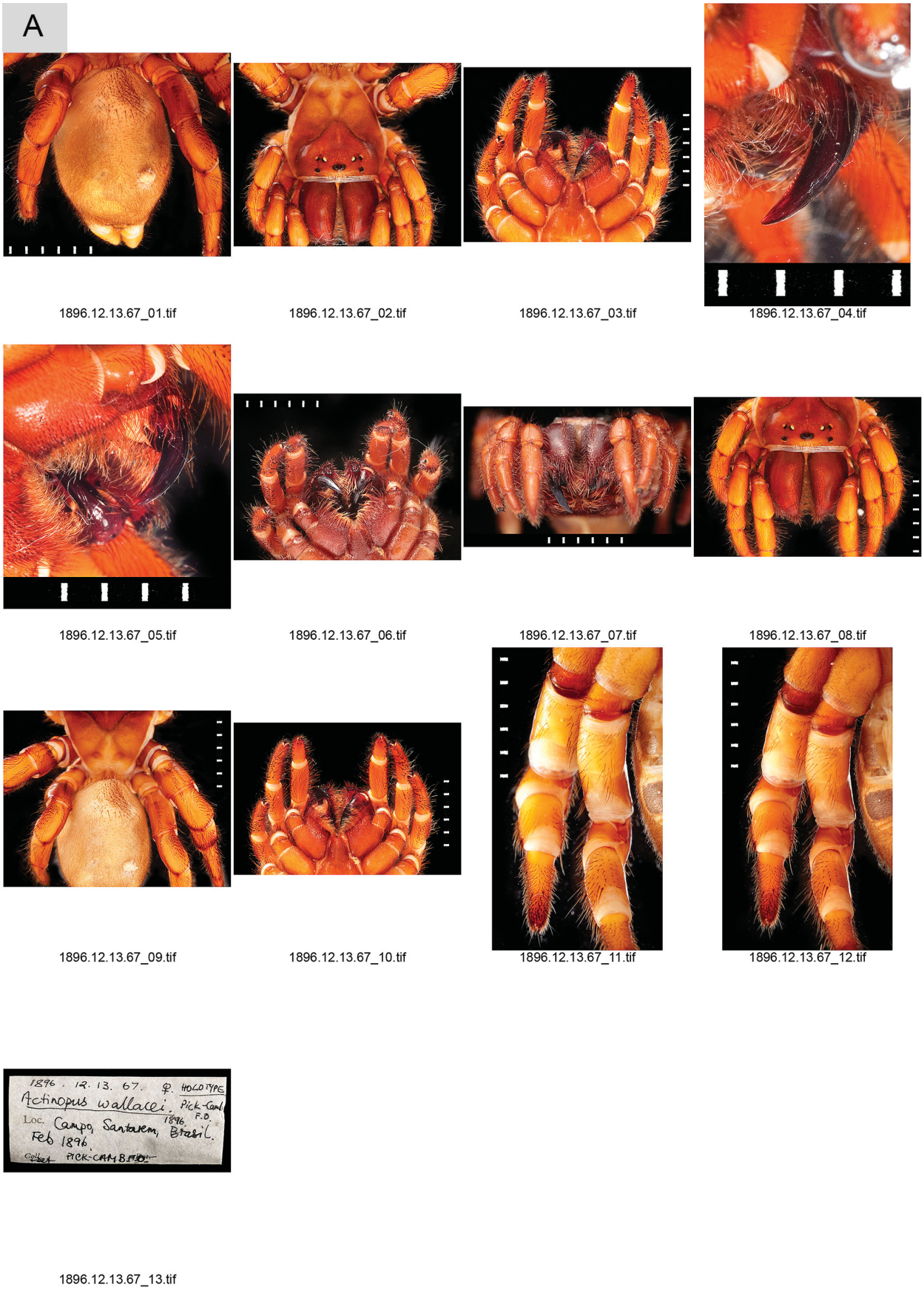


FIGURE 223 A. *Actinopus wallacei* F. O. Pickard-Cambridge, 1896, holotype from NHM, female: A NHM: A. Plate made by Janet Becalloni, with images from region of interest to search diagnostics characters for *A. wallacei*, female.

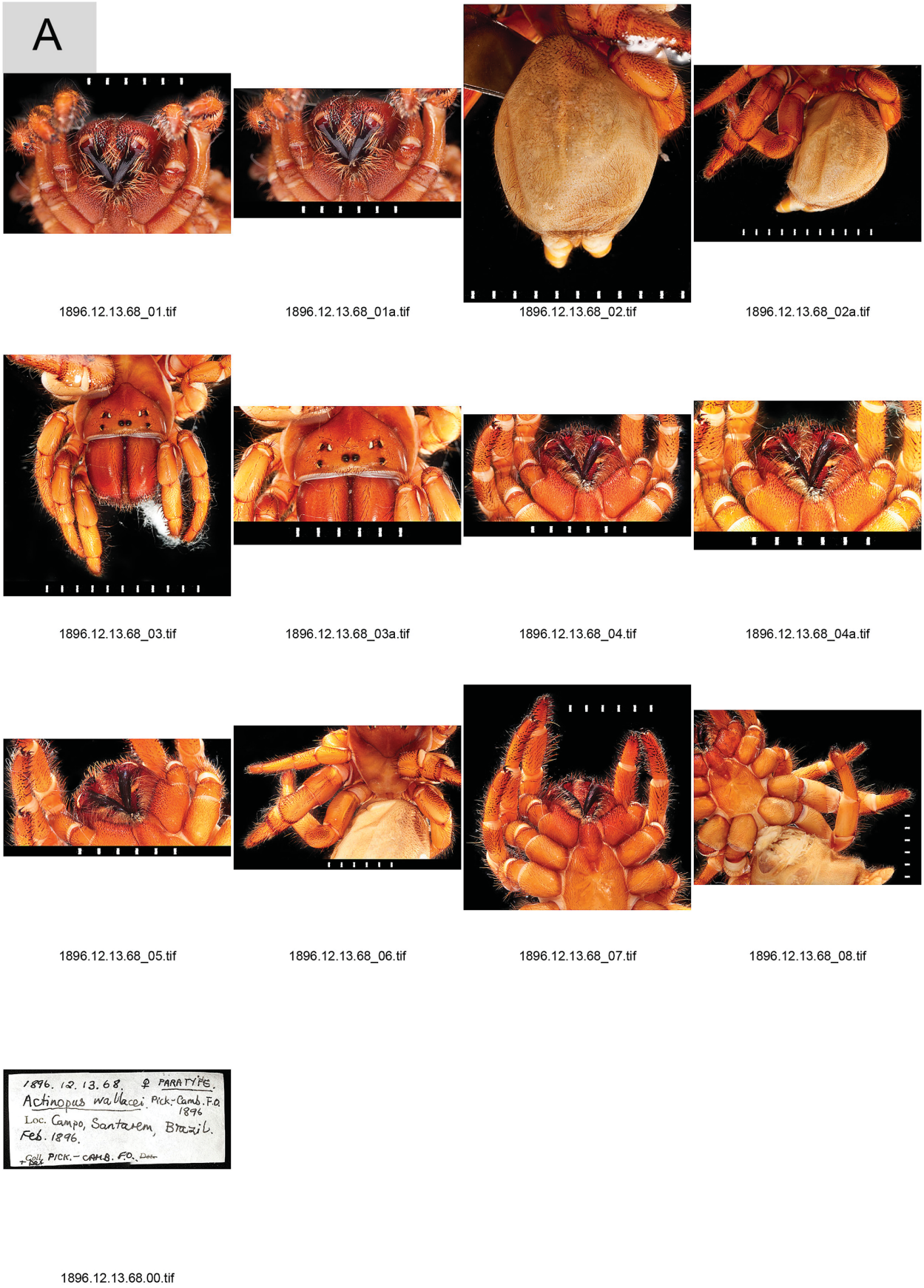


FIGURE 224 A. *Actinopus wallacei* F. O. Pickard-Cambridge, 1896, paratype from NHM, female: A NHM: A. Plate made by Janet Becalloni, with images from region of interest to search diagnostics characters for *A. wallacei*, female.

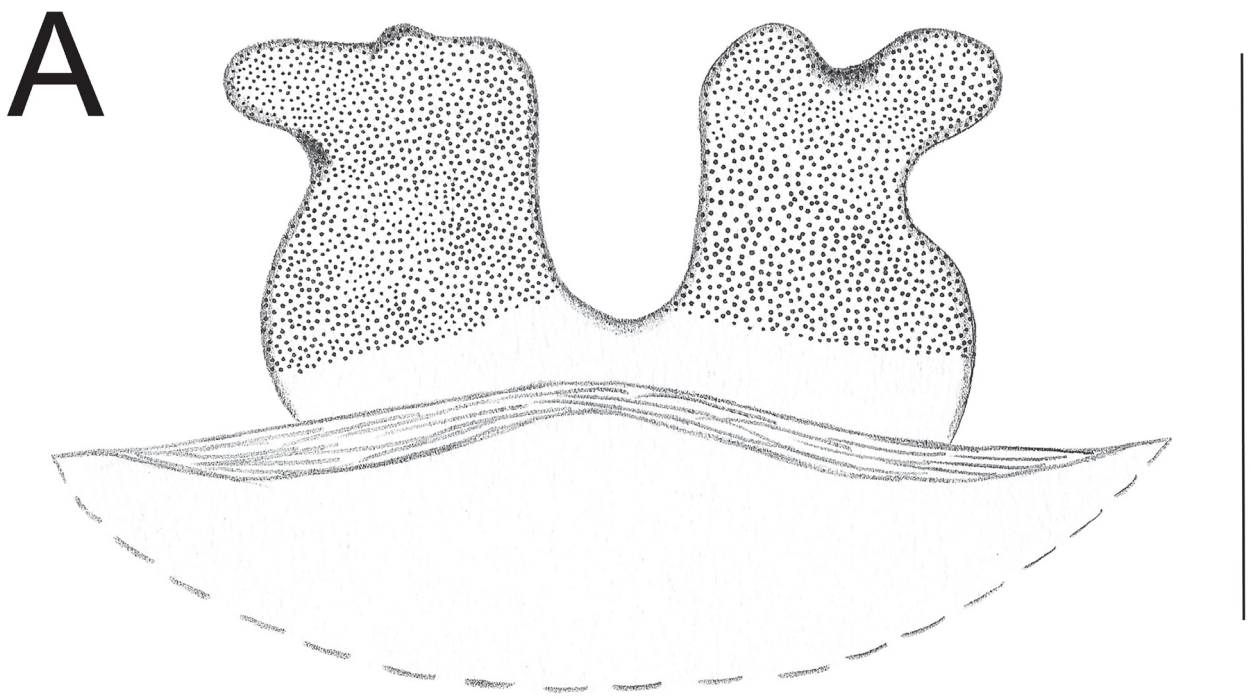
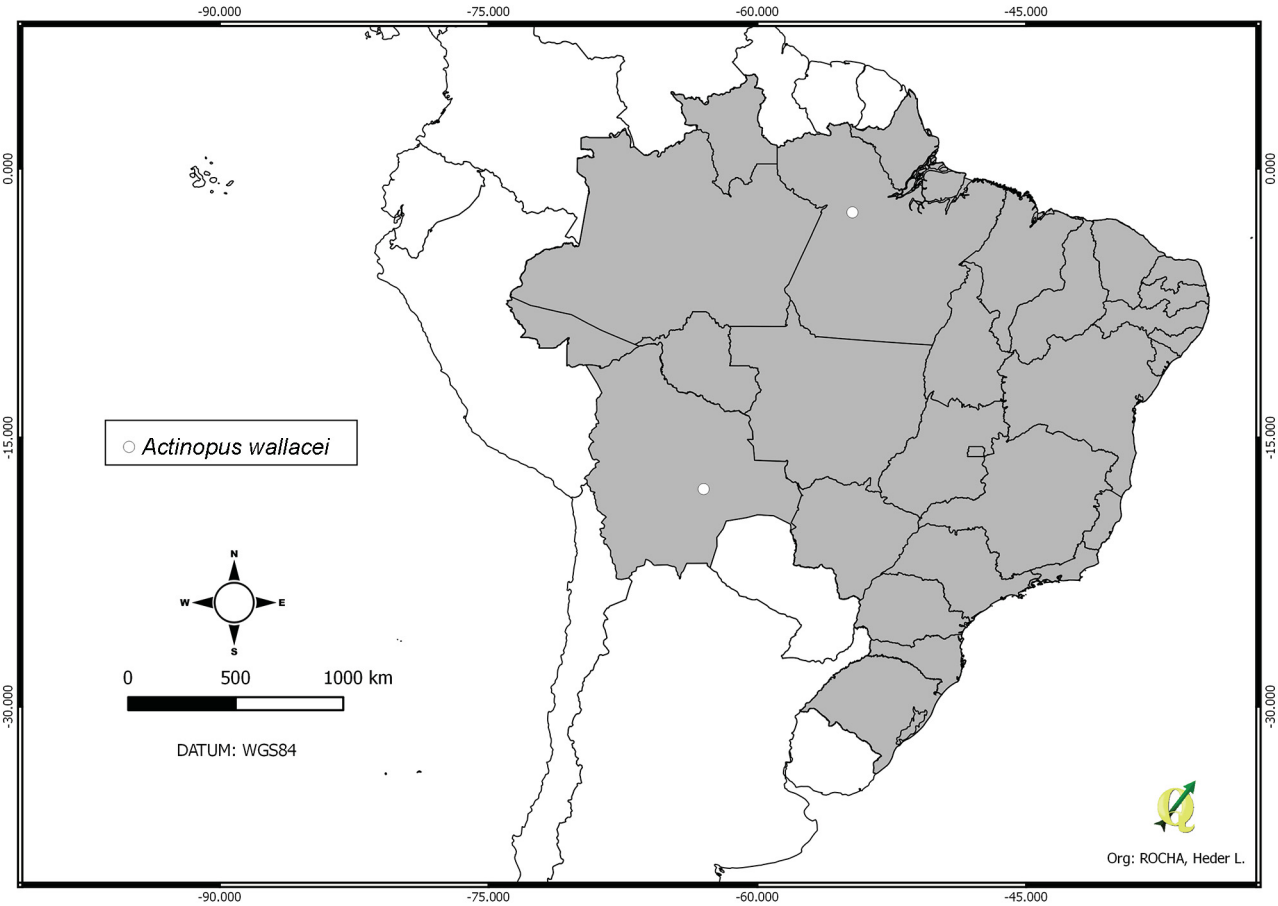


FIGURE 225 A. *Actinopus wallacei* F. O. Pickard-Cambridge, 1896, female: A AMNH: A. Spermathecae, dorsal view. Scale line: 1 mm.



MAP 19. Distribution map of *Actinopus wallacei* Chamberlin, 1917.

Eyes: Diameters: PME 0.24 PLE 0.32 ALE 0.4, AME 0.2; MOQ: Length 1.36, front width 3.92, back width 3.56; Interdistances: PME–PME 2.2, PLE–PME 0.28, AME–AME 0.44, ALE–AME 1.36, ALE–PLE 0.72, AME–PME 0.84. Ocular area: OAL 6.5, OAW 4, and IF 3.5. Body: Clypeus: 0.62; Fovea: 3.5; Labium: long 1.75; wide 1.62; Chelicerae: long 4.87; wide 2.87; Sternum: long 5.37; wide 4.25. Abdomen: long 11.25; wide 10. Leg measurements: I: Fe 4,37/ Pa 2.75/ Ti 2.25/ Me 1.75/ Ta 1.62/ total 12.75. II: 4.25/ 2.87/ 1.75/ 2.5/ 1.37/ 12.75. III: 3.75/ 3.12/ 1.5/ 2.75/ 1.12/ 12.25. IV: 5.37/ 3.25/ 3.12/ 2.5/ 1.12/ 15.37. Formula 4123. Spination: I—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v0, d0, p0-0-2, r5-15-11; Me v0-0-2, d0, p8-8-7, r12-15-4; ta v0-0-3, d0, p4-5-3, r5-5-4. II—Fe v0, d0, p0, r0; Pa v0, d0, p0, r0; ti v2-9-7, d0, p0, r32-45-26; Me v0-0-2, d0, p1-6-8, r13-8-7; ta v1-2-3, d0, p7-6-2, r2-4-3. III—Fe v0, d0, p0, r0; Pa v0, d0-0-23, p0-0-7, r0-1-11; ti v0, d1-0-14, p0-0-5, r5-10-12; Me v0-0-2, d2-2-3, p4-2-0, r7-17-8; ta v13-17-13, d0, p0-4-3, r2-7-4; IV—Fe v0, d0, p0, r0; Pa v0, d20-9-5, p1-3-0, r0; ti v0, d0, p0, r0; Me v0, d0-0-1, p1-2-5, r0; ta v0-6-8, d0, p16-13-10, r0-0-5. Spermathecae: Two seminal receptacles slightly asymmetric, longer than wide, with short ducts. On dorsal view, left receptacle with three lobes and right receptacle with two lobes, external lobe with the same height as other lobes. Pore distribution reaching 75% of each receptacle apical length (Fig. 225 A).

VARIATION

FEMALES (n=6): Eyes: Diameters: PME 0.12–0.32, PLE 0.24–0.4, ALE 0.28–0.56, AME 0.12–0.32; MOQ: Length 0.76–1.44, front width 1.88–4, back width 1.8–3.72; Interdistances: PME–PME 1.04–2.2, PLE–PME 0.08–0.28, AME–AME 0.2–0.44, ALE–AME 0.72–1.36, ALE–PLE 0.4–0.8, AME–PME 0.4–0.84. Ocular area: OAL 3.25–6.5, OAW 2.25–5, and IF 1.62–3.5. Body: Total length: 10.87–19.12; Carapace: long 3.75–7.37; wide 3.75–7.5; Clypeus: 0.37–0.62; Fovea: 1.75–3.75; Labium: long 1–2.12; wide 0.87–1.87; Chelicerae: long 2.62–4.87; wide 1.5–3.25; Sternum: long 2.87–5.62; wide 2.5–4.75. Abdomen: long 6.25–11.25; wide 4.75–10. Leg measurements: I: Fe 3–4.37/ Pa 1.62–3/ Ti 1.12–2.25/ Me 1.25–2.62/ Ta 0.75–1.62/ total 7.12–13. II: 2.25–4.37/ 1.5–3.12/ 1–1.87/ 1.5–2.75/ 0.87–1.37/ 7.12–13.25. III: 2.12–4.37/ 1.87–3.5/ 0.5–1.5/ 1.62–2.75/ 0.75–1.37/ 7.12–2.72. IV: 2.87–5.62/ 1.87–3.75/ 1.75–3.12/ 1.87–3.62/ 0.75–1.25/ 9.12–17. Formula 4123.

Distribution. BRAZIL. Pará: Santarém. BOLIVIA. Santa Cruz: San Miguel de Monte, Puerto Pailas, and La Bola (Map 18).

Examined material. BOLIVIA: Santa Cruz: [17° 52’ S 63° 0’ W], San Miguel de Monte Grande (Rd. To Camiri, Km 35), 1♀, 12.i.1991, P. A. Goloboff, Santisteban & McHugh leg. (AMNH); Puerto Pailas, Bridge over Rio Grande, 2♀7J, 8.i.1991, P. A. Goloboff, Santisteban & McHugh leg. (AMNH); La Bola, 3♀, 8.i.1991, P. A. Goloboff, Santisteban & McHugh leg. (AMNH).

Actinopus cochabamba Ríos-Tamayo, 2016

Actinopus cochabamba Ríos-Tamayo, 2016: 186, fig 2A–E (holotype ♀, Charamoco, Cochabamba, Bolivia [17°36’ S 66°16’ W], 12.1941, J. Vellard leg., MACN-Ar 778, not examined); World Spider Catalog, 2020.

Diagnosis. Females of *A. cochabamba* are unique in the genus by the square-shaped post-labial sigilla (Ríos-Tamayo, 2016, fig. 2 B). They resemble to those of *A. xenus* by the unilobated spermathecae receptacles but Males differ from those of the receptacles shape, which are parallel, subquadrate in *A. xenus* (Fig. 214 A) and divergent, conical in *A. cochabamba* (Ríos-Tamayo, 2016, fig. 2 E).

Description. See Ríos-Tamayo (2016: 186).

Distribution. BOLIVIA: Cochabamba.

Actinopus casuhati Ríos-Tamayo & Goloboff, 2018

Actinopus casuhati Ríos-Tamayo & Goloboff, 2018: 32, fig. 13 A–G, 14 A–D, 45 (holotype ♂, [38º 8’ S 61º 48’ W], Sierra de La Ventana, Buenos Aires, Argentina, iii.1972, Cesari leg., MACN-Ar 36609; and paratype ♀, [38º 3’ S 62º 1’ W], Parque Provincial “Ernesto Tornquist”, Buenos Aires, Argentina, 8.iv.2010, G. Pompozzi, LZI 0141; not examined); World Spider Catalog, 2020.

Diagnosis. Females of *Actinopus casuhati* differs from those of all other species of *Actinopus*, except from those of *A. gerschiapelliarum* Ríos-Tamayo & Goloboff, 2018, (fig. 19 C–D) and *A. argenteus* (Ríos-Tamayo & Goloboff, 2018, fig. 11 C), by the presence of a sub-apical constriction in the spermathecae. According to Ríos-Tamayo & Goloboff (2018), they differ from those of *A. argenteus*, by tíbia III with additional spines apical to the crown, and from those of *A. gerschiapelliarum* by the larger body size and larger number of retrolateral thorns on tibiae II (Ríos-Tamayo & Goloboff, 2018, fig. 14 B).

Description. See Ríos-Tamayo & Goloboff (2018: 32).

Distribution. ARGENTINA: Buenos Aires.

Actinopus indiamuerta Ríos-Tamayo & Goloboff, 2018

Actinopus indiamuerta Ríos-Tamayo & Goloboff, 2018: 43, fig.

20 A–D, 44 (holotype ♀, [26º 32' S 65º 15' W], Ruta 9, Río India Muerta, Tucumán, Argentina, ix.1994, P. Goloboff leg., MACN-Ar 36626); World Spider Catalog, 2020.

Diagnosis. According to Ríos-Tamayo & Goloboff (2018), females of *A. indiamuerta* can be readily distinguished by the wide, semicircular labium with few cuspules (Ríos-Tamayo & Goloboff, 2018, fig. 20 B) and by the short spermathecae, with perpendicular external lobe (Ríos-Tamayo & Goloboff, 2018, fig. 20 D).

Description. See Ríos-Tamayo & Goloboff (2018: 43).

Distribution. ARGENTINA: Tucumán.

Discussion

The present paper treats the taxonomy of 80 species of *Actinopus* (42 newly described, 18 redescribed, in addition to the re-evaluation of the type species, *A. tarsalis,* redescribed by Miglio *et al.* (2012), *A. insignis*, redescribed by Ríos-Tamayo & Goloboff (2018) and other 18 recently described species from Bolivia and Argentina by Ríos (2014), Ríos-Tamayo (2016) and Ríos-Tamayo & Goloboff (2018). These results are derived from the examination of nearly 1375 adult specimens, an effort that also resulted in the discovery of the unknown females of *A. dubiomaculatus* and *A. cucutaensis*, and the unknown males of *A. nattereri.* The criteria used to proceed with these matches included congruent morphological characters and geographical distribution. In the case of *A. dubiomaculatus*, in addition to these criteria, males and females were collected in the same sampling event. Despite the large number of examined specimens, the vast majority of species here recognized as valid remain known only from one sex, a situation that makes the taxonomic knowledge of *Actinopus* still unsatisfactory. Most **sp. nov.** here presented are known only from males; no **sp. nov.** based solely in females are presented here because we believe that describing **sp. nov.** based only in females is not advisable due to the lack of straightforward diagnostic characters.

From the 49 currently nominal species valid for *Actinopus*, 10 were here declared as *species inquirendae* on grounds that the type specimens were based on juvenile specimens or, even if based on adult specimens, they are lost. However, a great effort was made here to avoid making unnecessary names available. Thus, the identity of some species with missing types was established by the careful study of original descriptions. Despite the enormous difficulty of identifying species based on old descriptions, which are generally poorly informative and devoid of illustrations, congruence of morphological characters and geographic distributions of the material examined with the information in the literature rendered the harnessing of five old historic names, *A. pusillus*, *A. dubiomaculatus*, *A. echinus*, *A. nattereri* and *A. paranensis*, which otherwise should be declared as unrecognizable.

The taxonomy of *Actinopus* is particularly difficult not only for the unavailability of types or for the uninformative literature, but also due to the absence of unique morphological details that could provide effective diagnosis to recognize species and groups of species. Thus, most of the taxa here recognized can be identified only by combinations of characters. Perhaps this is one of the main reasons for the fact that the diversity of the genus has been so underestimated in the past 200 years, with few and isolated new descriptions. Even discounting the unrecognizable species, the present paper increases the known species richness of *Actinopus* in nearly 60,5%, revealing a possible scenario of very high species endemism in the genus.

To optimize identifications in this revision, 11 species groups are diagnosed and keyed. These groups are only taxonomic tools, not supposed to primarily represent putative monophyletic groups, and were based mainly in characters from the male palp. From the 80 species here diagnosed, 12 could not be included in these groups because they are known only from females or due to their divergent male palpal morphology. The species known only from females are *A. echinus*, *A. princeps*, *A. trinotatus*, *A. wallacei A. xenus A. casuhati* and *A. indiamuerta*. The male of one of these species, *A. wallacei*, was described by Schiapelli & Gerschman, 1945, but since their material was not available the identity of the male form of this species can not be determined here and, consequently, this species was not included in any group. The species known by males that were not placed in groups of species are *A. jamari*, *A. clavero*, *A. apiacas* and *A. panguana*. The male palpal morphology presented by these species is considerably different from that presented for other *Actinopus* and each one of these species would stand in a group of their own.

Most characters proposed here to differentiate the species and groups of species are related to the male copulatory bulb, the female spermathecae and patterns of coloration (in ethanol) in legs and palps of both sexes. These color patterns are very widespread across taxa and are generated by contrasting color between articles of legs or/and palp, some of which may be paler than other articles on the same leg. The most common state of this character is the palpal tibia yellowish or orange, paler than other palpal articles. This condition is shared by all groups recognized here, except the group *tarsalis*. Notwithstanding that, seven additional patterns of leg coloration have been be found in *Actinopus*: (1) patellae, tibiae, metatarsi and tarsi of legs paler than femora (as in females of *A. rufipes*); (2) tibiae, metatarsi and tarsi

of legs paler than femora and patellae (as in males of *A. crassipes*); (3) Metatarsi and tarsi of legs paler than other leg articles (as in males of *A. dubiomaculatus*); (4) Tibia of palp, and tibiae, metatarsi and tarsi of legs paler than other articles (as in *A. pusillus*); (5) Tibia of palp, and metatarsi and tarsi of legs paler than other articles (as in *A. dioi*); (6) Patella and tibia of palp paler than femur and tarsus (as in males of *A. rufipes*); and (7) Tibia and tarsus of palp paler than other articles (as in *A. azaghal*).

Other important somatic (non-genitalic) characters, at least to define the groups *osbournei* and *goloboffi*, are related to the sternal morphology, particularly the patterns of distribution of sternal sigilla: (1) converging to the middle of the sternum but separated (as in most species, eg. *A. jaboticatubas*, Fig. 39 C); or (2) fused medially of sternum (as in group *osbournei*, Figs 133 C, 136 C). The group *goloboffi* is characterized by a unique depression in the middle of the sternum.

Important diagnostics characters related to the copulatory bulb of males are based on the absence or in the shape of apophyses, keels and tegular processes. These structures are always associated with the tegular surface or the embolus and were described as follows: (1) Basal tegular apophysis (BTA) present (in most species, Fig. 38 A) or absent (as in group *tarsalis* and *A. concinnus,* Figs 9 A, 195 A, respectively); (2) Position of BTA in prolateral view of copulatory bulb: Displaced ventrally in relation to a middle longitudinal line along prolateral tegular surface (as in *A. laventana*, Fig. 129 A); Placed medially on prolateral tegular surface (as in *A. crassipes*, Fig. 107 A); Displaced dorsally in relation to a middle longitudinal line along prolateral tegular surface (as in *A. fractus*, Fig. 21 A); (3) Absence (as in *A. cucutaensis*, Fig. 176 A) or presence of one (as in *A. anselmoi*, Fig. 171 A), two (as in *A. fractus*, Fig. 21 A) or three (as in most species, Fig. 107 A) keels visible in prolateral view of copulatory bulb; (4) Paraembolic apophysis (PA) conspicuous or inconspicuous, respectively as in *A. nattereri* (Fig. 67 A–C) and *A. harveyi* (Fig. 78 A–C); (5) PA contiguous to prolateral superior keel (as in *A. nattereri*, Fig. 67 A), between prolateral superior and prolateral inferior keels (as in *A. buritiensis*, Fig. 29 A), contiguous to prolateral inferior keel (as in *A. utinga*, Fig. 103 A), between prolateral inferior and prolateral accessory keels (as in *A. cornelli*, Fig. 62 A), or contiguous to prolateral accessory keel (as in *A. rufipes*, Fig. 72 A); (6) PA placed ventrally in relation to a middle longitudinal line along prolateral tegular surface and on prolateral tegular border (as in *A. osbournei*, Fig. 135 A); or PA displaced dorsally in relation to a middle longitudinal line along prolateral tegular surface and secluded from prolateral tegular border (as in *A. apiacas*, Fig. 201 A); (7) Presence (as in *A. guajara,* Fig. 192 A) or absence (as in *A. dioi*, Fig. 138 A) of apical tegular process (ATP) (The tegular modification in *A. jamari* is here recognized as PA, not as ATP, because it's surface present keels. Considering there is not a strong evidence of homology between these features we prefered to maintain *A. jamari* out from the groups.); (8) Position of ATP in prolateral view: Relatively parallel to embolus (as in *A. cucutaensis*, Fig. 176 B); or oblique in relation to the embolus (as in *A. robustus*, Fig. 181 B); (9) Position of ATP on dorsal view: Almost in the same plane in relation to embolus (as in *A. cucutaensis*, Fig. 176 A); or inserted obliquely in relation to the embolus (as in *A. concinnus*, Fig. 195 A); (10) Presence (in *A. panguana*, Fig. 206 A–C) or absence (as in all other species; eg. *A. obidos*, Fig. 26 A) of dorsal tegular process (DTP).

Another informative character in the copulatory bulb is the embolar serrated area or its absence. This character may be have the following states: (1) absent (as in *A. nattereri*, Fig. 67 A–C); (2) Represented by at most two cusps below the most inferior keel (PI or PAc) (as in group *apalai*, Figs 15 A–C, 16 A–C); (3) Represented by three or more cusps (as in *A. osbournei*, Fig. 135 A, C). The serrated area could be also described by the position and shape of cusps. As for the position, the serrated area could be restricted to the basal portion of embolus (as in *A. crassipes*, Fig. 107 A, C); Along embolar length, below the most inferior keel (PI or PAc) (as in *A. dubiomaculatus*, Fig. 112 A, C); Or widespread along entire embolar surface (as in *A. bocaina*, Fig. 124 A–C). The morphology of the cusps is also informative in *A. bocaina*, where they are square (Fig. 124 A–C), opposing to the sharply pointed condition, as in all other species (eg. *A. pusillus*, Fig. 118 A–C).

The female spermathecae can have one (as in *A. obidos*, Fig. 26 D) or two receptacles (as in *A. nattereri*, Fig. 67 D). Each receptacle can have one (unilobed, as in *A. nattereri*, Fig. 67 A), two (bilobed, as in *A. ipioca*, Fig. 88 D) or three (trilobed, as in the right receptacle on dorsal surface of *A. trinotatus*, Fig. 220 A) lobes. The occurrence, in several species, of intraspecific variation in the shape of spermathecae and number of lobes is a complication factor and, for this reason, these characters must be evaluated in combination with another important characteristic of the female spermathecae: the distribution of pores along receptacles surface. The pore distribution may be presented as: (1) Widespread on 75% of receptacle apical portion (as in *A. nattereri*, Fig. 67 D); Occurring in 100% of the receptacle surface (as in *A. laventana*, Fig. 129 D); and (3) occurring in 100% of receptacle surface and extended to portions of the basal membrane (as in *A. obidos*, Fig. 26 D).

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SUPPLEMENT

After the submission of this paper, four additional species, all from Uruguay, were described by Ríos-Tamayo (2019). Considering our larger sample of species, we provide below a re-evaluation of these species, with emended diagnoses. Three of these species belong to the *Crassipes* group (*Actinopus fernandezi* Ríos-Tamayo, 2019; *Actinopus simoi* Ríos-Tamayo, 2019 and *Actinopus uruguayense* Ríos-Tamayo, 2019). The remaining one (*Actinopus coboi* Ríos-Tamayo, 2019) was based solely on the female and cannot be placed in any of the groups proposed here.

Actinopus fernandezi Ríos-Tamayo, 2019

Actinopus fernandezi Ríos-Tamayo, 2019: 527, fig. 3 A–H, 10 (holotype ♂, Riìo Arapey [30° 55′ S 57° 47′ W], Salto, Uruguay, 20 April 1974, L.A. de Gambardella (Museo Nacional de Historia Natural de Montevideo 1291), not examined); World Spider Catalog, 2020.

Diagnosis. Males of *A. fernandezi* (Ríos-Tamayo, 2019, fig. 3 F–H) differ from all other members of the *crassipes* group by the legs tibiae lighter that the other articles and by the absence of basal denticles on the base of the embolus (Ríos-Tamayo, 2019, fig. 3 F, H).

Description. See Ríos-Tamayo (2019: 527).

Distribution. URUGUAY: Salto.

Actinopus simoi Ríos-Tamayo, 2019

Actinopus simoi Ríos-Tamayo, 2019: 530, fig. 6 A–H, 7 A–G, 10 (Cerro San Antonio [34° 52′ S 55° 16′ W], 15 February 1980, M. Estoll (Museo Nacional de Historia Natural de Montevideo 1310). Paratype ♀: San Carlos [34° 48′ S 54° 55′ W], 9 January 1978, R. Capocasale (Museo Nacional de Historia Natural de Montevideo 1281), not examined); World Spider Catalog, 2020.

Diagnosis. Males of *A. simoi* (Ríos-Tamayo, 2019, fig. 6 F–H) resemble those of *A. crassipes* and *A. dubiomaculatus* by the leg distal articles being lighter than the proximal ones but differ from these species and from all other members of the *crassipes* group by the smooth rastellum. Females are similar to those of *A. dubiomaculatus* by the absence of lateral swellings on the spermathecae receptaculum but are readily recognized by the sub squared receptaculum with poorly developed external lobe (Ríos-Tamayo, 2019, fig. 7 F, G).

Description. See Ríos-Tamayo (2019: 530).

Distribution. URUGUAY: Maldonado, Canelones.

Actinopus uruguayense Ríos-Tamayo, 2019

Actinopus uruguayense Ríos-Tamayo, 2019: 533, fig. 8 A–J, 9 A–E, 10 (♂: J. Lacaze, Rincoìn del Sauce [34° 25′ S 57° 26′ W], 12 February 1978, J. Blengini (Museo Nacional de Historia Natural de Montevideo 1332). Paratype ♀: Uruguay, same locality and collector, 20 November 1979 (Museo Nacional de Historia Natural de Montevideo 1318), not examined); World Spider Catalog, 2020.

Diagnosis. Males of *A. uruguayense* (Ríos-Tamayo, 2019, fig. 8 I–J) resemble those of *A. dubiomaculatus* by shape of the palpal bulb but can be distinguished by uniform leg article coloration. Females are similar to those of *A. paraitinga* by the shape of the spermathecal lateral swellings and external lobes (Fig. 59 D) but can be recognized by the larger, more pronounced internal lobes (Ríos-Tamayo, 2019, fig. 9 E).

Description. See Ríos-Tamayo (2019: 533).

Distribution. URUGUAY: Colonia, Maldonado, Cerro Largo.

Actinopus coboi Ríos-Tamayo, 2019

Actinopus coboi Ríos-Tamayo, 2019: 526, fig. 2 A–E (holotype ♀, Cerros de San Juan [34° 13′ S 57° 55′ W], 30 September 1984, E. Gudynas, G. Skuk & J.C. Gambarotta (MNHN 1372), not examined); World Spider Catalog, 2020.

Diagnosis. The single known specimen of *A. coboi*

shares with females of *A. laventana* the well-developed, diagonally directed external lobes of spermathecae. They can be distinguished by the absence of internal lobes (Ríos-Tamayo, 2019, fig. 2 D), which are present in *A. laventana* (Fig. 129 D).

Description. See Ríos-Tamayo (2019: 526).

Distribution. URUGUAY: Colonia.

Literature cited

Ríos-Tamayo, D. (2019) Four new species of *Actinopus* (Mygalomorphae: Actinopodidae) from Uruguay. *Zootaxa*, 4624 (4): 523–538. https://doi.org/10.11646/zootaxa.4624.4.5

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