

## On the Brazilian Atlantic Forest species of the spider genus *Ctenus* Walckenaer, with the description of a neotype for *C. dubius* Walckenaer (Araneae, Ctenidae, Cteninae)

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### Summary

A neotype is proposed for the type species of the genus *Ctenus*, *C. dubius* Walckenaer, chosen from specimens collected in the type locality, Cayenne, French Guiana. The genus *Oligoctenus* Simon is considered a junior synonym of *Ctenus*. *Oligoctenus ornatus* (Keyserling), *O. medius* Keyserling, and *O. vehemens* Keyserling, are here transferred to *Ctenus* and both sexes are redescribed together with *Ctenus rectipes* F. O. P.-Cambridge. In addition, three new species from the states of Bahia, Espírito Santo and Rio de Janeiro are described, *Ctenus paubrasil* sp. n., *C. pauloterrai* sp. n. and *C. fernandae* sp. n. All newly described species are distributed in the Brazilian Atlantic Forest. Five synonymies are proposed: *Ctenus lagesicola* Strand and *C. sanctacatharinae* Strand with *C. medius* Keyserling; *C. griseus* Keyserling and *C. monicae* Vellard with *C. ornatus*; and *C. senex* Mello-Leitão with *C. rectipes*. The Central American species *Oligoctenus otleyi* Petrunkevitch from Puerto Rico, *O. trinidadensis* Alayón from Trinidad and *O. guantanamo* Alayón from Cuba also belong in the genus *Ctenus* and are here transferred.

### Introduction

The family Ctenidae was proposed by Keyserling (1877) to include the type genus *Ctenus* Walckenaer, 1805 and *Microctenus* Keyserling, 1877, *Acanthoctenus* Keyserling, 1877 and *Caloctenus* Keyserling, 1877. The type species of *Ctenus*, *C. dubius* Walckenaer, 1805, was described based on a male from Cayenne, French Guiana. However, the sparse data in the original description and the loss of the type specimen hindered the diagnosis of this genus for over two centuries. Bücherl *et al.* (1964) redescribed *Ctenus* and *Phoneutria* Perty, 1833, but the characters they proposed to diagnose *Ctenus* were not clear. Lehtinen (1967) suggested the importance of describing a neotype for *Ctenus* based on the Bücherl *et al.* (1964) description. Despite the unclear diagnosis and obscure status of *C. dubius*, more than 200 species have been described worldwide (Höfer *et al.*, 1994; Höfer & Brescovit, 1997). However, several species are not congeneric and the polyphyly of this genus is no longer questioned (Simó & Brescovit, 2001; Silva, 2003).

The genus *Oligoctenus* was proposed by Simon (1887) as a *nomen novum* for *Microctenus* Keyserling, 1877 (preoccupied), with *O. ornatus* (Keyserling) as type species. Lehtinen (1967) removed *Oligoctenus* from the

synonymy of *Ctenus* Walckenaer, 1805 and transferred to this genus three species originally described in *Ctenus*: *O. gynheraldicus* (Mello-Leitão), now a junior synonym of *Ctenus taeniatus* Keyserling, *O. medius* (Keyserling) and *O. vehemens* (Keyserling). Examination of the type specimens confirmed that males of all these species have a small apophysis at the base of the embolus (see basal embolar projection in Höfer *et al.*, 1994: figs. 1a, 5a; and Simó & Brescovit, 2001: 79), while females have protruding ovoid lobes in the middle field of the epigynal plate (see Höfer *et al.*, 1994: figs. 1c, 5c); these two characters appear to be putative synapomorphies for *Ctenus*. Therefore, in this paper, *Oligoctenus* is considered a junior synonym of *Ctenus*, and the three species mentioned above are transferred to *Ctenus*, as well as three species described from Central America (Alayón, 2001). These species, *Ctenus otleyi* (Petrunkevitch), **new combination**, from Puerto Rico, *C. trinidadensis* (Alayón), **new combination**, from Trinidad and *C. guantanamo* (Alayón), **new combination**, from Cuba, belong to the Central American species group, with genitalia similar to *Ctenus sinuatipes* F. O. P.-Cambridge (cf. F. O. P.-Cambridge, 1897: pl. 3, figs. 1b, 4d, 6e, 7f and Alayón, 2001: figs. 1–4).

The examination of extensive material, collected mainly during an exhaustive inventory carried out by the project “Biodiversity of Arachnida and Myriapoda of the State of São Paulo” (Biota/Fapesp Program), helped to confirm that all the species described here are congeneric and apparently restricted to the Brazilian Atlantic Forest, a phytogeographic area that runs parallel to the Brazilian coast, from Rio Grande do Norte to Rio Grande do Sul and is covered by forest vegetation, with deep soils of perennial drainage. The climate is characterised by two seasons, defined mainly by the rainfall regime, with annual mean temperatures ranging from 24°C in the north-east to 15°C in the south-east and south (Fonseca & Por, 1998; Fernandes, 1998; Barros, 2000).

In this paper we propose a neotype for *Ctenus dubius* chosen from specimens collected in the type locality and provide a new diagnosis for the genus *Ctenus* in an attempt to clarify the taxonomy of Ctenidae. Also, the species of *Ctenus* from the Atlantic Forest are redescribed and three new species are proposed: *C. pauloterrai*, an endemic species from southern Bahia, *C. paubrasil*, recorded only from southern Bahia and northern Espírito Santo, and *C. fernandae*, another endemic species from high mountains in Rio de Janeiro. Additional data, such as diagnoses and geographical distribution, are given for these species.

### Material and methods

The material examined is deposited in the following collections (all in Brazil unless otherwise stated, curators in parentheses): BMNH=Natural History Museum, London, UK (J. Beccaloni); CPDC=Centro de Pesquisas do Cacau, CEPLAC, Itabuna (P. S. Terra); FCEN=Facultad de Ciencias, Montevideo, Uruguay (M. Simó); IBSP=Instituto Butantan, São Paulo (A. D.

Brescovit); LAMG=Laboratório de Aracnologia, Universidade Federal de Minas Gerais, Belo Horizonte (M. de Maria); MCN=Museu de Ciências Naturais, Fundação Zoobotânica do Rio Grande do Sul, Porto Alegre (E. H. Buckup); MCTP=Museu de Ciência e Tecnologia, Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre (A. A. Lise); MHCI=Museu de História Natural do Capão da Imbuia, Curitiba (J. C. Moura-Leite); MNRJ=Museu Nacional do Rio de Janeiro, Rio de Janeiro (A. B. Kury); MZLQ=Museu de Zoologia da Escola Superior de Agricultura Luis de Queiroz, UNESP, Piracicaba (A. D. Paschoal); MZSP=Museu de Zoologia, Universidade de São Paulo, São Paulo (R. Pinto da Rocha); RLCB=personal collection of Renner L. Baptista (housed in MNRJ); SMF=Forschungsinstitut und Museum Senckenberg, Frankfurt, Germany (P. Jäger); SMNK=Staatliches Museum für Naturkunde, Karlsruhe, Germany (H. Höfer); UEFS=Universidade Estadual de Feira de Santana, Feira de Santana (I. B. Queiroz); UEPB=Universidade Estadual Paulista, Botucatu (I. M. P. Rinaldi); UFBA=Laboratório de Artrópodes Peçonhentos, Universidade Federal da Bahia, Salvador (T. K. Brazil); UFES=Universidade Federal do Espírito Santo, Vitória (C. Azevedo).

Descriptions and terminology follow Höfer *et al.* (1994) and Simó & Brescovit (2001). All measurements are in mm. The epigyna were submerged in clove oil to study internal structures. Complete collection data are provided, except for *Ctenus medius* and *C. ornatus*, the most common species in Brazilian collections.

## Taxonomy

### *Ctenus* Walckenaer, 1805

*Ctenus* Walckenaer, 1805: 18 (type species *C. dubius* Walckenaer, 1805: 18, pl. 3, fig. 22; 183); Walckenaer, 1837: 366; Keyserling, 1877: 681–682; Lehtinen, 1967: 225–226, 375.

*Oligoctenus* Simon, 1887: 186 (type species *Ctenus ornatus* Keyserling, 1877); Lehtinen, 1967: 254. **New synonymy.**

**Diagnosis:** Species of the genus *Ctenus* differ from other ctenine genera by the combination of the following characters: males have a short palpal tibia, tegulum elongated basally (Figs. 1–2), embolus with a basal projection (Fig. 2), and median apophysis short and truncated at the apex (Fig. 2); females have anterior protruding oval lobes in the middle field of the epigynal plate and lateral epigynal fields with conspicuous lateral medial to basal spurs (Figs. 5, 12, 18, see also Brescovit, 1996: 303).

### *Ctenus dubius* Walckenaer, 1805 (Figs. 1–6, Map 2)

*Ctenus dubius* Walckenaer, 1805: 18, pl. 3, fig. 22 (male holotype from Cayenne, French Guiana, should be deposited in MNHN, not located, probably lost); 1837: 366; Platnick, 2005.

**Neotype:** Male from Santa Clara, Cayenne, French Guiana, 7 July 1951, IBSP team, deposited in IBSP 1217.

**Diagnosis:** *Ctenus dubius* differs from other species by the elongated, curved and distally bifid basal tegular projection (Figs. 1–2) in the male palp and by the short oval lobes and ovoid and spoon-like lateral spurs (Fig. 5) in the female epigynum.

**Description:** *Male* (neotype): Carapace orange, with narrow dorsal longitudinal yellow band extending from PME to thoracic groove, narrow grey lateral stripes and black rings around eyes. Legs orange, ventral face of coxae dark. Chelicerae reddish, with frontal irregular thin black stripes. Labium orange with apex grey. Endites green-grey with apex yellowish. Sternum orange. Abdomen dorsally greyish with two anterior black spots and longitudinal median yellow band, laterally almost orange with irregular black stripes, ventrally cream with median black band reaching base of spinnerets. Spinnerets orange. Total length 18.60. Carapace 10.60 long, 8.20 wide. Clypeus 0.32. Eye diameters and interdistances: AME 0.47, ALE 0.27, PME 0.52, PLE 0.55; AME-AME 0.20, AME-ALE 0.57, PME-PME 0.37, PME-PLE 0.75, AME-PLE 0.25, AME-PME 0.20. MOQ length 1.27, front width 1.15, back width 1.32. Chelicerae with 3 promarginal teeth, median larger, and 5 retromarginal denticles, basal small. Leg measurements: I femur 8.70/patella 4.10/tibia 8.40/metatarsus 8.60/tarsus 2.30/total 32.10; II 9.00/3.70/8.80/8.60/lacking; III 8.40/3.80/7.00/7.30/1.80/28.30; IV 9.80/3.80/8.30/12.30/2.50/36.70. Leg spination: tibiae I–II v2-2-2-2, p1-1-1-1, r1-1-1; III v2-2-2, p1-1-0, r1-1-0; IV v2-2-2, p1-1-0, r1-1-0; metatarsi I–II v2-2-2, p1-1-0, r1-0-1; III v2-2-1, p1-1-2, r1-1-2; IV v2-1-1-1, p1-1-1-2, r1-1-2. Metatarsus IV straight. Scopulae very long on all legs, more evident on legs I and II. Palpal tibia with retrolateral apophysis directed outwards (Fig. 2) and small, conical prolateral apophysis (Fig. 1); embolus tapering to apex, with curved basal embolar projection (Fig. 2); hyaline conductor, partly enclosing embolus tip (Figs. 2–3).

**Female** (IBSP 1218): Coloration as in male, except chelicerae red-brown and abdomen dorsally with two median circular black spots (Fig. 4). Total length 17.80. Carapace 9.20 long, 7.20 wide. Clypeus 0.52. Eye diameters and interdistances: AME 0.50, ALE 0.30, PME 0.52, PLE 0.52; AME-AME 0.17, AME-ALE 0.62, PME-PME 0.45, PME-PLE 0.80, AME-PLE 0.22, AME-PME 0.17. MOQ length 1.32, front width 1.17, back width 1.40. Chelicerae with 3 promarginal teeth and 5 retromarginal denticles. Leg measurements: I femur 7.40/patella 3.80/tibia 6.20/metatarsus 6.10/tarsus 1.80/total 25.30; II 7.30/3.70/6.10/5.90/1.70/24.70; III 6.30/2.70/4.60/5.80/1.50/20.90; IV 7.80/3.40/6.40/9.60/2.30/29.50. Leg spination: tibia I v2-2-2-2, p0, r0; II v2-2-2-2-2, p1-1-0, r0; III–IV v2-2-2, p1-1-0, r1-1-0; metatarsi I–II v2-2-2, p0, r0; III v2-2-2, p1-1-2, r1-1-2; IV v2-1p-1r-2, p1-1-1-2, r1-1-1-2. Scopulae of legs shorter than in male. Epigynal plate sub-rectangular, with large anterior apodemes (Fig. 5). Spermathecae small, rounded, close together; copulatory ducts narrow and relatively short; fertilisation ducts very short, originating at base of spermathecae (Fig. 6).

**Distribution:** Known only from French Guiana (Map 2).

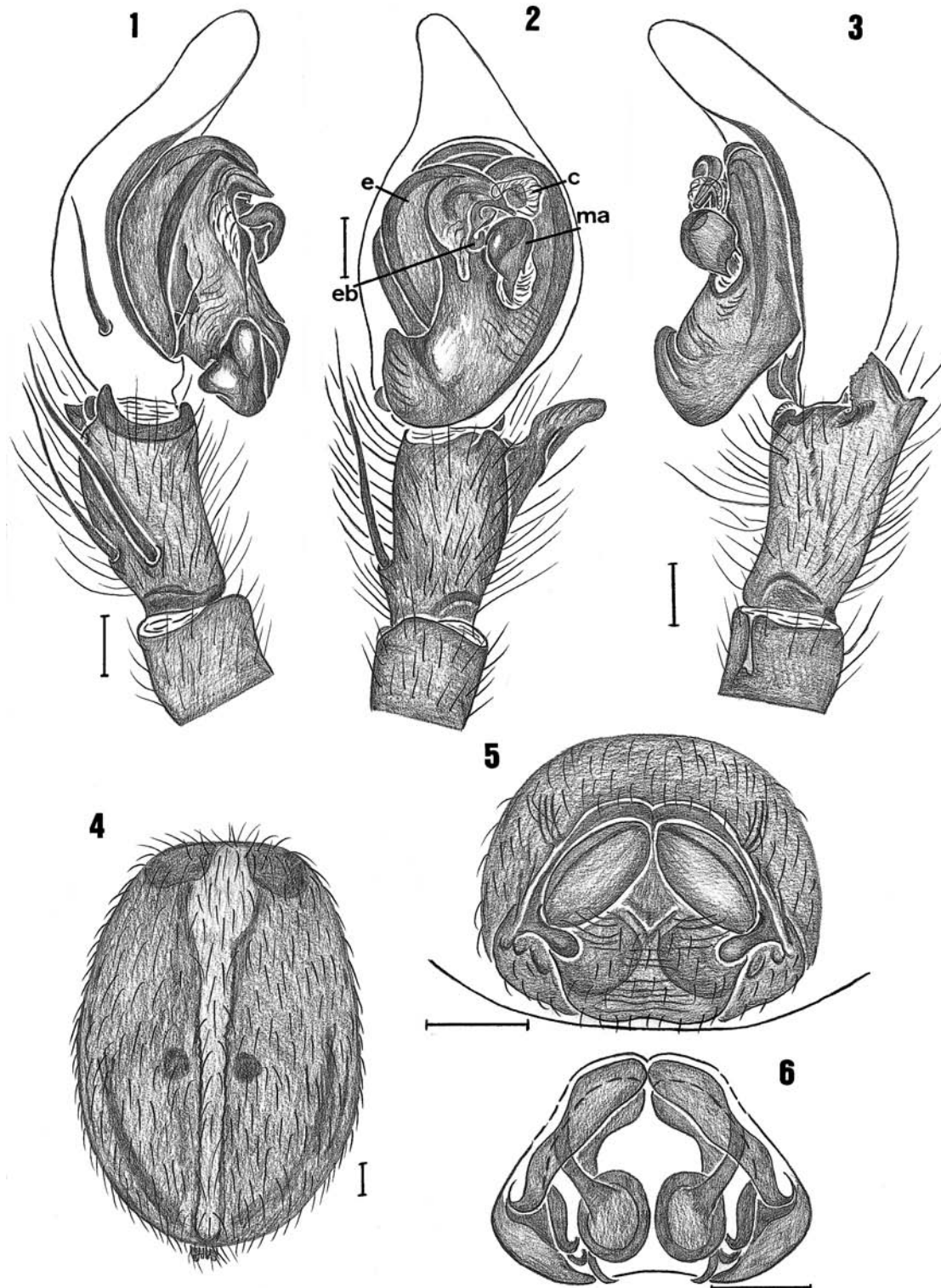
*Other material examined:* FRENCH GUIANA: Oyapock, border between French Guiana and Amapá (Brazil), 1♀, 7 July 1951, IBSP team (IBSP 1218); Cacao, 1♀, February 1993, C. Marty (IBSP 6905).

***Ctenus medius* Keyserling, 1891 (Figs. 7–13, Map 2)**

*Ctenus medius* Keyserling, 1891: 153, pl. 4, fig. 106 (three female syntypes from Rio Grande do Sul, Brazil, Keyserling coll., in

BMNH 1890.7.1.2910, examined); Göldi, 1892: 213; F. O. P.-Cambridge, 1897: 55, 65, 75, 77, 81, 87, pl. 3, figs. 6f, 7g (descr. ♂); 1902: 410, 412; Moenkhaus, 1898: 78; Strand, 1910: 307; Petrunkevitch, 1911: 474; Mello-Leitão, 1927: 397; 1936: 5, 10; Vellard, 1929: 34; Roewer, 1955: 652; Bonnet, 1956: 1285; Bücherl, 1972: 19, fig. 10; Platnick, 2005.

*Ctenus lagesicola* Strand, 1910: 325 (immature female from Lages, Santa Catarina, Brazil, March 1907, Fruhstorfer, in ZMB, examined); Petrunkevitch, 1911: 474; Mello-Leitão, 1927: 397; 1936: 5, 10; Strand, 1927: 24; Bonnet, 1956: 1283; Platnick, 2005. **New synonymy.**



Figs. 1–6: *Ctenus dubius*. **1** Left male palp, pro-lateral view; **2** Ditto, ventral view; **3** Ditto, retrolateral view; **4** Female abdomen, dorsal view; **5** Female epigynum, ventral view; **6** Ditto, dorsal view. Abbreviations: c=conductor, e=embolus, eb=embolar projection, ma=median apophysis. Scale lines=0.5 mm.

*Ctenus sanctae-catharinae* Strand, 1916: 131 (one male and four female syntypes from Santa Catarina, Brazil, 1908, W. Ehrhardt, in SMF 4565, examined); Mello-Leitão, 1936: 11; Roewer, 1955: 655. **New synonymy.**

*Ctenus ornatus*: Mello-Leitão, 1947: 272 (misidentification).

*Ctenus vehemens*: Mello-Leitão, 1947: 272 (misidentification).

*Ctenus sanctaecatharinae*: Bonnet, 1956: 1288; Platnick, 2005.

*Oligoctenus medius*: Lehtinen, 1967: 254; Platnick, 1993: 677; Platnick, 2005.

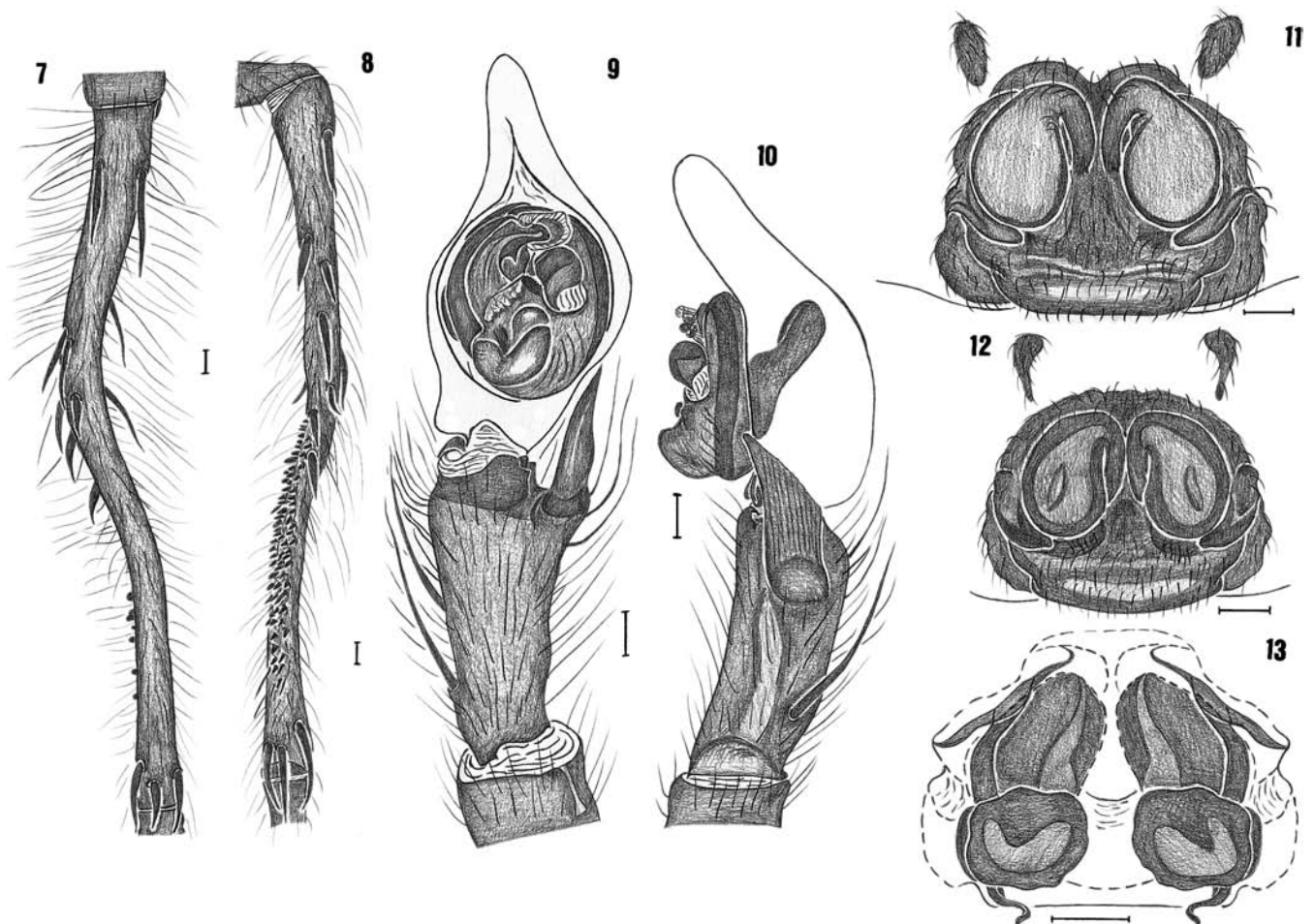
**Synonymy:** No differences were found when the type specimens of *Ctenus sanctaecatharinae* were compared with those identified as *C. medius* and collected in the state of Santa Catarina, Brazil. The type specimen of *C. lagesicola* Strand, despite being immature, shows the coloration pattern of *C. medius*.

**Diagnosis:** *Ctenus medius* resembles *C. rectipes* in the short, conical basal tegular projection (Fig. 10, cf. Fig. 28) and in the large ovoid epigynal lobes (Fig. 11, cf. Fig. 29), but differs by males having a sinuous metatarsus IV with numerous spinules (Figs. 7–8), a large retrolateral tibial apophysis (Fig. 10), and the embolus with a median conical embolar projection (Fig. 9). Females are distinguished by the almost circular avoid lobes of the epigynal median plate, projecting mesally (Figs. 11–12).

**Description:** *Male* (IBSP 13115): Carapace uniformly dark orange, thoracic groove brown and black rings around eyes. Legs orange, with tibia IV black and ventral face of coxae dark grey. Chelicerae orange-red.

Labium and endites brown. Sternum orange. Abdomen dorsally and laterally dark grey, sometimes with dorsal folium-like marking; ventrally with wide longitudinal median grey band, not reaching spinnerets. Spinnerets orange. Total length 21.50. Carapace 12.80 long, 9.00 wide. Clypeus 0.35. Eye diameters and interdistances: AME 0.50, ALE 0.40, PME 0.60, PLE 0.50, AME-AME 0.35, AME-ALE 0.52, PME-PME 0.25, PME-PLE 0.62, AME-PLE 0.30, AME-PME 0.35. MOQ length 1.30, front width 1.20, back width 1.30. Chelicerae with 4 promarginal teeth and 5 retromarginal denticles. Leg measurements: I femur 13.00/patella 5.60/tibia 13.00/metatarsus 13.10/tarsus 4.10/total 48.80; II 12.85/5.35/11.75/12.60/3.50/46.05; III 11.35/4.75/9.75/10.75/2.85/39.45; IV 14.10/5.00/11.60/16.25/4.25/51.20. Leg spination: tibiae I–II v2-2-2-2, p1-1-0, r1-1-0; III v2-2-2, p1-1-0, r1-1-0; IV v2-2-1p, p1-1-0, r1-1-0; metatarsi I–II v2-2-2, p1-1-0, r1-1-0; III v2-2-2, p1-1-2, r1-1-2; IV v2-2-1p, p1-1-2, r1-1-2. Metatarsus IV modified (Figs. 7–8). Scopulae very long and white on all legs, more evident on leg IV. Palp with short prolateral tibial apophysis (Fig. 9); short conical tegular projection (Fig. 10); median apophysis truncated; embolus with median triangular embolar projection (Fig. 9); hyaline conductor enclosing embolus apex (Fig. 9).

*Female* (IBSP 13320): Coloration as in male, except chelicerae red-brown and abdomen dark grey with inconspicuous dorsal folium-like marking. Total length



Figs. 7–13: *Ctenus medius*. 7 Male metatarsus IV, dorsal view; 8 Ditto, prolateral view; 9 Left male palp, ventral view; 10 Ditto, retrolateral view; 11 Female epigynum, ventral view; 12 Ditto, ventral view, variation; 13 Ditto, dorsal view. Scale lines=0.5 mm.

24.60. Carapace 12.50 long, 9.40 wide. Clypeus 0.60 high. Eye diameters and interdistances: AME 0.52, ALE 0.45, PME 0.57, PLE 0.62; AME-AME 0.37, AME-ALE 0.65, PME-PME 0.25, PME-PLE 0.77, ALE-PLE 0.37, AME-PME 0.32. MOQ length 1.50, front width 1.45, back width 1.57. Chelicerae with 3 promarginal teeth and 5 retromarginal denticles. Leg measurements: I femur 10.25/patella 5.25/tibia 9.75/metatarsus 8.75/tarsus 2.25/total 36.25; II 10.00/4.50/8.50/8.35/2.25/33.60; III 8.50/3.75/6.25/7.60/2.10/28.20; IV 10.75/4.60/8.85/12.25/3.00/39.45. Leg spination: tibia I v2-2-2-2, p0 r0; II v2-2-2-2, p1-0-0, r0; III-IV v2-2-2, p2-2-0, r2-2-0; metatarsi I-II v2-2-0, p0-0-1, r0-0-1; III-IV v2-2-2, p1-1-2, r1-1-2. Epigynal plate squarish, with narrow elongated lateral spurs, rounded at tip (Figs. 11–12). Spermathecae large, oval, separated by half their diameter; copulatory ducts narrow and long; fertilisation ducts elongated, originating at base of spermathecae (Fig. 13).

*Variation*: 10♂: total length 21.50–28.00; carapace 12.40–15.50; femur I 12.60–16.75. 10♀: total length 21.50–25.90; carapace 10.40–13.10; femur I 8.50–10.75. In female the internal projections of ovoid epigynal lobes can vary from short to long (Figs. 11–12).

*Distribution*: Atlantic Forest on the coast of Brazil, from Espírito Santo to Rio Grande do Sul (Map 2).

*Other material examined*: BRAZIL: *Espírito Santo*: Domingos Martins, 1♀ 1juv. (IBSP 7437); Mimoso (probably Mimoso do Sul), 1♀ (SMF 4560); Linhares, Aracruz Forest Reserve, 1♀ (IBSP 7472); Linhares (Reserva Florestal Vale do Rio Doce), 2♂ 7♀ (IBSP 12653, 12702, 12933, 12989, 12941, 16615, 1915); Bom Jesus de Itabapuaana/São José do Calçado, Rio Itabapuaana, Usina Hidrelétrica de Rosal, 2♂ 6♀ (IBSP 26463, 26466). *Minas Gerais*: Alto Caparaó, Parque Nacional da Serra do Caparaó, 9♀ (IBSP 52452–52458); Catas Atlas, RPPN da Serra do Caraça (20°05'S, 43°29'W), 3♀ (IBSP 51885–51886). *Rio de Janeiro*: 1♂ (MNRJ 13039); Mendes, 1♀ (IBSP 444); Campos de Goitacazes, 1♀ 1juv. (MNRJ 50304, 58303); Pirai/Pinheiro (now Pinheiral), 2♀ (MNRJ 137, 160); Pinheiral, Fazenda Santa Helena (22°34'S, 44°21'W), 1♂ 1♀ (IBSP 52387, 52390); Barra Mansa (Campus da SOBEU), 8♂ 6♀ 3juv. (IBSP 7470, 12038, 13301, 13311, 13314–13320, 3327); Teresópolis, 1♀ 2juv. (RLCB 2953); Silva Jardim, Poço das Antas, 2♀ 1juv. (RLCB 3128, 3556); Guapimirim, Estação Ecológica do Paraíso, 1♂ (MZSP 14997); Madalena, Fazenda São Francisco, 1♀ (MNRJ); Araruama, 1♂ (MNRJ); Cachoeiras de Macacu, Forest Reserve, 2♀ (MNRJ 13045); Volta Redonda, Mata da Cicuta, 1♂ 5♀ (IBSP 26867, 51902–51905); Itatiaia, 1♀ (MNRJ 169); Itatiaia, Parque Nacional do Itatiaia, 2♂ 1♀ (IBSP 13870). *São Paulo*: Castelo Branco Highway, km 40, Fazenda Acácias Negras, 1♀ (IBSP 2484); Teodoro Sampaio, Parque Estadual do Morro do Diabo (22°31'S, 52°18'W), 2♀ (IBSP 52494, 52495); Primavera, 1♂ (IBSP 20815); Salto, 1♂ (IBSP 32144); Socorro (IBSP 1309); Itú, 3♂ 4♀ (IBSP 7461, 6062, 6391, 9524, 27366, 27918); Monte Mór, 1♀ (IBSP 1548); Pedro de Toledo, 1♀ (IBSP 3192); Miracatu, 1♀ (IBSP 6036); (Fazenda Itereí, 24°03'S, 47°13'W), 14♂ 16♀ (FCEN; IBSP 6414, 6411, 51645–51662); São Lourenço da Serra, 1♂ 2♀ (IBSP 7460, 7463, 41038); Mogi das Cruzes, Parque Natural Municipal da Serra do Itapety, 1♂ 2♀ (IBSP 52499, 52522); Piratininga, Parque Estadual de Angatuba (23°24'S, 48°21'W), 3♂ 5♀ (IBSP 51740, 51742, 51744, 51746, 51747, 51752, 51753); Assis, Estação Ecológica de Assis (22°34'S, 50°24'W), 1♀ (IBSP 51952); Tapiraí, 1♀ (IBSP 41965); Itapevi, 1♀ (IBSP 7462); Mailasque, 1♂ (IBSP 19835); Cocaia, 1♀ (IBSP 3644); Mairinque, 1♀ (IBSP 8090); Ilhabela, 4♂ 5♀ (IBSP 27365, 29545, 26299, 23573, 51859, 51860, 51866, 51635); Itapecerica da Serra, 1♀ (IBSP 23649); Araçoiaba da Serra, 1♀ (IBSP 41044); Taboão da Serra, 1♀ (IBSP 39875); Carapicuíba, 1♀ (IBSP 40944); São Paulo, 5♂ 9♀ (SMNK 428; IBSP 6025, 7469, 7467, 2034, 6061, 1422, 8088, 8089, 11016, 11463, 19790, 19802, 20845); (Morumbi), 1♂ (IBSP 16244); (Água Funda), 1♀ (MZSP 11899); (Perus), 1♀ (IBSP 8092); (Tucuruvi), 1♀ (IBSP 5793);

(Cachoeirinha), 1♀ (IBSP 8091); São Roque, 2♀ (IBSP 2980, 7464); (Fazenda São Joaquim), 1♂ (IBSP 2321); Osasco, 2♂ 1♀ (IBSP 20877, 24092, 41984); Araçariçuama, 4♀ (IBSP 3736, 7499, 6397, 41042); Juquitiba, 6♂ 4♀ (IBSP 3444, 7457, 11848, 11017, 19834, 20138, 20356, 27353, 27441, 40938); São Sebastião, 1♂ (IBSP 27619); (Barra do Una), 2♂ (IBSP 24060, 27561); (Praia de Juqueí), 1♂ 2♀ (IBSP 8013, 5999, 523); (Praia de Camburi), 2♂ (IBSP 047, 121); (Ilha de Alcatrazes), 6♂ 7♀ 3juv. (IBSP 24099, 41988, 7447, 7448, 7873, 27341, 19484, 19487); (Trilha da Figueira), 1♀ (IBSP 33095); Guarujá, 1♂ (IBSP 27367); Ilha Comprida, 1♀ (IBSP 3326); Sete Barras, 1♂ (IBSP 2958); Pariquera-Açu, 2♂ (IBSP 3258); Peruíbe, Estação Ecológica Juréia/Itatins, Guarajú, Núcleo Arpoador, 4♂ 6♀ 2juv. (IBSP 7785, 9739, 9838, 9919, 24055, 23847); Registro, 1♀ (IBSP 4675); Praia Grande, Forte de Itaipú, 1♀ (IBSP 2173); Ilha de Búzios, 1♀ (IBSP 7507); Ubatuba, 1♂ 2♀ (IBSP 7468, 2746); Santos, 5♂ (SMNK 429; IBSP 6028, 19831, 20846, 20847); (Ilha Anchieta, 23°32'S, 45°03'W), 6♂ 2♀ (IBSP 51843, 51846, 51849, 51685–51687, 51690); (Fazenda Angelin), 2♂ 3♀ (IBSP 51947, 51948); Itanhaém, Ilha da Queimada Grande, 4♂ 6♀ 3juv. (IBSP 5874, 7449–7453, 2029, 7907, 28441); Iguape, 1♂ (MNRJ 13031); (Vale do Ribeira), 1♀ (IBSP 7465); Ibirá, 1♀ (IBSP 1247); Itapeva, 1♀ (IBSP 418); Juquiá (Fazenda Poço Grande), 1♀ (MZSP 8942); Bertioga, 4♂ 1♀ (IBSP 27886, 7466, 7471, 14581); (Riviera de São Lourenço), 1♂ (IBSP); São Vicente, 1♀ (IBSP 7489); Apiaí/Iporanga, PETAR (Parque Estadual Turístico do Alto Ribeira) (24°32'S, 48°41'W), 10♂ 23♀ (IBSP 51671–51674, 51676, 51678–51680, 51682–51684, 51814–51825); PETAR (Núcleo Santana), 1♀ (IBSP 12069); Ribeirão Grande, Fazenda Intervalles, 1♀ (IBSP 28952); Capão Bonito, Parque Estadual de Intervalles, 3♀ (IBSP 27394, 27395). *Paraná*: Antonina, 1♂ 1♀ (MCN 20528, 20701); Guaraqueçaba, Serra Negra, 1♀ (MHCI 3516); (Rio Poruquara), 1♀ (IBSP 11837); Morretes, Parque Estadual do Pico do Marumby, 1♀ 1juv. (IBSP 7333); Paranaguá, 1♀ (IBSP 3028). *Santa Catarina*: 1♀ (MCN 1776); Blumenau, 1♂ 1♀ (MHCI; MNRJ 13059); (Parque Natural Municipal Nascentes do Rio Garcia), 1♂ 22♀ (IBSP 52366–52380); Timbó, 2♂ (IBSP 2508); Ilhota, Morro do Baú (26°48'S, 48°57'W), 1♀ (IBSP 7419); Florianópolis, 3♂ 1♀ (IBSP 3295, 7459, 14624); (Lagoa da Conceição), 2♀ 5juv. (IBSP 155, 1008); (Reserva Biológica da Ilha do Arvoredo), 1♂ 1♀ (MCTP 5107, 5108); Porto Belo, Ilha João da Cunha, 1♀ (MCN 17045); Rancho Queimado, 1♀ 2juv. (MCN 26316); Paulo Lopes, Parque Estadual da Serra do Tabuleiro, 4♂ 41♀ (IBSP 52465–52492); Campos Novos, 1♂ (MCTP 470). *Rio Grande do Sul*: 1♀ (MNRJ 13032); Rio Uruguai (Brazil side), 1♀ (MCTP 974); Barracão, 1♀ (MCN 33857); Iraí, 1♀ (MCN 3118); Torres, 1♂ 2♀ (MCN 4809, 1773, 4820); (Colônia São Pedro), 1♀ (MCN 13635); São Francisco de Paula, Barragem dos Bugres, 1♀ (MCN 30651); Maquiné, Reserva da Fepagro (29°39'S, 50°12'W), 3♂ 51♀ (IBSP 51716–51731, 51969, 51972–51979, 51981, 51983); Osório, 1♀ (MCN 26623); Montenegro, 2♀ (MCN 6601, 6602); Triunfo, 1♀ (MCN 23996); (Parque Copesul de Proteção Ambiental), 2♀ (MCN 34415, 35027); Porto Alegre, 4♀ (MCN 1359, 1727, 34057; MNRJ 41736); (Ponta Grossa), 1♂ 6♀ 3juv. (IBSP 3331; MCN 2944, 2956; MCTP 4939, 1421); (Jardim Botânico), 4♂ 14♀ (SMNK; IBSP 7415–7418); (Vila Cruzeiro), 1♂ 1♀ (MCN 16906); (Morro São Pedro), 1♀ (MCN 36354); (Belém Novo), 1♂ (MCTP 2705); (Belém Velho), 1♂ 1♀ (MCTP 6188, 6191); Canoas, Capão do Corvo, 1♀ 2juv. (ex MCN 635); Taquara, Morro da Pedra, 1♀ (IBSP 6718); Gravataí, Mato Alto, 1♂ (IBSP 33084); Viamão, 2♀ (MCTP 5035, 4870); (Morro do Côco), 1♂ 2♀ 2juv. (MCN 2638, 11262; MCTP 4643); (Estação Fitotécnica de Águas Belas), 1♀ (MCTP 4674). ARGENTINA: *Misiones/Corrientes*: Arroyo Chimaray, 1♀ (MCTP 1997).

***Ctenus ornatus* (Keyserling, 1877), new combination**  
(Figs. 14–20, Map 1)

*Microctenus ornatus* Keyserling, 1877: 687, pl. 2, fig. 62 (female holotype from Nova Friburgo, Rio de Janeiro, Brazil, Koch coll., in BMNH 1916.6.1.842, examined); F. O. P.-Cambridge, 1897: 68.

*Ctenus ornatus*: Keyserling, 1891: 146; Göldi, 1892: 232; F. O. P.-Cambridge, 1897: 65, 77; 1902: 411–412; Moenkhaus, 1898: 78; Petrunkevitch, 1911: 476; Mello-Leitão, 1936: 4, 12, pl. 1, fig. 23; Vellard, 1936: 185, 187; Roewer, 1955: 653.

*Oligoctenus ornatus*: Petrunkevitch, 1928: 147; Bonnet, 1958: 3159; Lehtinen, 1967: 254; Platnick, 1993: 677; Platnick, 2005.

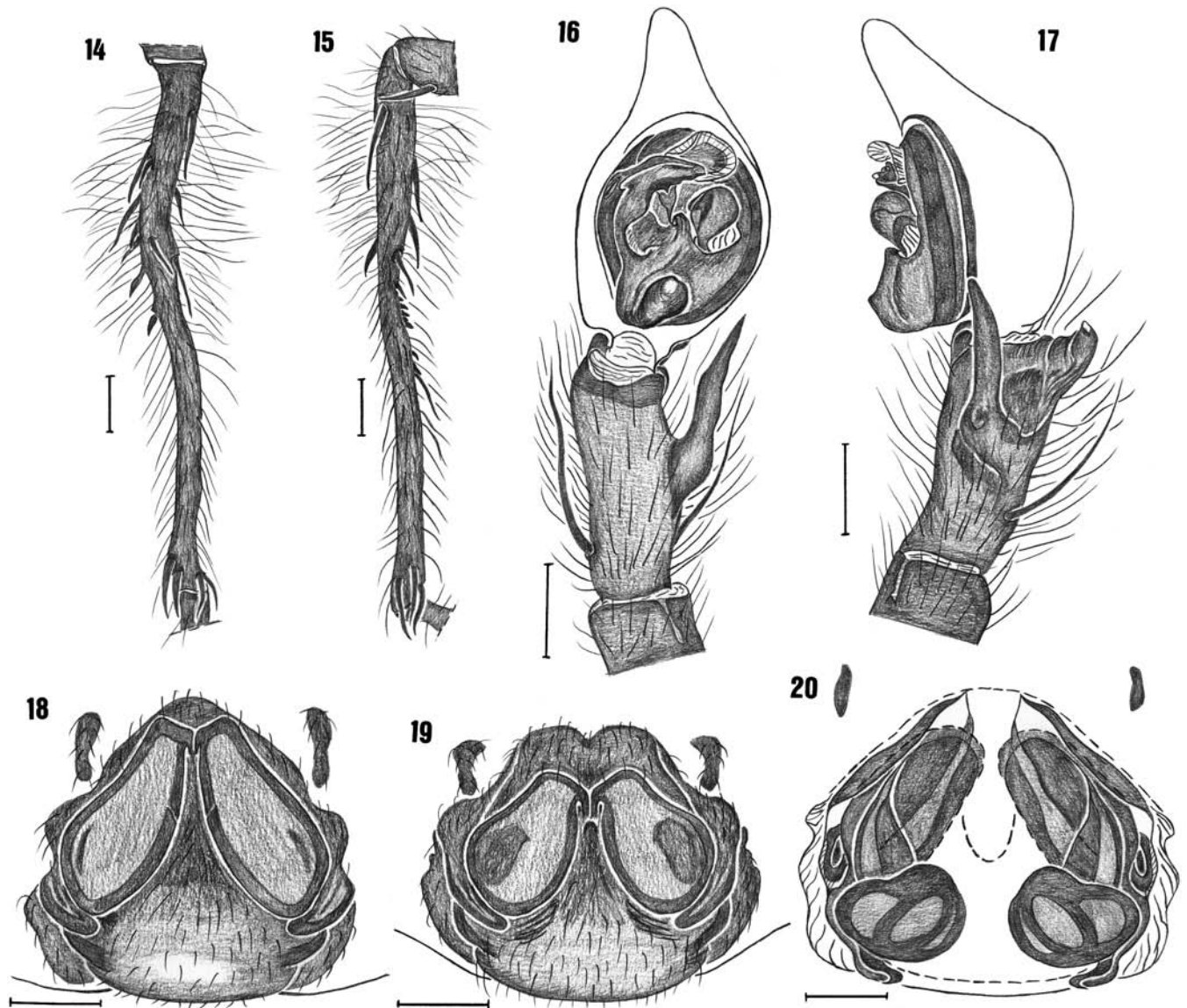
*Ctenus monicae* Vellard, 1929: 34 (male and female syntypes from Rio de Janeiro, Brazil, types not specified and depository institution unknown, probably lost); 1936: 185; Bonnet, 1956: 1256. **New synonymy.**

**Synonymy:** The original description of *Ctenus monicae* Vellard, 1929 clearly corresponds to that of the examined specimens of *C. ornatus*, the most common species in south-eastern Brazil.

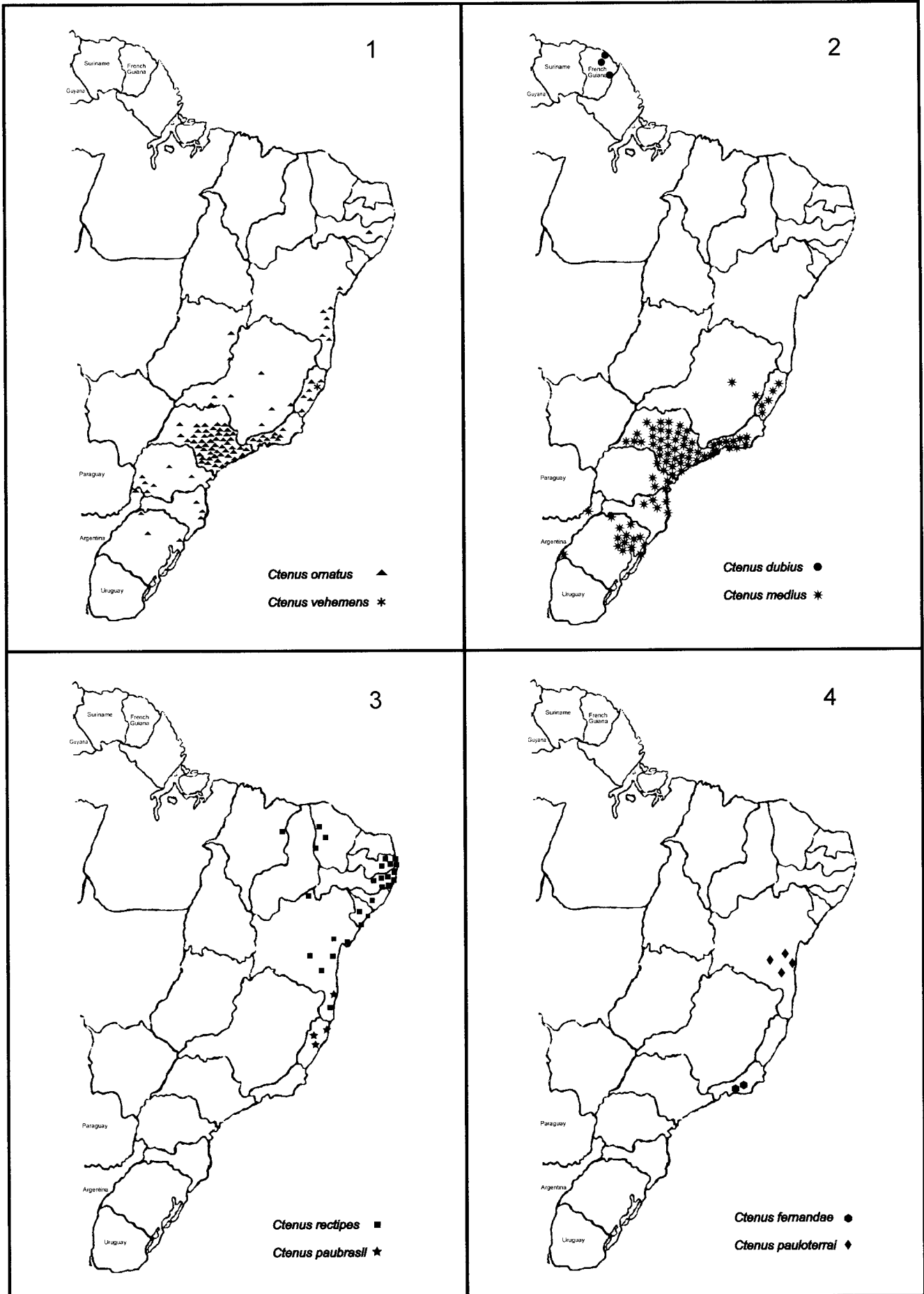
**Diagnosis:** Males of *Ctenus ornatus* resemble those of *C. vehemens* in having a dorsal tibial apophysis on the palp, but can be distinguished from them by the strongly sinuous metatarsus IV (Fig. 14), the more elongated and conical apex of the dorsal tibial apophysis (Fig. 17, cf. Fig. 22) and the shorter and conical basal tegular projection (Fig. 17, cf. Fig. 22). Females are distinguished by the elongated ovoid lobes with apex often truncated and converging (Figs. 18–19).

**Description:** **Male** (IBSP 13297); Carapace orange, dorsally with wide longitudinal, yellowish band; thoracic

groove brown; eyes with black rings. Legs and palps orange, with ventral face of coxae green-grey and with white scopulae. Chelicerae orange. Labium and endites orange with white apex. Sternum dark brown. Abdomen dorsally with large, orange folium-like marking; laterally green-grey; ventrally black, with wide longitudinal median orange band, not reaching base of spinnerets. Spinnerets orange. Total length 16.20. Carapace 9.00 long, 6.90 wide. Clypeus 0.40. Eye diameters and interdistances: AME 0.45, ALE 0.37, PME 0.57, PLE 0.60; AME-AME 0.27, AME-ALE 0.52, PME-PME 0.27, PME-PLE 0.55, AME-PLE 0.25, AME-PME 0.20. MOQ length 1.45, front width 1.27, back width 1.50. Chelicerae with 3 promarginal teeth and 5 retromarginal denticles. Leg measurements: I femur 10.00/patella 4.35/tibia 9.35/metatarsus 9.10/tarsus 2.50/total 35.30; II 9.10/3.75/8.50/8.35/2.40/32.10; III 8.25/3.25/7.25/7.60/2.10/28.45; IV 10.00/3.75/8.25/12.25/3.25/37.50. Leg spination: tibiae I–II v2-2-2-2, p1-1-1, r1-1-0; III–IV v2-2-2, p1-1-0, r1-1-0; metatarsus I v2-2-2, p1-1-0, r1-1-0; II v2-2-2, p1-1-1, r1-1-1; III v2-2-2, p1-1-2,



Figs. 14–20: *Ctenus ornatus*. **14** Male metatarsus IV, dorsal view; **15** Ditto, prolateral view; **16** Left male palp, ventral view; **17** Ditto, retrolateral view; **18** Female epigynum, ventral view; **19** Ditto, ventral view, variation; **20** Ditto, dorsal view. Scale lines = 1.0 mm (14–17), 0.5 mm (18–20).



Maps 1–4: Distribution of *Ctenus* species in the Brazilian Atlantic Forest. **1** *C. ornatus* (triangles) and *C. vehemens* (asterisk); **2** *C. dubius* (circles) and *C. medius* (asterisks); **3** *C. rectipes* (squares) and *C. paubrasil* (stars); **4** *C. fernandae* (hexagons) and *C. pauloterrai* (rhombi).

r1-1-2; IV v2-1p-2, p1-1-2, r2-2-1-1-2. Metatarsus IV strongly sinuous with median group of small ventral spines and long lateral basal spines (Figs. 14–15). Scopulae very long and white on all legs, more evident on legs I and II. Palp with long, acute retrolateral tibial apophysis (Fig. 17); prolateral tibial apophysis short; embolus with short pointed median embolar projection (Fig. 16); hyaline conductor large, not enclosing embolus tip; median apophysis short and rounded (Fig. 16).

*Female* (IBSP 13304): Coloration darker than in male. Labium and endites black with yellow apex. Abdomen dorsally with darker folium-like mark. Total length 17.50. Carapace 8.60 long, 6.60 wide. Clypeus 0.42 high. Eye diameters and interdistances: AME 0.52, ALE 0.50, PME 0.60, PLE 0.77; AME-AME 0.50, AME-ALE 0.52, PME-PME 0.32, PME-PLE 0.57, ALE-PLE 0.20, AME-PME 0.20. MOQ length 1.44, front width 1.27, back width 1.47. Chelicerae with 3 promarginal teeth and 5 retromarginal denticles. Leg measurements: I femur 7.10/patella 3.75/tibia 6.25/metatarsus 5.50/tarsus 1.60/total 24.20; II 6.75/3.75/5.50/5.25/1.50/22.75; III 5.90/2.75/4.50/5.10/1.60/19.85; IV 7.25/3.00/6.00/8.50/2.10/26.85. Leg spination: tibiae I–II v2-2-2-2, p0, r0; III–IV v2-2-2, p1-1-0, r1-1-0; metatarsus I v2-2-2, p0, r0; II v2-2-2, p1-1-0, r0; III v2-2-2, p1-1-0, r1-1-0; IV v2-2-1p-2, p1-1-2, r1-1-2. Epigynum with lateral spurs originating medially, elongated and directed mesally (Figs. 18–19). Spermathecae large, oval, separated by half their diameter; copulatory ducts relatively short; fertilisation ducts short, originating at base of spermathecae (Fig. 20).

*Variation*: 10♂: total length 15.80–26.20; carapace 8.30–14.10; femur I 8.75–14.75. 10♀: total length 17.50–27.50; carapace 8.60–12.50; femur I 7.00–10.00. Figs. 18 and 19 show variation of ovoid lobes in epigynum, which may be either short or elongated, but apex normally truncated.

*Distribution*: From north-eastern to southern Brazil (Map 1). This species is sympatric with *Ctenus medius* in many areas of Atlantic Forest in north-eastern to southern Brazil (Map 2) and with *C. vehemens* only in the state of Espírito Santo (Map 1).

*Other material examined*: BRAZIL: *Pernambuco*: 2♀ (IBSP 2893). *Bahia*: 1♀ (MNRJ 13288); Ilhéus, 2♂ (UFBA 1311, 1315); (Campus of CEPLAC), 6♂ 12♀ (IBSP 19135, 19203, 19096, 19343, 19057, 19261, 19166, 19164, 19156, 19259, 24058); Rio do Braço, Fazenda Bela Vista, 1♀ (MZSP 13511); Valença, 1♀ (IBSP 393); Comamu, Fazenda Santa Cruz, 1♂ (IBSP 5174); Vera Cruz, Reserva Florestal da Vera Cruz, 1♀ (UFBA 1462); Jussari, 1♀ (IBSP 5234); 1♂ ljuv. (IBSP 2672); (Fazenda Ribeira do Antonio), 1♂ (IBSP 2677); (Fazenda São Francisco), 2♂ 1♀ (MNRJ 13184, 13351, 13183); (Fazenda Arizona), 1♀ (MNRJ 13276); (Reserva Natural da Serra do Teimoso), 3♀ (IBSP 18575, 18814); Prado (Fazenda Furado), 2♂ 2♀ (MNRJ 13292, 13030); Guaratinga (Fazenda Barra da Santa Cruz), 1♂ (MNRJ 13287); Coaraci (Fazenda Boa Esperança), 1♂ (MNRJ 13277); Camacan (Fazenda Santa Ursula), 1♂ (MNRJ 13294); Uruçuca (Fazenda Santa Tereza), 1♀ (MNRJ 13416); (Fazenda Santo Antonio), 1♂ 2juv. (CPDC 4025); Una, Reserva Biológica do Una, 2♀ (IBSP 18279, 18393); 2♂ 14♀ ljuv. (IBSP 18223, 18235, 18327, 18349, 45012–45014, 47633, 47635); Porto Seguro (Estação Ecológica de Pau Brasil), 5♀ (IBSP 17787, 17852, 17958, 17959); Itamarajú, 1♀ (LAMG 1241); (Fazenda Pau Brasil); 3♂ 2♀ (MNRJ 13403, 13279, 13336; IBSP 5233); (Fazenda Jacarandá), 1♂ 2juv. (CPDC 3783); (Fazenda Nossa Senhora

das Neves), 1♂ (CPDC 4021); (Parque Nacional do Monte Pascoal), 1♂ 4♀ (IBSP 18461, 18527, 18448, 18544). *Goiás*: Cabeceiras, 1♀ (MZSP 4202). *Espírito Santo*: 1♂ (UFES 026); Rio São José, 1♂ 1♀ (MZSP 10376, 5203); Conceição da Barra, Parque Estadual de Itaúnas (18°25'S, 39°42'W), 1♀ (IBSP 52000); Linhares, 1♂ (MZSP 13507); (Reserva Florestal da Vale do Rio Doce), 15♂ 33♀ 4juv. (IBSP 12918, 12718, 12811, 12943, 12917, 12945, 12650, 12657, 12849, 12805, 12915, 12834, 12695, 12711, 12876, 13027, 12734, 12740, 12687, 14888, 16717, 16802, 16826, 15562, 16779, 16538, 15569, 16736, 16755, 27944, 37050); Santa Tereza, 2♀ (MZSP 13510); Santa Leopoldina, Chaves, 1♀ 2juv. (MZSP 13509); Cariacica, Reserva Florestal de Duas Bocas, 1♀ (RLCB 3256); Apiacá, 2♀ (RLCB 1875, 2278); (Fazenda Santa Maria), 2♀ (RLCB 3090, 3263); Bom Jesus de Itabapuaana/São José do Calçado, Rio Itabapuaana, Usina Hidrelétrica de Rosal, 10♀ (IBSP 26464). *Minas Gerais*: Rio Preto (Usina Hidrelétrica dos Melo, Ribeirão Sant'ana), 1♀ (MZSP 15403); Coromandel, 1♀ (MNRJ 13028); Catas Altas, RPPN da Serra do Caraça (20°05'S, 43°29'W), 14♀ (IBSP 51885, 51887, 51889–51896); Três Corações, 1♀ (IBSP 4689); Uberlândia, 1♀ (IBSP 7477); (Glória), 1♂ (IBSP 7454); Juiz de Fora, 1♂ 2♀ (IBSP 7487, 4696, 157); Barão dos Cocais, 1♀ (IBSP 8419); Lima Duarte (Parque Estadual de Ibitipoca), 3♂ 2♀ (IBSP 15208, 15210, 15211, 55954, 55955); Poços de Caldas, 1♂ 1♀ (IBSP 32255, 27180). *Rio de Janeiro*: Magé, 1♀ (RLCB 3499); (Inhomirim, Raiz da Serra), 1♂ (MZSP 15248); Águas Lindas (RJ-SP road, km 54), 1♀ (MNRJ); Teresópolis, Parque Nacional da Serra dos Orgãos (22°27'S, 42°59'W), 2♂ 2♀ (IBSP 52442, 52445); Petrópolis, 2♀ (RLCB 731); IBSP 14236); (Fazenda Ranchinho da Roça), 2♂ 8♀ (IBSP 52459–52462, 52498); Nova Friburgo, 1♂ 3♀ (IBSP 7498, 2976, 3330, 5185); Rio de Janeiro, 3♀ (MNRJ 42270); (Jacarepaguá), 3♀ (MNRJ 42249, 14022); (Parque Nacional da Tijuca), 2♂ 3♀ (RLCB 3184, 1877; IBSP 32008, 32009); Vassouras, Três Rios, 1♂ (IBSP 2845); Guapimirim, Estação Ecológica do Paraíso, 2♂ 1♂ ljuv. (MZSP 14997, 15000); Cachoeiras de Macacu, Reserva Ecológica de Guapimirim, 8♂ 14♀ (IBSP 52345–52347, 52349–52351, 52354–52357, 52359, 52360, 52363–52365); Angra dos Reis, 1♀ (MZSP 5446); Sepetiba, Ilha da Marambaia, 1♂ 6♀ (RLCB 3367, 3419–3423; IBSP 14234); 1♂ (RLCB 695); (Gruta da Santa), 1♂ 1♀ (IBSP 28395); Pinheiral, Fazenda Santa Helena (22°34'S, 44°21'W), 1♂ 12♀ (IBSP 52384, 52385, 52388, 52389, 52391, 52392, 52394, 52396); Barra Mansa, Campus da SOBEU, 4♂ 9♀ ljuv. (IBSP 12040, 12041, 13297–13299, 13393, 13302, 13304, 13305, 13310); Volta Redonda, Mata da Cicuta, 15♂ 81♀ (IBSP 51909–51945, 27954); Resende, Parque Nacional do Itatiaia, 8♂ 8♀ (IBSP 51755–51759, 51761–51763, 51765, 51766, 51768–51770). *São Paulo*: Teodoro Sampaio, Parque Estadual do Morro do Diabo (22°31'S, 52°18'W), 1♀ (IBSP 52493); Piracicaba, 2♀ (MZLQ); Assis, 1♀ (IBSP 7490); (Estação Ecológica de Assis, 22°34'S, 50°24'W), 1♀ (IBSP 51953); Guataparã, 1♂ (MZSP 5730); Barbosa/José Bonifácio, Usina Hidrelétrica Nova Avanhandava, 1♂ (IBSP 6824); Botucatu (Parque Municipal), 2♀ (UEPB); (Fazenda Goldfarm), 1♀ (UEPB); (Fazenda Butignoli), 1♀ (UEPB); (Fazenda Edgardia), 2♀ (UEPB); Tietê, 1♂ 1♀ (IBSP 1460, 1471); Piratininga, Estação Ecológica de Angatuba (23°24'S, 48°21'W), 6♂ 8♀ (IBSP 51737–51739, 51741, 51743, 51745, 51748–51751, 51754); Piedade, 1♀ (IBSP 067); Mogi das Cruzes, 1♂ 1♀ (IBSP 13824); (Parque Municipal da Serra do Itapety, 23°29'S, 46°12'W), 9♂ 4♀ (IBSP 51906–51908, 38675, 38676, 38678, 39412); (Usina Hidrelétrica de Biritiba Mirim), 1♂ (IBSP 51882); Caraguatuba, 2♂ (IBSP 9530, 24073); (Parque Estadual da Serra do Mar), 1♂ 1♀ (MZSP 11889); (Praia de Massaguçu), 1♂ (IBSP); Ilhabela, 23♂ 64♀ (IBSP 7494, 431, 218, 138, 1256, 3310, 3269, 217, 126, 799, 215, 51850–51858, 51861–51863, 51634, 51636–51644, 51897–51899, 26301; MZSP 6597); Pindamonhangaba, 1♀ (IBSP 5920); (Colégio Perpétuo Socorro), 2♀ (IBSP 629, 4087); Ferraz de Vasconcelos, 1♀ (IBSP 3235); Itu, 3♂ (IBSP 7509, 3720, 33099); Juquitiba, 5♀ ljuv. (IBSP 7475, 7497, 7500, 13908, 27350); Boracéia, 1♀ (MNRJ); Pirassununga, Baguassú, 1♀ (MZSP 6424); Salesópolis, Estação Biológica de Boracéia (23°32'S, 45°51'W), 16♂ 16♀ ljuv. (RLCB; IBSP 14241, 51949, 51784–51791, 51794, 51984–51988, 27131); Guararema, 1♂ (IBSP 2171); Jacaré, 1♂ 4♀ (IBSP 1836, 1854); São Lourenço da Serra, 1♂ (IBSP 7486); Cocaia, 12♂ 5♀ ljuv. (IBSP 1134, 1135, 623, 432–434, 843, 870, 638, 580); Itanhaém, 1♀ (IBSP 2956); Itapeverica da Serra, 1♂ 1♀ (IBSP 7474, 5877); (Sítio Oropa), 2♂ (IBSP 2338); Engenheiro Marsilac, Santo Amaro, 1♀ (IBSP 4862); Ubatuba, 1♂ (IBSP 3448); (Parque Estadual da Serra do Mar, Núcleo



Picinguaba), 5♂ 7♀ (IBSP 36593, 14242, 3526, 3568, 6987; RLCB); Guarujá, 1♀ (IBSP 27605); Piracaiá, 1♀ (IBSP 7767); Jundiá, Parque Municipal da Serra do Japi, 7♂ 9♀ (IBSP 7024, 7031, 51876–51879, 51666, 51667); Jandira, 1♂ (IBSP 24095); Santa Isabel, 2♀ (IBSP 36382, 37792); Atibaia, 1♂ (IBSP 6453); Barueri, 1♂ 3♀ (MZSP 5803; IBSP 3547, 702); Guarulhos, 1♂ 1♀ (MZSP 6601; IBSP 37207); (Bomsucesso), 1♀ (IBSP 3230); (Parque Estadual da Cantareira, Núcleo Cabuçu, 23°32'S, 45°03'W), 7♂ 23♀ (IBSP 51693, 51694, 51696, 51698–51700, 51702–51704, 51826–51838, 51840); Itapira, 1♀ (IBSP 058); Itapetininga, 1♀ (IBSP 7473); (Parque Municipal da Serra de Itapetininga), 1♂ (IBSP 26862); Valinhos, 1♀ (IBSP 7505); Cananéia (Ilha do Cardoso), 1♀ (IBSP 7491); Embú, 2♀ (IBSP 3521, 20864); Tapiraí, 1♂ (IBSP 20193); Embú-Guaçu, 1♂ 2♀ (IBSP 7493, 7503, 20833); Caucaia do Alto, Reserva do Morro Grande, 1♂ (IBSP 37181); Francisco Morato, 1♂ (IBSP 19794); São Miguel Paulista, 1♀ (IBSP 19789); Diadema, 1♀ (IBSP 32153); Franco da Rocha, 1♀ (IBSP 19797); São Paulo, 45♂ 43♀ 6juv. (IBSP 1728, 7479, 1574, 1906, 1304, 8066, 8069, 8071–8073, 8075, 8077, 7501, 7502, 7772, 7768, 2318, 93, 6410, 5881, 2878, 165, 1975, 3299, 1959, 950, 390, 143, 1683, 6065, 2044, 5850, 2075, 2089, 775, 3300, 2339, 3264, 6428, 2789, 2705, 1666, 1387, 3485, 4235, 1679, 3738, 1041, 1042, 3449, 1843, 1681, 1213, 1667, 3589, 1139, 1580, 1482, 1298, 3735, 1246, 2971, 11850, 11839, 1361, 9523, 16243, 19801, 19791, 19793, 19795, 19796, 19798–19800, 19832, 19839, 19840, 19837, 20840, 41831, 41975; UEFS A-672, A-673); (Parque Estadual do Tietê), 1♀ (IBSP 27905); (Parque Estadual do Pico do Jaraguá), 1♂ 1♀ (IBSP 7488, 4218); (Régis Bittencourt Highway), 1♀ (IBSP 7496); (Represa de Guarapiranga), 1♂ 1♀ (IBSP 7534, 24062); (Represa de Guarapiranga, Ilha dos Eucaliptos), 2♀ (IBSP 32559); (Tucuruvi), 2♀ (IBSP 5984, 19842); (Francisco Morato Avenue), 2♀ (IBSP 804, 832); (Ipiranga), 3♂ 4♀ (MZSP 5612, 6739, 6768, 6732); (Santa Amaro), 1♂ 2♀ (IBSP 8078, 8074; MZSP 3822); (Mooca), 1♂ (IBSP 41842); (Campo Limpo), 1♀ (IBSP 7445); (Campus Instituto Butantan), 8♂ 8♀ (IBSP 7411, 7476, 7484, 7485, 7508, 6364, 1758, 2153, 10904, 20870, 41046, 27560); Carapicuíba, 2♂ 4♀ (IBSP 912, 6402, 20869, 27411, 31964); Embú, 2♂ (IBSP 19792, 19836); Caieiras, 1♀ (IBSP 1087); Osasco, 2♂ 1♀ (IBSP 8068, 8076, 41304); Mairiporã, 5♂ 2♀ (IBSP 1728, 7480, 7771, 5852, 5848; SMNK 431); Vargem Grande Paulista, 1♂ 3♀ (SMNK 430; IBSP 5886, 6589, 27919); Itaquera, 1♂ (IBSP 8067); Ibiúna, 1♂ (IBSP 8070); São Roque, 1♂ 7♀ 1juv. (IBSP 7482, 7492, 5872, 5879, 7483, 5283, 6432, 696); Cotia, 9♂ 3♀ (IBSP 7481, 7510, 19829, 20134, 20880, 41839, 31969); (Estrada de Roselândia), 2♀ (IBSP 20352, 31885); Cajamar, 1♂ 1♀ (IBSP 31996, 31970); Taboão da Serra, 1♂ 1♀ (IBSP 7478, 8081); São Caetano do Sul, 2♀ (IBSP 5997, 41294); Nazaré Paulista, 1♀ (IBSP 3694); Ribeirão Pires, 1♂ 1juv. (IBSP 420); Pilar do Sul, 1♂ 1♀ (IBSP 3708, 19838). *Paraná*: Telêmaco Borba, 3♀ (IBSP 6580); Laranjeiras (Salto de Santiago), 2♀ (IBSP 7495); Pinhão, 1♀ (MCN 22213); (Rio Divisa), 1♂ (MHCI); Candói/Mangueirinha, Foz do Rio Jordão, Usina Hidrelétrica de Segredo, 22♂ 67♀ 4juv. (MCN; IBSP 7455, 7456, 7506, 7196, 7213–7217, 7220–7223, 7206, 7207, 7210); Jaguaraiéiva, Parque Estadual do Cerrado, 1♀ (IBSP 26600); Dois Vizinhos/Cruzeiro do Iguçu, Foz do Chopim, 2♀ (IBSP 21156, 21355); Curitiba, Barigüi, 2♀ (MHCI 1005, 1572); Senges, 1♀ (IBSP 1058). *Santa Catarina*: Paulo Lopes, Parque Estadual do Tabuleiro (27°55'S, 48°42'W), 1♂ (IBSP 52290); Florianópolis, Lagoa da Conceição, 1♀ (IBSP 1007); Blumenau, 1♀ (IBSP 7511). *Rio Grande do Sul*: Tenente Portela, 1♀ (MCN 4521); Maquiné, Reserva da Fepagro (29°39'S, 50°12'W), 1♂ 27♀ (IBSP 51704–51715, 51775, 51780); Bento Gonçalves, 1♀ (MCN 12582). ARGENTINA: *Misiones*: Porto Iguazú, 1♂ (FMLT).

### *Ctenus vehemens* Keyserling, 1891 (Figs. 21–26, Map 1)

*Ctenus vehemens* Keyserling, 1891: 145, pl. 4, fig. 99 (female holotype from Espírito Santo, Brazil, deposited in BMNH 1890.7.1.2920, examined); Göldi, 1892: 223; F. O. P.-Cambridge, 1897: 65, 77; 1902: 411, 413; Petrunkevitch, 1911: 478; Mello-Leitão, 1936: 5, 13, pl. 1, fig. 27; Roewer, 1955: 656; Bonnet, 1956: 1292.

*Oligoctenus vehemens*: Lehtinen, 1967: 254; Platnick, 1993: 677; Platnick, 2005.

**Diagnosis:** This is the smallest species of this group. Males resemble *C. ornatus* in the conformation of the

retrolateral tibial apophysis of the palp and the sinuous metatarsus IV, but can be distinguished by the shorter, subtriangular dorsal tibial apophysis (Fig. 22), the embolus with a smaller, flatter embolar projection (Fig. 21), and metatarsus IV nearly straight and with short median ventral spines and bristles, and elongated, strong retrolateral basal spines (Figs. 23–24). Females resemble those of *C. dubius* in the epigynal ovoid lobes, but can be distinguished from them by their narrow convergence at the apex and the spatulate lateral spurs (Fig. 25, cf. Fig. 5).

**Description:** *Male* (IBSP 17471): Carapace orange with narrow dorsal longitudinal white band, sometimes absent; brown thoracic groove, black narrow lateral stripes and black rings around eyes. Legs orange. Chelicerae orange-red. Labium and endites orange with apex white. Sternum orange. Abdomen dorsally grey with two anterior black spots and three pairs of paramedian circular black spots; laterally greyish with scattered black stains; venter black, with wide median longitudinal yellow band, not reaching base of spinnerets. Spinnerets orange with grey spots. Total length 12.50. Carapace 7.10 long, 5.80 wide. Clypeus 0.28. Eye diameters and interdistances: AME 0.36, ALE 0.22, PME 0.44, PLE 0.44; AME-AME 0.12, AME-ALE 0.36, PME-PME 0.16, PME-PLE 0.36, AME-PLE 0.16, AME-PME 0.10. MOQ length 0.94, front width 0.80, back width 0.98. Chelicerae with 3 promarginal teeth and 4 retromarginal denticles. Leg measurements: I femur 7.50/patella 3.30/tibia 7.80/metatarsus 7.60/tarsus 2.80/total 29.00; II 7.00/3.20/7.00/6.90/2.40/26.50; III 6.00/2.80/5.30/6.00/1.90/22.00; IV 8.30/2.80/6.70/10.20/3.10/31.10. Leg spination: tibia I v2-2-2-2, p1-1-0, r1-1-0; II v2-2-2-2, p1-0-0, r1-1-1; III-IV v2-2-2, p1-1-2, r1-1-2; metatarsi I-II v2-2-2, p1-1-0, r0; III v2-2-2, p1-1-2, r1-1-2; IV v2-1p-1r-2, p1-1-2, r1-2-2-1-1-2. Metatarsus IV slightly sinuous, with short median ventral spines and bristles, and elongated, strong retrolateral basal spines (Figs. 23–24). Palp with retrolateral tibial apophysis long and conical at tip (Fig. 22); median apophysis short and rounded; large hyaline conductor, partly enclosing embolus tip; embolus truncated, with very short, flattened embolar projection (Fig. 21).

**Female** (IBSP 17471): Coloration as in male, except dorsum of carapace with very wide yellow band with two triangular grey spots in middle. Abdomen dorsally with yellow folium-like marking as in *C. ornatus* but not reaching posterior third. Total length 13.00. Carapace 7.10 long, 5.30 wide. Clypeus 0.22 high. Eye diameters and interdistances: AME 0.34, ALE 0.26, PME 0.46, PLE 0.46; AME-AME 0.18, AME-ALE 0.40, PME-PME 0.20, PME-PLE 0.36, ALE-PLE 0.16, AME-PME 0.10. MOQ length 0.94, front width 0.88, back width 1.30. Chelicerae with 3 promarginal teeth and 4 retromarginal denticles. Leg measurements: I femur 5.40/patella 2.80/tibia 5.00/metatarsus 4.40/tarsus 1.40/total 19.00; II 5.30/2.60/4.40/4.20/1.30/17.80; III 4.60/2.20/3.30/3.80/1.30/15.20; IV 5.90/2.40/4.80/6.80/1.80/21.70. Leg spination: tibiae I-II v2-2-2-2, p0, r0; III-IV v2-2-2, p1-1-2, r1-1-2; metatarsi I-II v2-2-2, p0, r0; III v2-2-2, p1-1-0, r1-1-0; IV v2-2-2, p1-1-2, r1-1-2.

Epigynum with lateral spurs originating medially and directed basally (Fig. 25). Internally with globose spermathecae; copulatory ducts long and curved; fertilisation ducts short, originating at base of spermathecae (Fig. 26).

*Variation*: 10♂: total length 11.80–14.30; carapace 6.70–7.90; femur I 7.10–8.80. 10♀: total length 11.60–13.50; carapace 5.60–7.10; femur I 4.60–5.40. Dorsal tibial apophysis of male palp may be conical or rounded at tip.

*Distribution*: This species is endemic to the “Mata de Tabuleiro” of the state of Espírito Santo (see Heinsdijk *et al.*, 1965 and Peixoto & Gentry, 1990 for description of phytogeographic region) (Map 1).

*Other material examined*: BRAZIL: *Espirito Santo*: Linhares, Reserva Florestal da Vale do Rio Doce, 22♂ 12♀, 19–25 July 1997, A. D. Brescovit *et al.* (IBSP 12693, 12794, 12730, 12977, 12707, 12837, 12800, 12717, 12790, 12824, 12665, 12700, 12831, 12946, 12688, 12787, 12813, 12916); 3♂ 6♀, 5–12 January 1998, A. D. Brescovit *et al.* (IBSP 16528, 16653, 16672, 16730, 16762, 17471).

*Ctenus rectipes* F. O. P.-Cambridge, 1897 (Figs. 27–30, Map 3)

*Ctenus rectipes* F. O. P.-Cambridge, 1897: 85, pl. 3, figs. 6a, 7b (male holotype from Igarassu, Pernambuco, Brazil, G. Ramage,

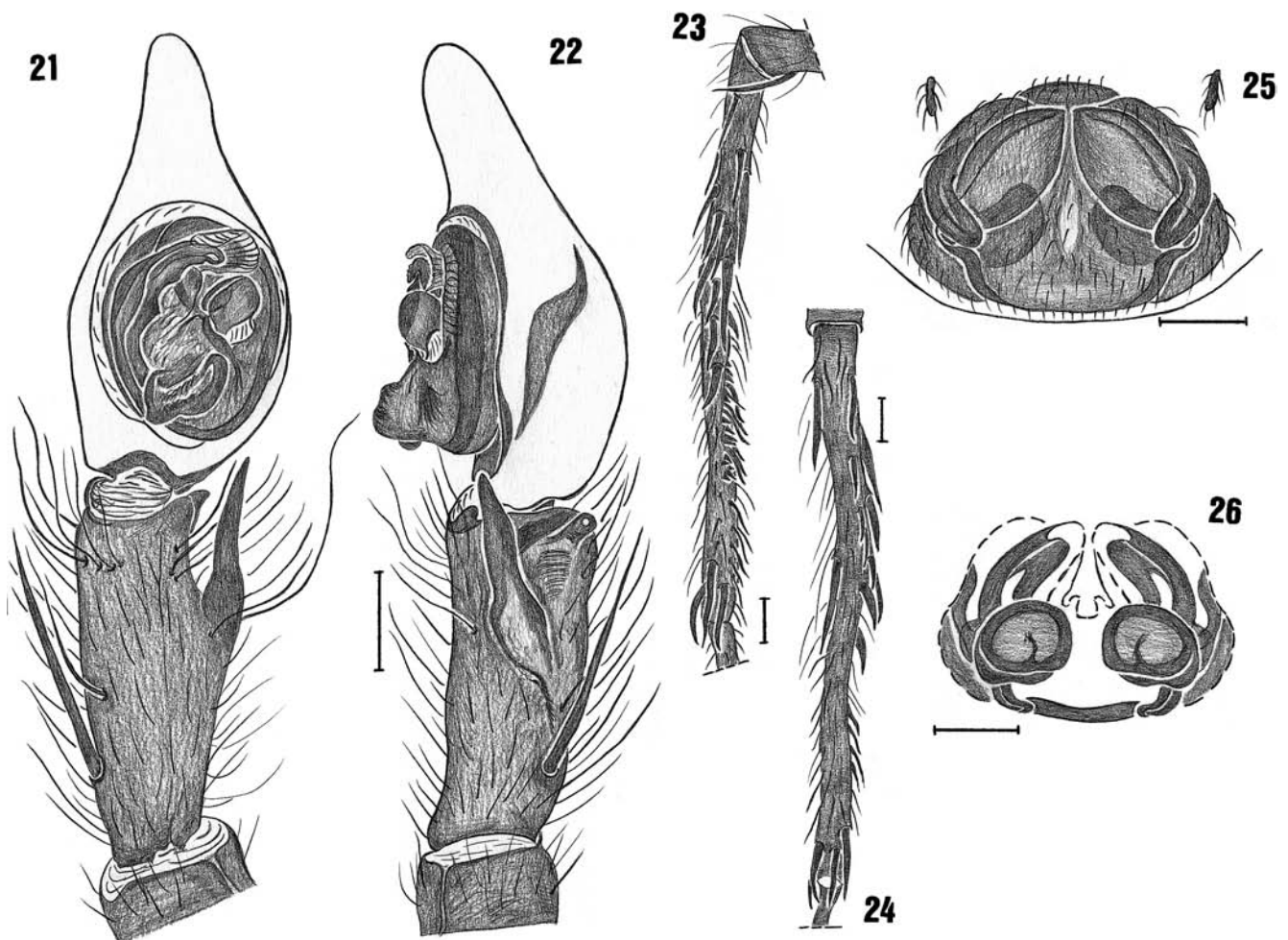
deposited in BMNH 18847, examined); Roewer, 1955: 654; Bonnet, 1956: 1288; Platnick, 2005.

*Ctenus senex* Mello-Leitão, 1929: 98, fig. 8 (female holotype from Tapera (currently Moreno), Bonança, Pernambuco, Brazil, B. Pickel, deposited in MNRJ 142, examined); Mello-Leitão, 1936: 5, 13; Roewer, 1955: 655; Bonnet, 1956: 1289; Platnick, 2005. **New synonymy.**

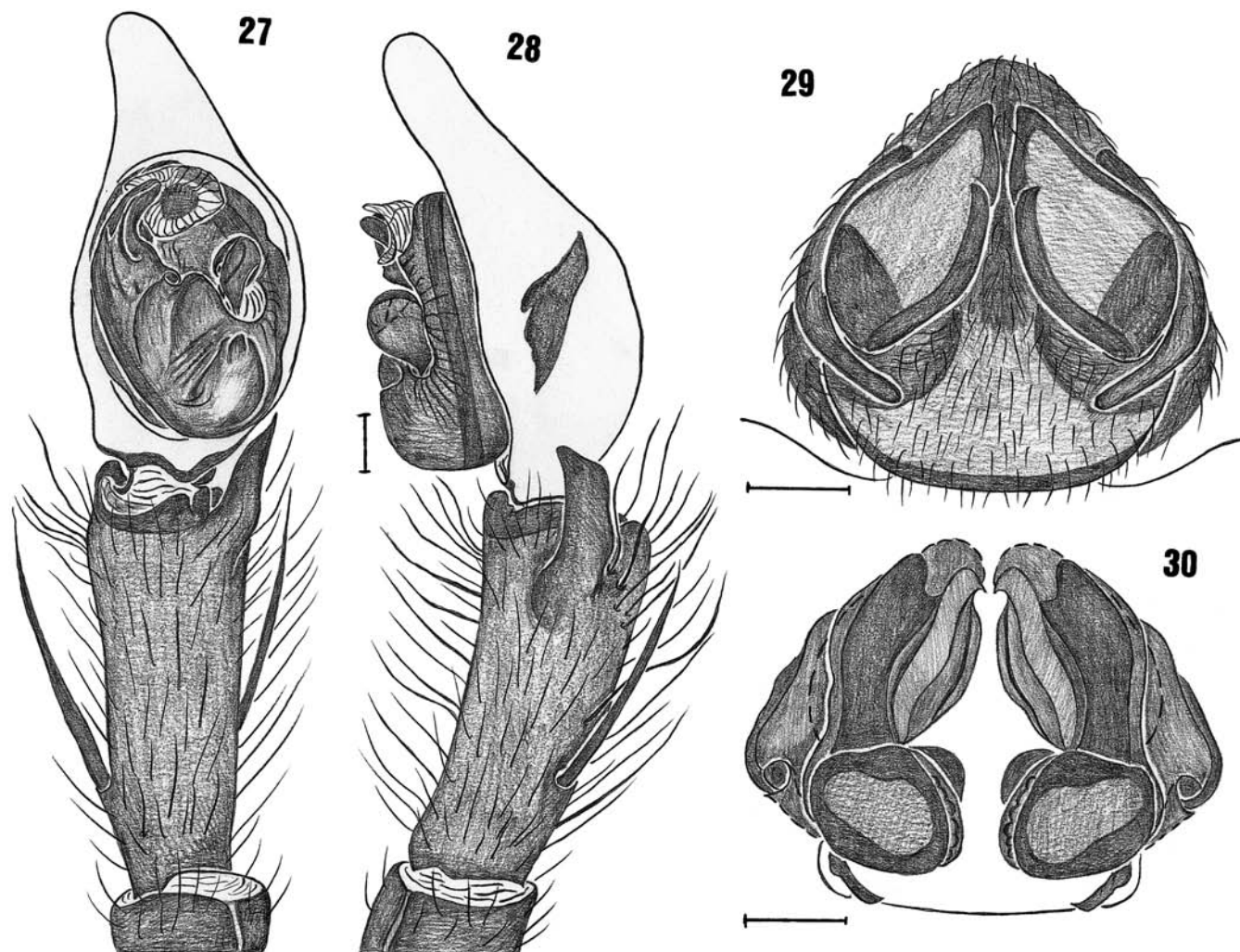
*Synonymy*: No differences were found when the holotype of *Ctenus senex* was compared with females identified as *C. rectipes* and collected in the state of Pernambuco, Brazil.

*Diagnosis*: Males of *Ctenus rectipes* resemble those of *C. medius*, but differ by having a straight metatarsus IV, the palpal retrolateral tibial apophysis smaller and narrower (Fig. 28, cf. Fig. 10), the embolus with a basal and coiled embolar projection, and the tegulum with a shorter basal elongation (Fig. 27, cf. Fig. 9). Females have the epigynal ovoid lobes pointed anteriorly and with a strong sclerotised inner border (Fig. 29).

*Description*: *Male* (MCN 25382): Carapace as in *Ctenus ornatus*. Legs orange. Chelicerae orange with longitudinal green-grey stripes. Labium orange and endites brown with white apex. Sternum yellow. Abdomen dorsally grey with antero-dorsal short yellow folium-like mark, with two black spots in distal area and two more in basal area of folium; laterally grey, with scattered tufts of white bristles; ventrally black with



Figs. 21–26: *Ctenus vehemens*. **21** Left male palp, ventral view; **22** Ditto, retrolateral view; **23** Male metatarsus IV, prolateral view; **24** Ditto, dorsal view; **25** Female epigynum, ventral view; **26** Ditto, dorsal view. Scale lines=0.5 mm.



Figs. 27–30: *Ctenus rectipes*. **27** Left male palp, ventral view; **28** Ditto, retrolateral view; **29** Female epigynum, ventral view; **30** Ditto, dorsal view. Scale lines=0.5 mm.

narrow longitudinal median yellow band, almost reaching base of spinnerets. Spinnerets orange. Total length 16.80. Carapace 8.80 long, 7.00 wide. Clypeus 0.40. Eye diameters and interdistances: AME 0.42, ALE 0.30, PME 0.50, PLE 0.45; AME-AME 0.15, AME-ALE 0.37, PME-PME 0.25, PME-PLE 0.45, AME-PLE 0.17, AME-PME 0.17. MOQ length 1.02, front width 0.95, back width 1.05. Chelicerae with 3 promarginal teeth and 5 retromarginal denticles. Leg measurements: I femur 8.40/patella 3.70/tibia 8.20/metatarsus 7.60/tarsus 2.50/total 30.40; II 8.20/3.60/7.30/7.00/2.10/28.20; III 7.00/3.30/5.40/6.00/2.00/23.70; IV 8.80/3.30/7.50/10.60/2.50/32.70. Leg spination: tibiae I–II v2-2-2-2, p1-1-0, r1-1-0; III–IV v2-2-2, p1-1-0, r1-1-0; metatarsus I v2-2-0, p1-1-1, r1-0-1; II v2-2-0, p1-0-1, r1-1-1; III v2-2-2, p1-1-2, r1-1-2; IV v2-2-1p-2, p1-1-2, r1-1-2. Metatarsus IV straight. Scopulae reduced, but more elongated on legs I and II. Palp with curved retrolateral tibial apophysis (Fig. 28); short prolateral tibial apophysis (Fig. 27); median apophysis short; hyaline conductor large, partially enclosing embolus tip; embolus lacking distal processes (Fig. 27).

*Female* (Cabedelo, Paraíba): Coloration as in male, except sternum and ventral face of coxae darker. Venter

with longitudinal median white band, not reaching spinnerets. Total length 17.80. Carapace 9.30 long, 7.20 wide. Clypeus 0.42 high. Eye diameters and interdistances: AME 0.45, ALE 0.25, PME 0.50, PLE 0.50; AME-AME 0.25, AME-ALE 0.50, PME-PME 0.22, PME-PLE 0.55, ALE-PLE 0.15, AME-PME 0.20. MOQ length 1.17, front width 1.12, back width 1.27. Chelicerae with 3 promarginal teeth and 4 retromarginal denticles. Leg measurements: I femur 6.50/patella 3.40/tibia 6.00/metatarsus 5.50/tarsus 1.80/total 23.20; II 6.30/3.50/5.50/5.50/1.60/22.40; III 5.40/3.00/4.20/4.80/1.40/18.80; IV 6.80/3.10/5.80/8.40/1.70/25.80. Leg spination: differs from male as follows: tibia I p0, r0; II p1-0-0, r0; metatarsi I–II v2-2-2, p0, r0. Epigynum with lateral spurs long and narrow, originating medially and directed mesally (Fig. 29). Spermathecae almost circular; copulatory ducts short and wide; fertilisation ducts relatively long and nearly straight, originating from base of spermathecae (Fig. 30).

*Variation*: 10♂: total length 12.00–16.60; carapace 6.60–8.90; femur I 6.70–9.40. 10♀: total length 14.40–21.90; carapace 6.80–10.40; femur I 5.40–7.30. Dorsal folium-like marking on female abdomen may be reduced to a single yellow spot anteriorly.

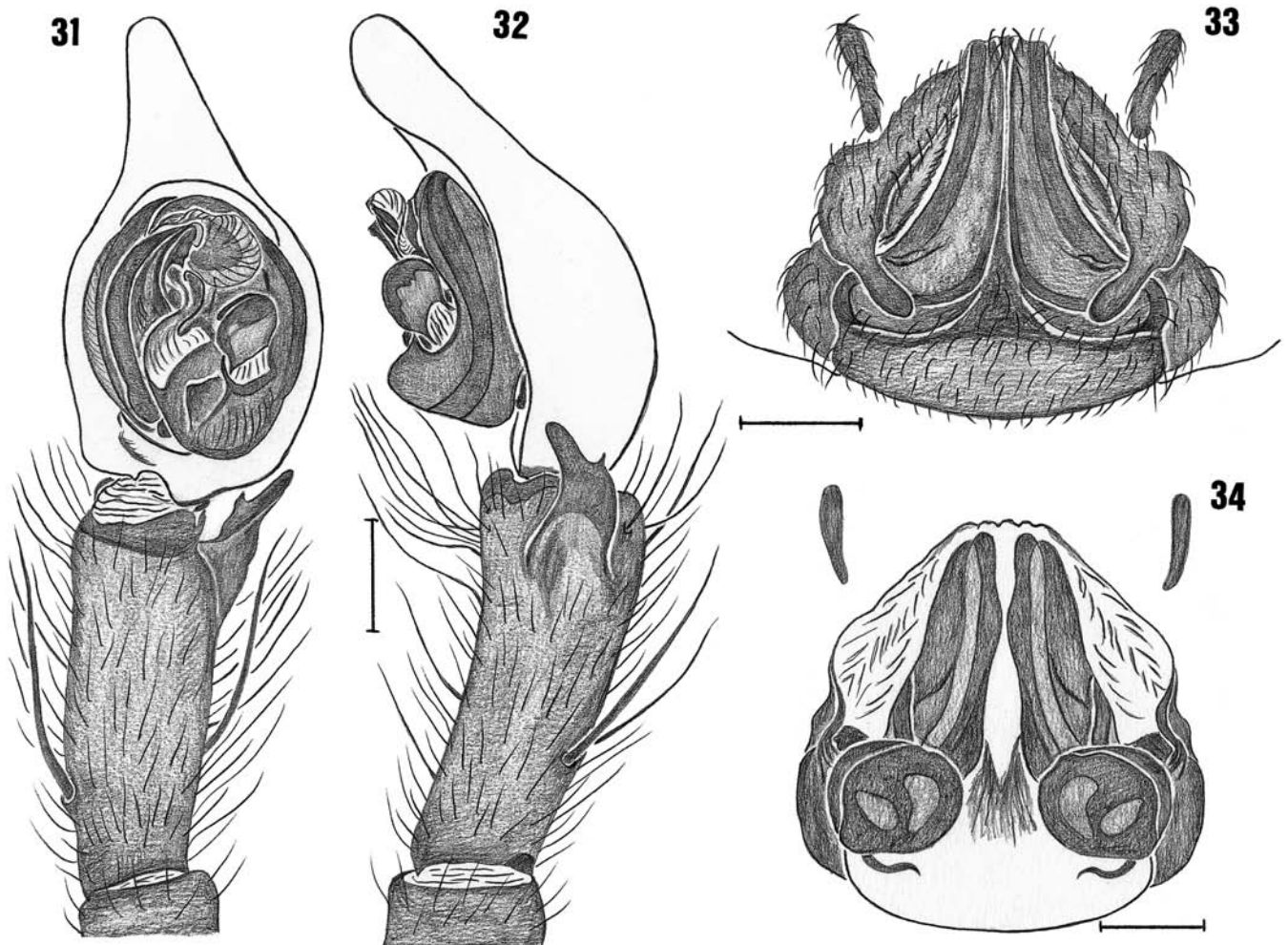
**Distribution:** North-eastern Brazil (Map 3).

**Other material examined:** BRAZIL: *Maranhão*: Timon, 1♀, 5 December 1952, A.A.P.T. (IBSP 844). *Ceará*: 7 km N of Ipu, Chapada do Ibiapaba, 1♂ 1♀, 6–16 December 2002, G. Skuk (IBSP 41253); Ubajara, Gruta de Ubajara, 1♀, 19–21 January 1993, N. C. Salgado (MNRJ 13034). *Paraíba*: Areia, Reserva da Mata do Pau Ferro (06°57'S, 35°44'W), 15♂ 55♀, 23–29 September 1999, A. D. Brescovit *et al.* (IBSP 52310–52344); João Pessoa (Campus UFPB), 1♂, 10 May 2003, S. C. Dias (IBSP 40992); (Mata do Buraquinho), 2♂ 5♀, October–November 2003, S. C. Dias (IBSP 51990–51996); 2♂ 3♀ (IBSP 52447–52451); Cabedelo, 1♀, August 1977, C. Rolam (UFPB). *Pernambuco*: Mamanguape, 2♀, August 1957, Expedição Depto Zool. (MZSP 13508); Recife, 1♂, January 1970, M. Ferreira (IBSP 2087); (Campus of UFSE), 1♀, 1976, P. F. L. Duarte (MNRJ); (Horto Dois Irmãos), 3♀, 15 September 1969, P. F. L. Duarte (MCN 25384; IBSP); Olinda, 1♂, 1964, A. G. Coelho (MCN 25382); Saltinho, Rio Formoso, 1♂ 1♀, 7 May 1990; P. F. L. Duarte (MCN 25383); Moreno, Fazenda Pau D'Alho, 1♀, 20 February 1988 (RLCB 3079); Caruaru, Brejo dos Cavalos, 1♀, 19 April 1976, P. F. L. Duarte (IBSP); Goiana, Usina Maravilha, 2♂, 16 June 2003, S. C. Dias (IBSP 41361, 41390). *Alagoas*: Murici, Estação Ecológica de Murici (09°15'S, 35°51'W), 15♂ 23♀, 13–22 September 2003, Equipe Biota (IBSP 52402–52432). *Sergipe*: Itabaiana (Ribeira), 2♀, 17 November 2002, N. Zyngier (IBSP 36800); (Estação Ecológica da Serra de Itabaiana, 10°40'S, 37°25'W), 3♂ 14♀, 14–20 September 1999, A. D. Brescovit *et al.* (IBSP 52277–52289); Aracaju, Reserva Florestal de Iburá, 1♀, 1 October 1981, Expedição Alunos UFSE (IBSP 7444); São Cristovão, Campus UFSE, 3♂ 4♀, 12 November 1996, A. D. Brescovit (IBSP 7373, 7378); 1♀, 12 October 1996, Expedição Alunos UFSE (IBSP 7514); Santa Luzia do Itanh, Mata do Crasto, 12♂ 24♀, 12–14 November 1996, A. D. Brescovit & A. C. M. Fernandes (IBSP 7517–7521). *Bahia*: Pedra

Branca, Serra da Jibóia, 1♂, Alunos UEFS (UEFS 1357); Salvador, (Vila Nova), 1♀, 1908 (MZSP 10737); (Ondina, Parque Zoobotânico), 1♀, 10 October 1988 (UFBA 276); (Campus UFBA), 1♀, 21 September 1987 (UFBA 139); (Parque Municipal do Pituaçu), 1♀, 1997 (IBSP); (Parque da Cidade), 1♀, April 1992 (IBSP 17593); Candeias, Fazenda Madruga, 1♀, 24 June 1990 (UFBA 732); Una, Reserva Biológica do Una, 1♀, 20 June 1990 (UFBA 1100); 13♂ 37♀, 15–28 November 2000, A. D. Brescovit *et al.* (IBSP 47584–47597, 47097–48115); Camacan, Fazenda São Roque, 1♀ 2juv., 3 December 1977, J. S. Santos (CPDC 3791); Gandu, Fazenda Pedra Branca, 1♂, 20 February 1970, Ceplac (MNRJ 13432); Itamarajú (Fazenda Pau Brasil), 1♀, 22 November 1969 (MNRJ 13284); 1♀, 26 October 1970 (MNRJ 13280); (Fazenda São Francisco), 1♀, 11 March 1970 (MNRJ 13357); (Fazenda Santa Tereza), 1♀, 2 July 1970 (MNRJ 13390), all coll. Ceplac Project; Canavieiras, Fazenda Domingos Matos, 1♀, 7 May 1990 (UFBA 1307). *Espírito Santo*: Rio São José, 1♂ 2♀, 26 September 1942, B. M. Soares (MZSP 5202); 1♂, 22 September 1942, B. M. Soares (MZSP 6291).

***Ctenus paubrasil* sp. n.** (Figs. 31–34, Map 3)

**Types:** Holotype male from Estação Ecológica de Pau Brasil, Porto Seguro, Bahia, Brazil, 19 April 1998, A. D. Brescovit *et al.*, deposited in IBSP 17900. Paratypes: 2♀, same data, 18 April 1998, IBSP 17914, 17862; 3♀, Reserva Florestal da Vale do Rio Doce, Linhares, Espírito Santo, Brazil, 5–12 January 1998, A. D. Brescovit *et al.*, IBSP 16803.



Figs. 31–34: *Ctenus paubrasil* sp. n. **31** Left male palp, ventral view; **32** Ditto, retrolateral view; **33** Female epigynum, ventral view; **34** Ditto, dorsal view. Scale lines=0.5 mm.

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

*Diagnosis:* Males of *Ctenus paubrasil* sp. n. are distinguished from the other species in the genus by the retrolateral tibial apophysis having a bifid apex (Figs. 31–32), and by the embolus having a distal lamella and conspicuous sub-apical embolar projection (Fig. 31). Females are distinguished by the narrow and obliquely depressed epigynal ovoid lobes (Fig. 33).

*Description: Male* (holotype): Coloration as in *C. vehemens*. Total length 14.70. Carapace 8.00 long, 6.20 wide. Clypeus 0.30. Eye diameters and interdistances: AME 0.36, ALE 0.24, PME 0.52, PLE 0.52; AME-AME 0.16, AME-ALE 0.40, PME-PME 0.16, PME-PLE 0.42, AME-PLE 0.20, AME-PME 0.14. MOQ length 1.06, front width 0.92, back width 1.14. Chelicerae with 3 promarginal teeth and 6 retromarginal denticles. Leg measurements: I femur 8.80/patella 3.70/tibia 9.10/metatarsus 8.20/tarsus 2.30/total 32.10; II 8.60/3.60/8.40/7.80/2.10/30.50; III 6.80/2.60/5.90/6.30/1.90/23.50; IV 9.30/3.20/8.40/10.50/2.80/34.20. Leg spination: tibiae I–II v2-2-2-2, p1-1-0, r1-1-0; III–IV v2-2-2, p1-1-0, r1-1-0; metatarsi I–II v2-2-2-2, p1-1-0, r1-1-0; III v2-2-2, p1-1-2, r1-1-2; IV v2-2-1p-1r-2, p1-1-2, r1-2-2-2. Metatarsus IV straight, with scopulae with short, white bristles. Palp with retrolateral tibial apophysis with bifid apex (Fig. 32); inconspicuous prolateral tibial apophysis; median apophysis short and rounded; large hyaline conductor, partly enclosing embolus tip (Fig. 31).

*Female* (IBSP 17914): Coloration as in male, except carapace with dorsal, wide longitudinal yellow band. Abdomen dorsally with conspicuous folium-like mark as in *C. ornatus*, venter with three pairs of white longitudinal stripes reaching spinnerets. Total length 17.70. Carapace 9.00 long, 6.60 wide. Clypeus 0.36 high. Eye diameters and interdistances: AME 0.40, ALE 0.36, PME 0.56, PLE 0.58; AME-AME 0.26, AME-ALE 0.44, PME-PME 0.26, PME-PLE 0.56, ALE-PLE 0.22, AME-PME 0.16. MOQ length 1.04, front width 1.02, back width 1.34. Chelicerae with 3 promarginal teeth and 6 retromarginal denticles. Leg measurements: I femur 7.70/patella 3.70/tibia 7.10/metatarsus 6.30/tarsus 1.70/total 26.50; II 7.60/3.50/6.30/6.10/1.70/25.20; III 6.40/3.00/4.80/5.70/1.80/21.70; IV 7.70/3.20/6.70/9.30/2.40/29.30. Leg spination: tibia I v2-2-2-2, p0, r0; II v2-2-2-2, p1-1-0, r0; III–IV v2-2-2, p1-1-0, r1-1-0; metatarsi I–II v2-2-2, p0, r0; III–IV v2-2-2, p1-1-2, r1-1-2. Epigynum with median plate protruding posteriorly, ovoid lobes elongated and narrow; epigynal lateral spurs finger-like (Fig. 33). Spermathecae small, globose, distant from each other by approximately 3/4 their diameter; copulatory ducts short; fertilisation ducts long and slender, originating at base of spermathecae (Fig. 34).

*Variation:* 6♂: total length 13.30–14.80; carapace 7.40–9.10; femur I 8.30–9.60. 10♀: total length 16.50–20.10; carapace 7.50–10.50; femur I 6.10–8.40.

*Distribution:* South of Bahia and north of Espírito Santo, Brazil (Map 3).

*Other material examined:* BRAZIL: Bahia: Porto Seguro (Estação Ecológica de Pau Brasil), 1♀, 18 April 1998, A. D. Brescovit *et al.* (IBSP 17792); Itamaraju, Parque Nacional do Monte Pascoal, 2♀, 21–23 April 1998, A. D. Brescovit *et al.* (IBSP 18526, 18448). Espírito Santo: Conceição da Barra, Parque Estadual de Itaúnas, 5♂ 13♀, 15 December 2002–6 March 2003, Equipe Biota (FCEN; IBSP 51997–51999, 52001–52008); Aracruz, Reserva Indígena de Pau Brasil, 1♂, 1 December 1995, J. L. Gasparini (MZSP 16507); Linhares, Reserva Florestal da Vale do Rio Doce, 4♀, 19–25 July 1997, A. D. Brescovit *et al.* (IBSP 12706, 12750, 12807, 19909); 1♀, 5–12 January 1998, A. D. Brescovit *et al.* (IBSP 16602); 1♀, 19–25 July 1997, A. D. Brescovit *et al.* (FCEN, ex IBSP 12917).

### *Ctenus pauloterrai* sp. n. (Figs. 35–39, Map 4)

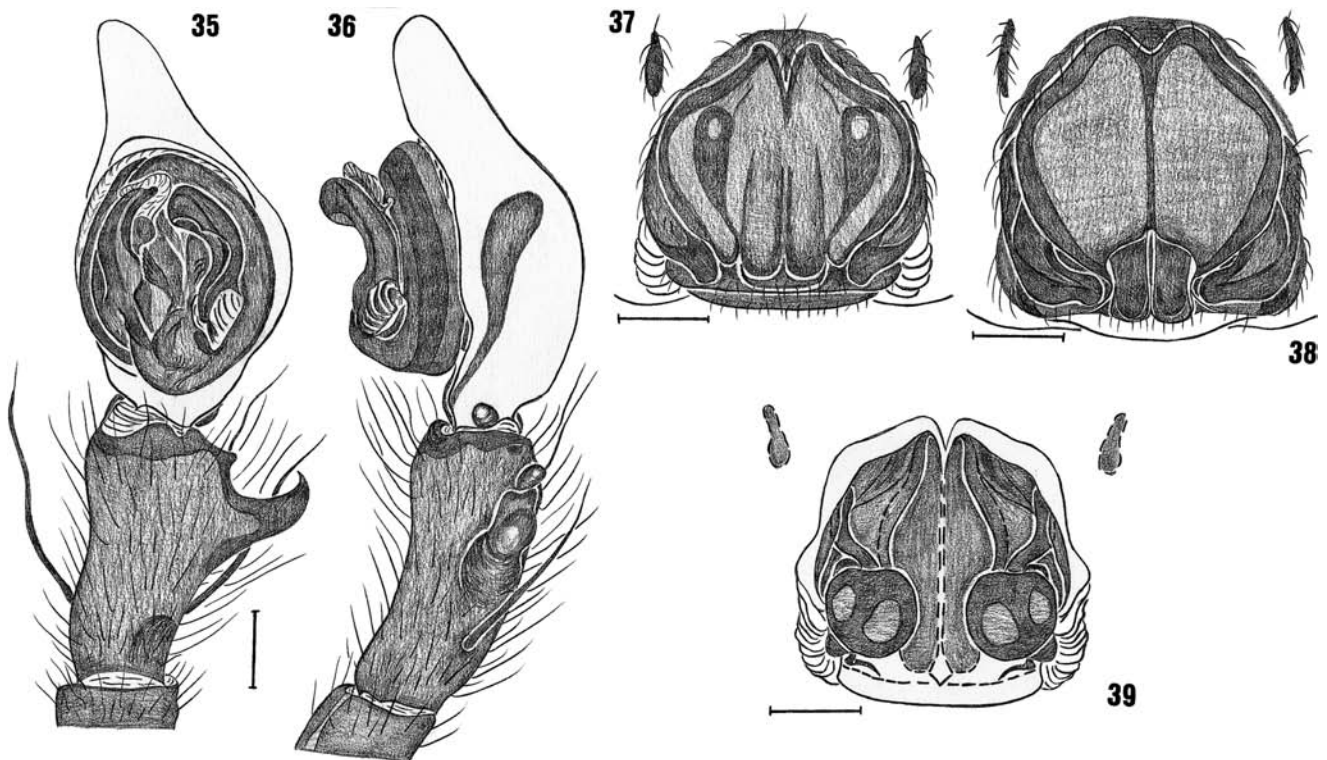
*Types:* Male holotype from CEPLAC, Ilhéus, Bahia, Brazil, 11–12 April 1998, A. D. Brescovit *et al.*, deposited in IBSP 19182. Paratypes: 1♂ 2♀, same data, IBSP 19089, 19158, 19267; 1♂, Fazenda São Francisco, Jussari, Bahia, Brazil, 25 January 1970, Ceplac Project, MNRJ 13425; 1♀, Fazenda Santa Tereza, Uruçuca, Bahia, Brazil, 6 March 1970, Ceplac Project, MNRJ 13408.

*Etymology:* The specific name is a patronym in honour of Paulo Terra, the curator of the Arachnida collection of Ceplac.

*Diagnosis:* *Ctenus pauloterrai* is a distinctive species. Males have a sub-apical retrolateral tibial apophysis projecting outwards and with a pointed apex, in addition to a small rounded apical retrolateral tibial process and a large median apophysis, nearly as long as the palpal bulb (Figs. 35–36). Females have the epigynal median plate almost covered by large, broad ovoid lobes, and the lateral spurs with thick apex (Figs. 37–38).

*Description: Male* (IBSP 19182): Carapace orange, with very narrow dorsal yellow band; lateral stripes green-greyish; thoracic groove brown, black rings around eyes. Legs orange, with green-greyish narrow bands on femora, patellae and tibiae. Chelicerae orange with two green-greyish frontal longitudinal bands. Labium and endites orange. Sternum dark grey with yellow lateral spots. Abdomen dorsally as in *C. vehemens*, laterally grey, ventrally black with wide longitudinal median yellow band, not reaching spinnerets. Spinnerets orange with grey spots. Total length 12.30. Carapace 6.70 long, 5.30 wide. Clypeus 0.20. Eye diameters and interdistances: AME 0.30, ALE 0.26, PME 0.40, PLE 0.40; AME-AME 0.16, AME-ALE 0.24, PME-PME 0.16, PME-PLE 0.28, AME-PLE 0.10, AME-PME 0.10. MOQ length 0.92, front width 0.84, back width 0.98. Chelicerae with 3 promarginal teeth and 5 retromarginal denticles.

Leg measurements: I femur 7.20/patella 3.10/tibia 7.00/metatarsus 6.40/tarsus 2.10/total 25.80; II 7.00/3.10/6.20/5.80/1.90/24.00; III 5.60/2.10/4.50/5.30/1.60/19.10; IV 7.40/2.60/7.00/8.90/2.40/28.30. Leg spination: tibiae I–II v2-2-2-2, p1-1-0, r1-1-0; III–IV v2-2-2, p1-1-0, r1-1-0; metatarsi I–II v2-2-2, p1-1-0, r1-1-0; III–IV v2-2-2, p1-1-2, r1-1-2. Metatarsus IV straight; all legs with light scopulae. Palp with sub-apical retrolateral tibial apophysis projecting outwards and with truncated apex, hooked and pointed in ventral view, in addition to small rounded apical retrolateral process (Figs. 35–36);



Figs. 35–39: *Ctenus pauloterrai* sp. n. **35** Left male palp, ventral view; **36** Ditto, retrolateral view; **37** Female epigynum, ventral view; **38** Ditto, ventral view, variation; **39** Ditto, dorsal view. Scale lines=0.5 mm.

tegulum slightly elongated basally; median apophysis elongated, nearly as long as bulb; embolus short, curved, with accentuated basal embolar projection (Fig. 35).

**Female** (IBSP 19158): Coloration as in male, except carapace with broad band and sternum lacking spots. Abdomen with dorsal folium-like marking as in *C. ornatus*. Total length 16.70. Carapace 7.60 long, 5.90 wide. Clypeus 0.36 high. Eye diameters and inter-distances: AME 0.36, ALE 0.30, PME 0.44, PLE 0.42; AME-AME 0.26, AME-ALE 0.30, PME-PME 0.18, PME-PLE 0.42, ALE-PLE 0.22, AME-PME 0.18. MOQ length 1.04, front width 0.96, back width 1.08. Chelicerae with 3 promarginal teeth and 5 retromarginal denticles. Leg measurements: I femur 6.30/patella 3.20/tibia 5.80/metatarsus 5.10/tarsus 1.50/total 21.90; II 6.10/3.00/5.10/4.70/1.30/20.20; III 5.10/2.50/4.10/4.40/1.50/17.60; IV 6.30/2.50/5.90/7.40/1.90/24.00. Leg spination: differs from male as follows: tibiae I–II p0, r0; metatarsi I–II p0, r0. Epigynum with median plate almost covered by large, broad lobes; lateral spurs with thick apex (Figs. 37–38). Spermathecae round, with small posterior conical projection, distant from each other by about half their diameter; copulatory ducts narrow and relatively long; fertilisation ducts narrow and short, originating at base of spermathecae (Fig. 39).

**Variation:** 10♂: total length 10.90–13.50; carapace 5.90–7.30; femur I 5.90–7.20. 10♀: total length 13.60–16.80; carapace 6.60–8.00; femur I 5.30–7.20. Sclerotisation of posterior border of epigynal plate may be narrow as in Fig. 37 or form a small atrium as in Fig. 38.

**Distribution:** Known from southern Bahia, Brazil (Map 4).

**Other material examined:** BRAZIL: Bahia: Ilhéus (CEPLAC), 2♂ 7♀ juv., 7–12 April 1998, A. D. Brescovit *et al.* (IBSP 19078, 19103,

19144, 19175, 19266, 19345, 19401); Jussari (Reserva Natural da Serra do Teimoso), 3♀, 8–9 April 1998, A. D. Brescovit & R. Bertani (IBSP 18701, 18669); (Fazenda São Francisco), 1♂, 26 November 1970, J. S. Santos (IBSP 19907); Coaraci, Fazenda Boa Esperança, 1♀, Ceplac (IBSP 2699); 1♂, 17 October 1970, J. S. Santos (IBSP 19906); 1♀, 18 November 1970, J. S. Santos (MNRJ); 2♀, 16 January 1971, J. S. Santos (IBSP 19908); Uruçuca, Fazenda Santa Tereza, 1♂ 1♀, 6 March 1970, J. S. Santos (MNRJ ex 13408).

#### *Ctenus fernandae* sp. n. (Figs. 40–45, Map 4)

**Types:** Male holotype from Fazenda Ranchinho Porto da Roça, Petrópolis, Rio de Janeiro, Brazil, 15–16 August 2001, Equipe Biota, deposited in IBSP 52575. Paratypes: 2♂ 3♀, same data, IBSP 52575, 52759, 52581 and MZSP.

**Etymology:** The specific name is a patronym in honour of the first author's wife, Fernanda Pires Ohlweiler.

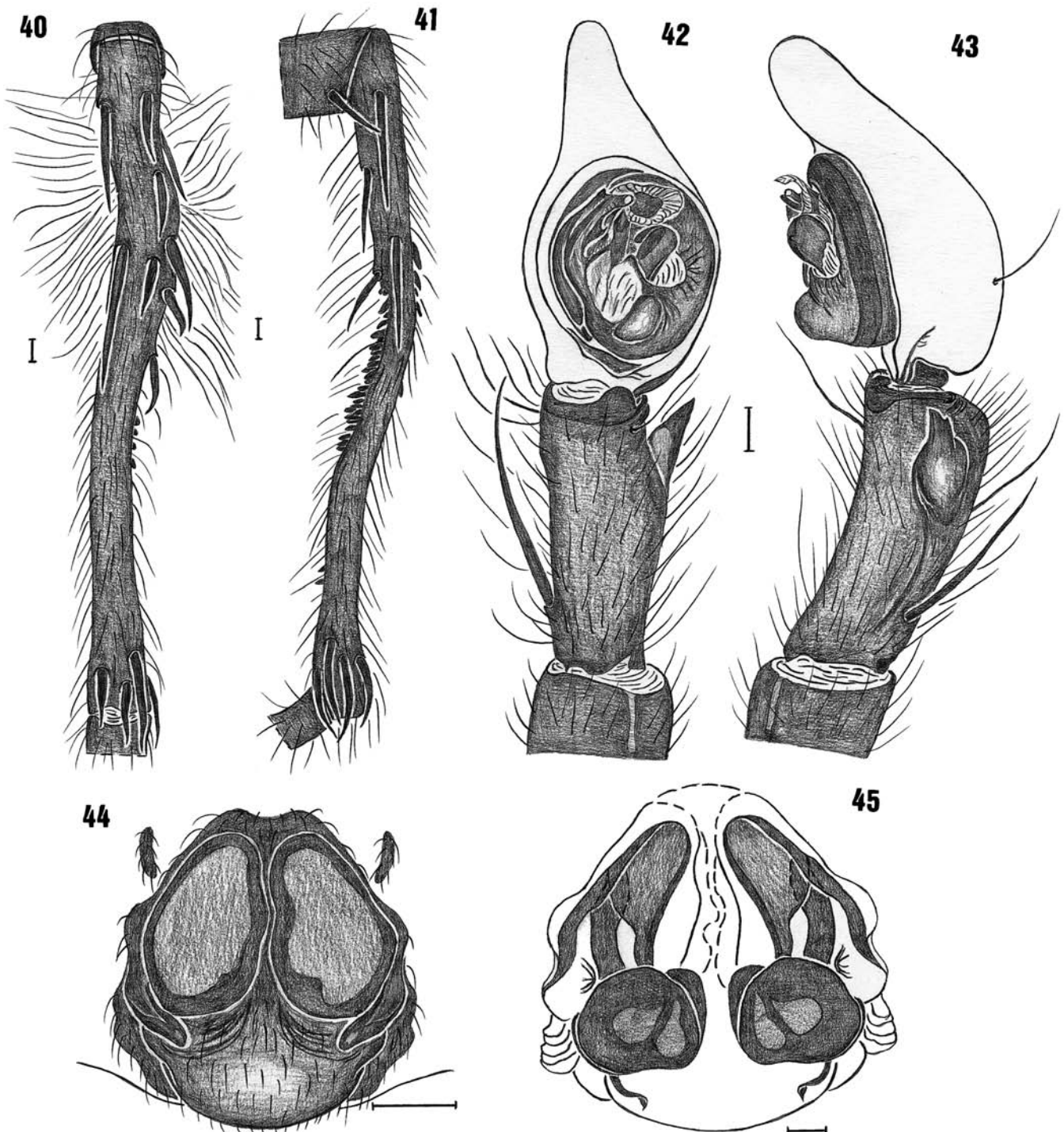
**Diagnosis:** Males of *Ctenus fernandae* sp. n. are distinguished from the other species in the genus by having a short, broad-based retrolateral tibial apophysis (Fig. 43), and the embolus with a conical embolar projection in the distal third (Fig. 42). Females resemble those of *C. pauloterrai* sp. n. in the large, broad epigynal ovoid lobes (Fig. 44, cf. Figs. 37–38), but are distinguished by the lobes being oval and shorter and by the larger posterior median field (Fig. 44).

**Description:** **Male** (holotype): Carapace orange, with thoracic groove light brown and black rings around eyes. Legs, chelicerae, sternum, labium and endites orange. Abdomen dorsally as in *C. vehemens*, laterally grey, ventrally white with wide longitudinal median black band, not reaching spinnerets. Spinnerets orange. Total length 16.20. Carapace 8.50 long, 6.40 wide.

Clypeus 0.70. Eye diameters and interdistances: AME 0.35, ALE 0.25, PME 0.35, PLE 0.40; AME-AME 0.20, AME-ALE 0.40, PME-PME 0.25, PME-PLE 0.50, AME-PLE 0.20, AME-PME 0.25. MOQ length 0.90, front width 0.85, back width 0.95. Chelicerae with 3 promarginal teeth and 5 retromarginal denticles. Leg measurements: I femur 8.60/patella 3.70/tibia 8.40/metatarsus 8.30/tarsus 2.40/total 31.40; II 8.20/3.60/7.40/7.70/2.20/29.10; III 6.80/2.80/5.40/6.40/2.00/23.40; IV 9.00/3.30/7.60/11.70/3.30/34.90. Leg spination: tibia I v2-2-2-2, p1-1-0, r1-1-0; II v2-2-2-2, p1-1-1, r1-1-1; III v2-2-2 or 2-2-1p, p1-1-0, r1-1-0; IV v2-2-2, p1-1-0, r1-1-0; metatarsi I-II v2-2-2, p1-1-1, r1-1-0; III v2-2-2,

p1-1-2, r1-1-2; IV v2-2-2, p1-1-1-1-2, r1-1-2. Metatarsus IV slightly sinuous, with large group of short median ventral spines and bristles, and elongated, strong dorsal basal spines and large scopulae (Figs. 40–41). Palp with short retrolateral tibial apophysis projecting outwards and with very small triangular subapical process (Fig. 43); tegulum slightly elongated basally, median apophysis short; embolus short, curved, with short subdistal embolar projection (Fig. 42).

*Female* (IBSP 52575): Carapace reddish-brown, with wide white rhomboid band from behind eyes to posterior border, black rings around eyes. Legs reddish-brown. Chelicerae orange. Sternum orange with dark



Figs. 40–45: *Ctenus fernandae* sp. n. **40** Male metatarsus IV, dorsal view; **41** Ditto, prolateral view; **42** Left male palp, ventral view; **43** Ditto, retrolateral view; **44** Female epigynum, ventral view; **45** Ditto, dorsal view. Scale lines=0.5 mm.

borders. Labium and endites orange with yellow apex. Abdomen dorsally almost black with dorsal folium-like marking reaching posterior third, laterally with orange stripes, ventrally black. Spinnerets yellow and black. Total length 16.10. Carapace 8.30 long, 6.50 wide. Clypeus 0.50 high. Eye diameters and interdistances: AME 0.40, ALE 0.25, PME 0.50, PLE 0.55; AME-AME 0.25, AME-ALE 0.50, PME-PME 0.30, PME-PLE 0.40, ALE-PLE 0.20, AME-PME 0.20. MOQ length 1.00, front width 0.90, back width 1.10. Chelicerae with 3 promarginal teeth and 5 retromarginal denticles. Leg measurements: I femur 6.60/patella 3.30/tibia 6.00/metatarsus 5.30/tarsus 1.60/total 22.80; II 6.20/3.10/5.30/5.10/1.50/21.20; III 5.30/2.70/4.00/4.50/1.50/18.00; IV 6.80/2.80/5.90/8.10/2.00/25.60. Leg spination: differs from male as follows: tibia I p0, r0; II p1-0-0, r0-1-0; metatarsi I–II p0, r0; IV v2-2-1r-2, p1-1-2. Epigynum with median plate with large, broad lobes almost touching; lateral spurs with narrow elongated apex; posterior border very large (Fig. 44). Spermathecae round, with small lateral rounded projection, distant from each other by approximately half their diameter; copulatory ducts narrow and relatively long; fertilisation ducts long and narrow, originating at base of spermathecae (Fig. 45).

*Variation:* 10♂: total length 12.30–16.20; carapace 6.90–8.80; femur I 4.70–8.80. 10♀: total length 13.40–16.40; carapace 7.00–8.30; femur I 5.10–6.60.

*Distribution:* Known from high mountains in the state of Rio de Janeiro, Brazil (Map 4).

*Other material examined:* BRAZIL: Rio de Janeiro: Petrópolis, Fazenda Ranchinho Porto da Roça, 6♀, 15–16 August 2001, Equipe Biota (IBSP 52574, 52577–52578, 52580); Teresópolis, Parque Nacional da Serra dos Órgãos (22°27'S, 42°59'W), 7♂ 17♀, 18–22 August 2001, Equipe Biota (IBSP 52580–52593).

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