

Revision of the genus *Tmesiphantes* Simon (Araneae, Mygalomorphae, Theraphosidae)

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ABSTRACT. The genus *Tmesiphantes* Simon, 1892 is revised. The type-species, *T. nubilus* Simon, 1892, is redescribed and three new species are described from the state of Bahia, Brazil: *T. amadoi* **sp. nov.**, *T. bethaniae* **sp. nov.** and *T. caymmii* **sp. nov.** In addition, *Tmesiphantes physopus* Mello-Leitão, 1926 and *T. minensis* Mello-Leitão, 1943 are transferred to *Plesiopelma* Pocock, 1901. *T. chickeringi* is considered species inquirenda.

KEY WORDS. Bahia; Brazil; *Plesiopelma*; taxonomy; Theraphosinae.

RESUMO. Revisão do gênero *Tmesiphantes* Simon (Araneae, Mygalomorphae, Theraphosidae). O gênero *Tmesiphantes* Simon, 1892 é revisado. A espécie-tipo, *T. nubilus* Simon, 1892, é redescrita e três novas espécies são descritas para o estado da Bahia, Brasil: *T. amadoi* **sp. nov.**, *T. bethaniae* **sp. nov.** and *T. caymmii* **sp. nov.** Adicionalmente, as espécies *Tmesiphantes physopus* Mello-Leitão, 1926 e *T. minensis* Mello-Leitão, 1943 são transferidas para *Plesiopelma* Pocock, 1901. *T. chickeringi* Caporiacco, 1955 é considerada espécie inquirenda.

PALAVRAS-CHAVE. Bahia; Brasil; *Plesiopelma*; taxonomia; Theraphosinae.

The genus *Tmesiphantes* was established by SIMON (1892) based on male and female specimens of *T. nubilus*, described from Bahia, Brazil. MELLO-LEITÃO described three new species from Brazil: in 1923 *T. montanus* from Itatiaia, Rio de Janeiro; in 1926 *T. physopus* from Campina Grande, Paraíba; and in 1943 *T. minensis* from Ouro Preto, Minas Gerais. CAPORIACCO (1955) described *T. chickeringi*, from Venezuela. GERSCHMANN DE PIKELIN & SCHIAPPELLI (1958) revised the genus and described two new species from Argentina, *T. serratus* and *T. elegans*. They provided an identification key for all known species except for *T. chickeringi*, which description was based on a juvenile female. The same authors, in 1972, transferred *T. montanus* and *T. elegans* to *Homoeomma* Ausserer, 1871 and synonymized *T. serratus* with *H. uruguayense* (Mello-Leitão, 1946). RAVEN (1985) considered *Tmesiphantes* synonym of *Dryptopelma* Simon, 1889 and confirmed the transfer of *T. serratus* and *T. elegans* to *Homoeomma*. PÉREZ-MILES *et al.* (1996) revalidated *Tmesiphantes* based on the palpal bulb morphology of the male. In the same year, SCHAEFER described *T. spinopalpus* from Paraguay, which was transferred by RUDLOFF (2000) to *Cyclosternum* Ausserer, 1871. To date, the genus comprises three species from Brazil, *T. nubilus*, *T. physopus* and *T. minensis*, and one from Venezuela, *T. chickeringi*.

MATERIAL AND METHODS

The material examined is deposited in the following institutions (abbreviation and curator in parentheses): Instituto

Butantan, São Paulo (IBSP, A.D. Brescovit); Museu de Zoologia da Universidade de São Paulo (MZSP, R. Pinto-da-Rocha); Muséum National d'Histoire Naturelle, Paris (MNHN, C. Rollard). Spines notation follows PETRUNKEVITCH (1925). Abbreviations: (AME) anterior median eyes, (ALE) anterior lateral eyes, (PLE) posterior lateral eyes, (PME) posterior median eyes, (PLS) posterior lateral spinnerets, (STC) superior tarsal claws, (d) dorsal, (v) ventral, (p) prolateral, (r) retrolateral, (m) median. All measurements are in millimeters. Terminology: palpal bulb structures follows BERTANI (2000) and urticating hairs follows COOKE *et al.* (1972).

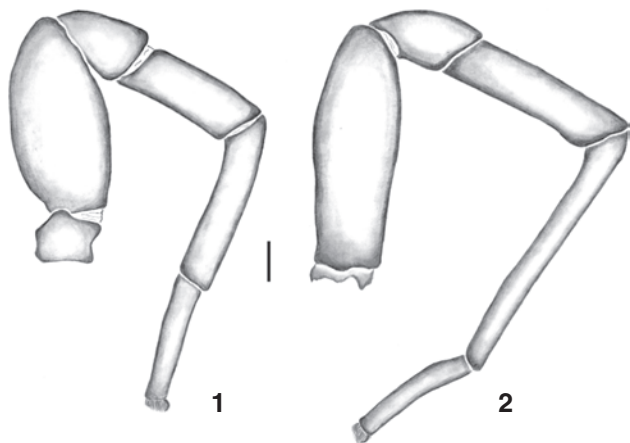
Tmesiphantes Simon, 1892

Tmesiphantes Simon, 1892: 277; 1892: 133-138; 1903: 920-922; Mello-Leitão, 1923: 132, 137, 395; Bücherl, 1957: 407; Gerschmann de Pikelin & Schiapelli, 1958: 7; Pérez-Miles *et al.*, 1996: 59 (revalidation).

Dryptopelma: Raven, 1985: 159 (in part).

Type-species. *Tmesiphantes nubilus* by monotypy.

Diagnosis. Males of *Tmesiphantes* can be recognized by the palpal bulb morphology, with conspicuous superior and inferior prolateral keels and long and curved embolus (Figs 1-3, 7-9, 12-14 and 19-21), aspect of the tibial apophysis (Figs 4, 10, 15 and 22) and by the metatarsus I, which bends to the retrolateral side of the retrolateral tibial apophysis. Females can be distinguished by the spermathecae slightly constricted near the apex (Figs 8 and 19). Species of this genus resemble those of *Plesiopelma*



Figures 1-2. Left leg III, prolatral view, (1) *Melloleitoina crassifemur*, holotype male; (2) *Tmesiphantes nubilus*, IBSP 9793. Scale bars = 1 mm.

Pocock, 1901, *Homoeomma* and *Melloleitoina* Gerschmann de Pikelin & Schiapelli, 1960, by the similar size and colour pattern. In addition, males of the four genera have papal bulbs with similar overall morphology. Species of *Tmesiphantes* can be distinguished from those of *Plesiopelma* by the aspect of the posterior sternal sigilla which are elongated and away from margin, by the few cuspules on labium (fewer than 30) (Figs 7, 13, 18 and 25), by the absence of apical scopula on the metatarsus IV and by the well developed barbs on urticating hair type III. Males differ from *Plesiopelma* by the absence of subapical tooth on the embolus of the palpal bulb, flexion of the metatarsus I and by the absence of metatarsal basal nodule. Females are distinguished from *Plesiopelma* mainly by the lack of granules and general morphology of the spermathecae. Males of *Tmesiphantes* differ from those of *Homoeomma* by the absence of a digitiform apophysis on the base of the palpal bulb and by the flexion of the metatarsus I, which in *Homoeomma* bends between the tibial apophysis. Females differ from *Homoeomma* by the spermatheca slightly constricted near the apex (Figs 8 and 19). *Melloleitoina* is considered sister group of *Tmesiphantes*, sharing the thick femur III (PÉREZ-MILES *et al.* 1996). However, *Melloleitoina* presents a remarkable swollen article (Figs 1 and 2) and a reduced number of spines on legs and palps.

Distribution. State of Bahia, Brazil (Fig. 26).

Tmesiphantes nubilus Simon, 1892

Figs 3-8

Tmesiphantes nubilus Simon, 1892: 277; 1892: 138; 1903: 922, fig. 1070-1086: I; Mello-Leitão, 1923: 138, 395; Bücherl 1957: 392; Gerschmann de Pikelin & Schiapelli, 1958: 7; Gerschman de Pikelin & Schiapelli, 1973: 76, figs 39-44; Pérez-Miles *et al.*, 1996: 59, fig. 48; Schaefer, 1996: 27, figs 5-7; Schmidt, 1998: 17, figs 87-89.

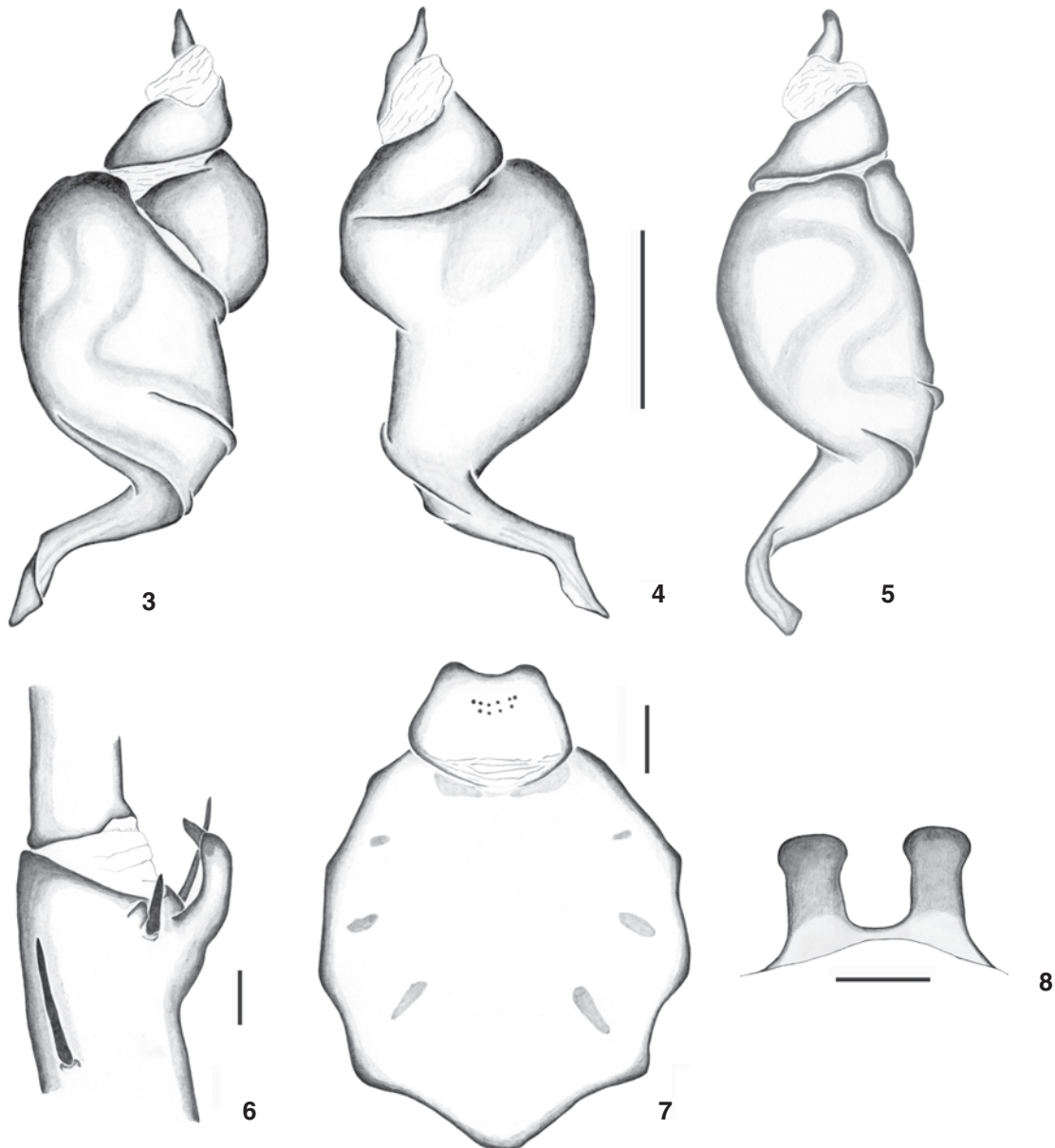
Type-material. Male and female syntypes (MNHN 1072)

from Bahia, Brazil, examined. Here are designated the lectotype male and the paralectotype female.

Diagnosis. Males of *Tmesiphantes nubilus* differ from the other species of the genus by the aspect of the palpal bulb: thick embolus with a strong curvature at the tip (Figs 3-5). Females can be distinguished by the morphology of the spermathecae (Fig. 8), which are fused on the basis and wider than *T. caymmii* sp. nov.

Description. Male (IBSP 12734). Total length, without chelicera and spinnerets, 23.8. Carapace: length 12.00, width 9.75, fovea procurved. Eye tubercle: length 1.00, width 1.56. Labium: length 1.50, width 2.10. Sternum: length 5.25, width 5.00. Basal segment of chelicera with 16 teeth on the prolateral margin. Labium with 10 cuspules. Maxillae with 183 cuspules. Sternum oval (Fig. 7). Measurements: Palp: femur 6.88/patella 3.50/tibia 6.00/cymbium 2.13/total 18.50. Legs: I: femur 11.75/patella 6.00/tibia 9.88/metatarsus 9.25/tarsus 5.23/total 42.00; II: 10.63/5.38/7.63/9.63/5.00/38.25; III: 9.38/4.75/6.38/11.88/5.13/37.50; IV: 12.25/5.25/9.88/15.25/5.63/48.25. Spination: palp: femur (d) 0-0-p1, patella (d) 0-0-p1, tibia (d) 0-p1-p1, (p) 0-1-0, (r) 0-0-1. Legs: tarsi without spines; I: femur (d) 0-p1-p1, patella 0, tibia (v) 2-2-ap2, (p) 0-1-1, metatarsus (v) 2-p1-ap3, (p)1-1-0; II: femur (d) p1-0-2, patella (d) 0-0-p1, tibia (v) 2-2-1-ap3, (p) 1-0-1, metatarsus (v) p1-r1-1-1-p1-ap3, (p) 1-1-1; III: femur (d) 0-0-2, patella (p)1-1-2, (r) 0-1-0, tibia (d) p1-p1-p1, (v) 1-1-r1-ap3 (p) 1-1-1, (r) 1-0-1, metatarsus (d) 0-0-2, (v) 2-1-2-1-2-2-4ap, (p)1-1-1-1, (r) 1-1-1-1; IV: femur (d) 0-0-2, patella (p)0-0-2, (r) 1-2-1, tibia (d) 0-p1-p1, (v) 1-1-2-1-2-ap3, (p) 1-1-1, (r) 1-2-1, metatarsus (d) 0-0-1, (v) 2-r1-r1-2-r1-1-2-1-2-2-ap5, (p) 1-1-1-1-1, (r) 1-1-1-1-1. Carapace, legs and abdomen dorsally brown. Sternum, coxae and abdomen ventrally light brown. Clypeus present, narrow. Urticating hair type III present. Palpal bulb presenting inferior and superior prolateral keels, with thick and curved embolus, bearing a strong curvature at the tip (Figs 3-5). Prolateral tibial apophysis smaller, with a spine on the retrolateral margin of it and retrolateral tibial apophysis larger, with an apical spine (Fig. 6). Anterior eye row procurved, posterior reduced. Eyes sizes: AME 0.27, ALE 0.34, PME 0.26, PLE 0.30. Scopulae on metatarsi: I half occupied by scopula, II with scopula restricted to 1/3 of the apical portion, III with weak scopula restricted to fifth apical portion, IV without scopula.

Female (IBSP 12737). Total length, without chelicera and spinnerets, 22.6. Carapace: length 9.50, width 7.90, fovea procurved. Eye tubercle: length 1.10, width 1.42. Labium: length 1.40, width 1.90. Sternum: length 4.80, width 4.60. Basal segment of chelicera with 12 teeth on the prolateral margin. Labium with 13 cuspules. Maxillae with 165 cuspules. Sternum oval. Measurements: palp: femur 5.40/patella 3.20/tibia 3.60/cymbium 2.90/total 15.10. Legs: I: femur 6.70/patella 4.40/tibia 5.20/metatarsus 3.70/tarsus 2.20/total 22.20; II: 5.80/3.80/4.10/3.40/2.40/19.50; III: 5.30/3.40/3.20/4.40/2.40/18.70; IV: 7.40/4.00/5.80/6.40/2.90/26.50. Spination: Tarsi without spines; Palp: without spines. Legs: I: femur (d) 0-0-p1, metatarsus (v)



Figures 3-8. *Tmesiphantes nubilus*, lectotype male. (3-5) Left male palpal bulb: (3) prolateral view; (4) retrolateral view; (5) dorsal view; (6) left tibial apophysis, prolateral view; (7) labium and sternum; (8) spermathecae (paralectotype female). Scale bars = 1 mm.

0-0-ap1; II: tibia (p) 0-0-1, metatarsus (v) 0-1-0-ap3, (p) 0-1-1; III: patella (p) 1-0-2, (r) 0-1-0, tibia (v) 0-p1-ap3, (p) 1-1-0, (r) 0-0-1, metatarsus (d) p1-2-2, (v) p1-1-p1-1-p1-2-ap3, (p) 0-1-0; IV: patella (p) 0-0-2, (r) 0-1-0, tibia (v) 2-2-ap3, (p) 1-0-1, (r) 1-0-1, metatarsus (d) 0-0-2, (v) p1-1-2-1-2-p1-p1-2-ap4, (p) 1-1-1, (r) 0-1-0. Carapace, legs and abdomen dorsally brown. Sternum, coxae and abdomen ventrally light brown. Spermathecae formed by two receptacula with a slight constriction near the apex (Fig. 8). Presence of urticating hairs type IV. Clypeus

present, narrow. Eye sizes: AME 0.27, ALE 0.34, PME 0.26, PLE 0.30. Scopulae on metatarsi: I 1/3 occupied by scopula, II with scopula restricted to 1/4 of the apical portion, III with weak scopula restricted to fifth apical portion, IV without scopula.

Variation. Males (n = 20): total length: 14.1-37.4. Labium with 10-28 cuspules. Females (n = 4): total length: 20.8-21.8. Labium with 16-23 cuspules.

Additional material examined. BRAZIL, *Bahia*: Ituaçú (Morro da Mangabeira), 1 male, XI.1980, E. Gouveia *leg.* (IBSP

4576); Porto Seguro (Arraial d'Ajuda), 1 female, (IBSP 9665); 1 male, 17.III.1983, R. Castro *leg.* (IBSP 13228); Salvador, 1 male, 21.VI.2002, A. Akami *leg.* (IBSP 9793); Ipiaú, 1 male, J.L.D. Larut *leg.* (IBSP 11722); Itacaré (Fazenda Patizeiros), 6 males, 1 female and 1 juvenile, 15-22.VI.2006, J.P. Souza-Alves *leg.* (IBSP 12731-12737); Porto Seguro (Estação Ecológica Vera Cruz, N16°23'31" W39°10'19"), 2 males, 08.III.2002, M.G.C. Costa *leg.* (IBSP 12772, 12774); (Veracel Celulose), 1 female, 2006, J.P. Alves *leg.* (IBSP 12978); Uruçuca, 23 males, III.2002, J.P.L. Guadanucci *leg.* (MZSP 24100, 24102-24105, 24107, 24112, 24114, 24118-24120, 24122, 24124); Una, 1 male, XII/99, K. Kato *leg.* (MZSP 24240).

Distribution. Known from the state of Bahia, Brazil.

Tmesiphantes amadoi sp. nov.

Figs 9-13

Type-material. Male holotype from Jussari, Bahia, Brazil, III.2001 (IBSP 12930). Paratypes: one male with the same data of holotype (IBSP 11878); 4 males with the same data of holotype (IBSP 11859); 2 males, Uruçuca, Bahia, Brazil, III.2002, J.P.L. Guadanucci *leg.* (MZSP 24106).

Etymology. The species is named in honor to the deceased writer Jorge Amado, natural from the state of Bahia.

Diagnosis. Males of *Tmesiphantes amadoi* sp. nov. differ from the other species of the genus by the aspect of the palpal bulb, presenting an enlargement at the tip of the embolus, bearing a small serrulated keel (indicated by arrows in figures 9 and 11).

Description. Male (Holotype). Total length, without chelicera and spinnerets, 19.10. Carapace: length 9.90, width 8.50, fovea procurved. Eye tubercle: length 1.06, width 1.44. Labium: length 1.10, width 1.80. Sternum: length 5.10, width 4.40. Basal segment of chelicera with 13 teeth. Labium with 10 cuspules. Maxillae with 140 cuspules. Sternum oval (Fig. 13). Measurements: palp: femur 5.30/patella 2.80/tibia 4.50/cymbium 1.70/total 14.30. Legs: I: femur 10.00/patella 4.90/tibia 8.70/metatarsus 6.60/tarsus 4.30/total 34.50; II: 8.60/4.20/6.20/7.40/4.10/30.50; III: 8.50/3.60/5.50/10.00/4.30/31.90; IV: 10.40/4.50/9.20/12.90/5.10/42.10. Spination: palp: femur (d) 0-0-p1, patella (p) 0-0-1, tibia (v) p1-p1-0, (p) 0-1-1, (r) 0-0-1. Legs: tarsi without spines; I: femur (d) 0-0-p1, patella 0, tibia (v) 0-1-p1-ap1, (p) 0-1-1, metatarsus (v) 0-p1-ap1, (p) 1-0-0; II: femur (d) 0-0-p1, patella (p) 0-0-1, tibia (v) 1-1-ap2, (p) 0-1-1, metatarsus (d) 0-p1-0, (v) 1-1-0-ap2, (p) 1-0-1; III: femur (d) 0-0-2, patella (p) 0-0-1, tibia (d) 0-2-2, (v) 0-1-ap3, (p) 1-1-0, metatarsus (d) 2-2-2, (v) 2-1-1-2-ap3, (p) 0-1-0; IV: femur (d) 0-0-2, patella (p) 0-0-1, tibia (d) p1-0-p1, (v) 1-r1-1-r1-1-ap4, (p) 0-1-0, (r) 2-1-1, metatarsus (v) 2-1-r1-p1-1-2-2-ap3, (p) 1-1-1-1, (r) 1-1-1-1. Carapace, legs and abdomen dorsally brown. Sternum, coxae and abdomen ventrally light brown. Urticating hair type III presents. Clypeus present, narrow. Palpal bulb with inferior and superior prolateral keels. Embolus curved, enlarged at the tip, bearing a small serrated keel (Figs 9-11). Prolateral tibial apophysis smaller, with a spine on the retrolateral margin of it and

retrolateral tibial apophysis larger, with an apical spine (Fig. 12). Anterior eye row procurved, posterior recurved. Eyes sizes: AME 0.25, ALE 0.43, PME 0.21, PLE 0.29. Scopulae on metatarsi: I 1/4 of the apical portion occupied by scopula, II with scopula restricted to 1/5 of the apical portion, III with weak scopula restricted to fifth apical portion, IV without scopula.

Female. Unknown.

Variation. Males (n = 10): total length: 13.9-26.0. Labium with 12-27 cuspules.

Additional material examined: BRAZIL, Bahia: Una (Reserva Biológica de Una, S15°09' W39°31'), 2 males, X.1999-IX.2000, M.F. Dias *leg.* (IBSP 11457-11458); same locality, 2 males, 7-14.I.1999, E. Mariano *leg.* (IBSP 11718, 11719); 3 males, XII.1999, K. Kato *leg.* (MZSP 24283); Uruçuca, 6 males, III.2002, J.P.L. Guadanucci *leg.* (MZSP 24110, 24126, 24131);

Distribution. Known from the state of Bahia, Brazil.

Tmesiphantes caymmii sp. nov.

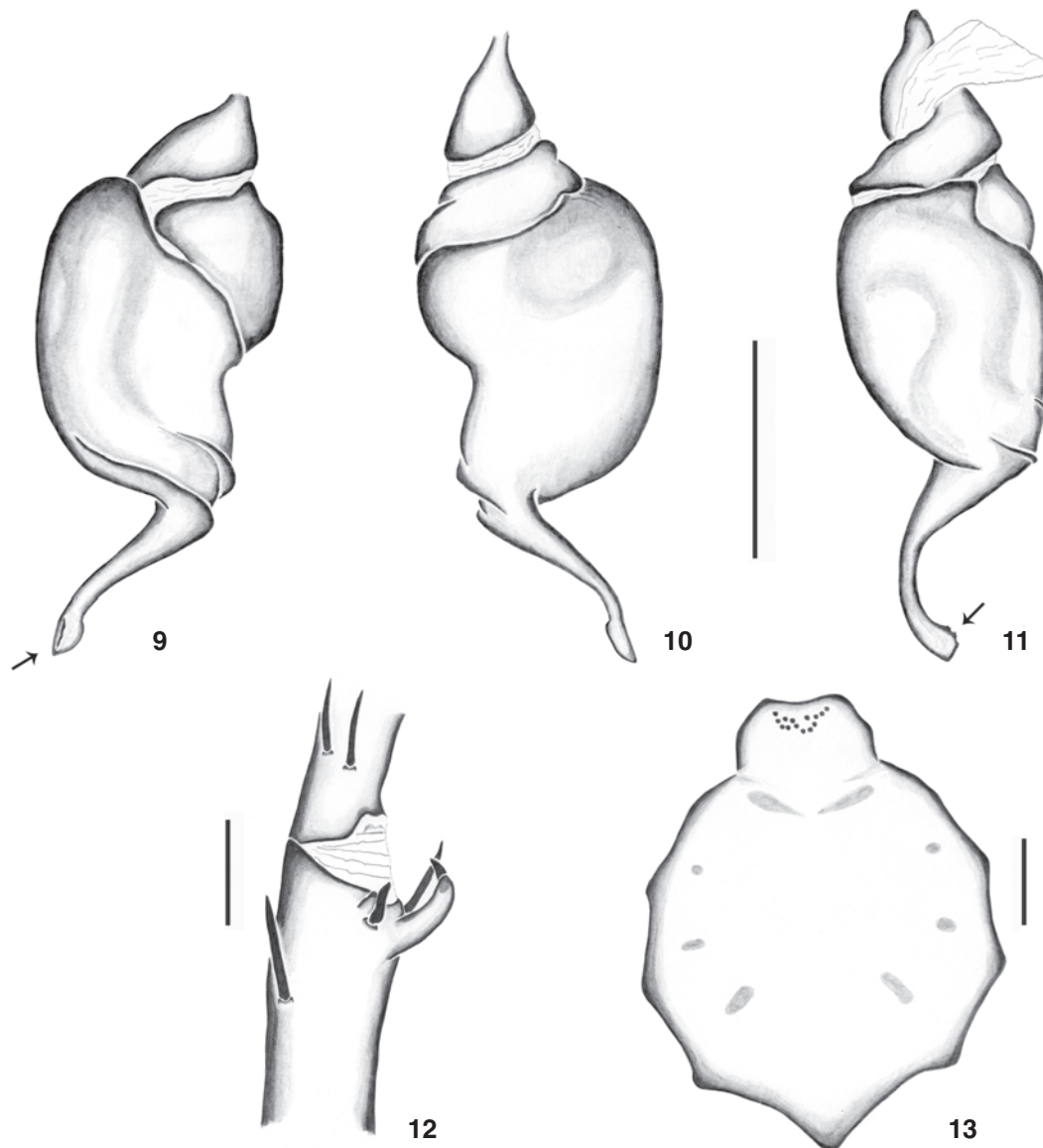
Figs 14-20

Type material. Male holotype from Poçoês, Bahia, Brazil, 03.VII. 2002, A. Zanotti *leg.* (IBSP 11311). Paratypes: female with the same data of holotype (IBSP 11301); Umbuzeiro, male, 19.VI. 2002, A. Zanotti *leg.* (IBSP 11314); between Poçoês and Umbuzeiro, male, 18.VI.2002, A. Zanotti *leg.* (MZSP 28194).

Etymology. The species is named in honor of Dorival Caymmi, song writer and singer of brazilian popular music, natural from the state of Bahia.

Diagnosis. This species differs from the others by the presence of a circular spot on the ventral surface of the abdomen, which is an area of great density of short covering hairs (Fig. 20). Males can be distinguished by the palpal bulb aspect, with a serrated inferior prolateral keel extending along the embolus (Figs 15). Females can be distinguished by the spermathecae aspect (Fig. 19), which are more slender and inclined to the outer side, with not fused basis.

Description. Male (Holotype). Total length, without chelicera and spinnerets, 23.00. Carapace: length 10.40, width 8.40, fovea procurved. Eye tubercle: length 1.14, width 1.56. Labium: length 1.00, width 1.30. Sternum: length 4.80, width 4.10. Basal segment of chelicera with 8 teeth on the prolateral margin. Labium with 7 cuspules. Maxillae with 90 cuspules. Sternum oval (Fig. 18). Measurements: palp: femur 4.80/patella 2.90/tibia 4.80/cymbium 1.80/total 14.30. Legs: I: femur 8.40/patella 4.40/tibia 6.70/metatarsus 6.70/tarsus 3.80/total 30.00; II: 7.80/3.90/5.90/6.20/3.90/27.70; III: 6.90/3.30/5.20/7.50/3.60/26.50; IV: 9.00/3.90/7.80/10.70/3.70/35.10. Spination: palp: femur (d) 0-0-p1, tibia (d) 0-p1-p1, (p) 1-1-0. Legs: Tarsi without spines; I: femur (d) 0-p1-p1-p1, tibia (v) 2-0-1-2-ap2, (p) 0-1-1, metatarsus (v) 2-0-0-ap1, (p) 0-1-0; II: femur (d) 0-0-p1, tibia (d) p1-p1-0, (v) 2-r1-1-ap3, metatarsus (v) 2-1-ap2, (p) 0-1-0, (r) 1-0-0; III: femur (d) 0-0-p1, patella (p) 0-0-2, (r) 0-1-0, tibia (d) p1-0-0, (v) 2-2-ap3, (p) 1-1-0, (r) 1-1-0, metatarsus (d) 0-2-2, (v) r1-1-1-2-r1-ap3, (p) 1-0-1, (r) 1-0-0; IV: femur (d) 0-p1-2, patella

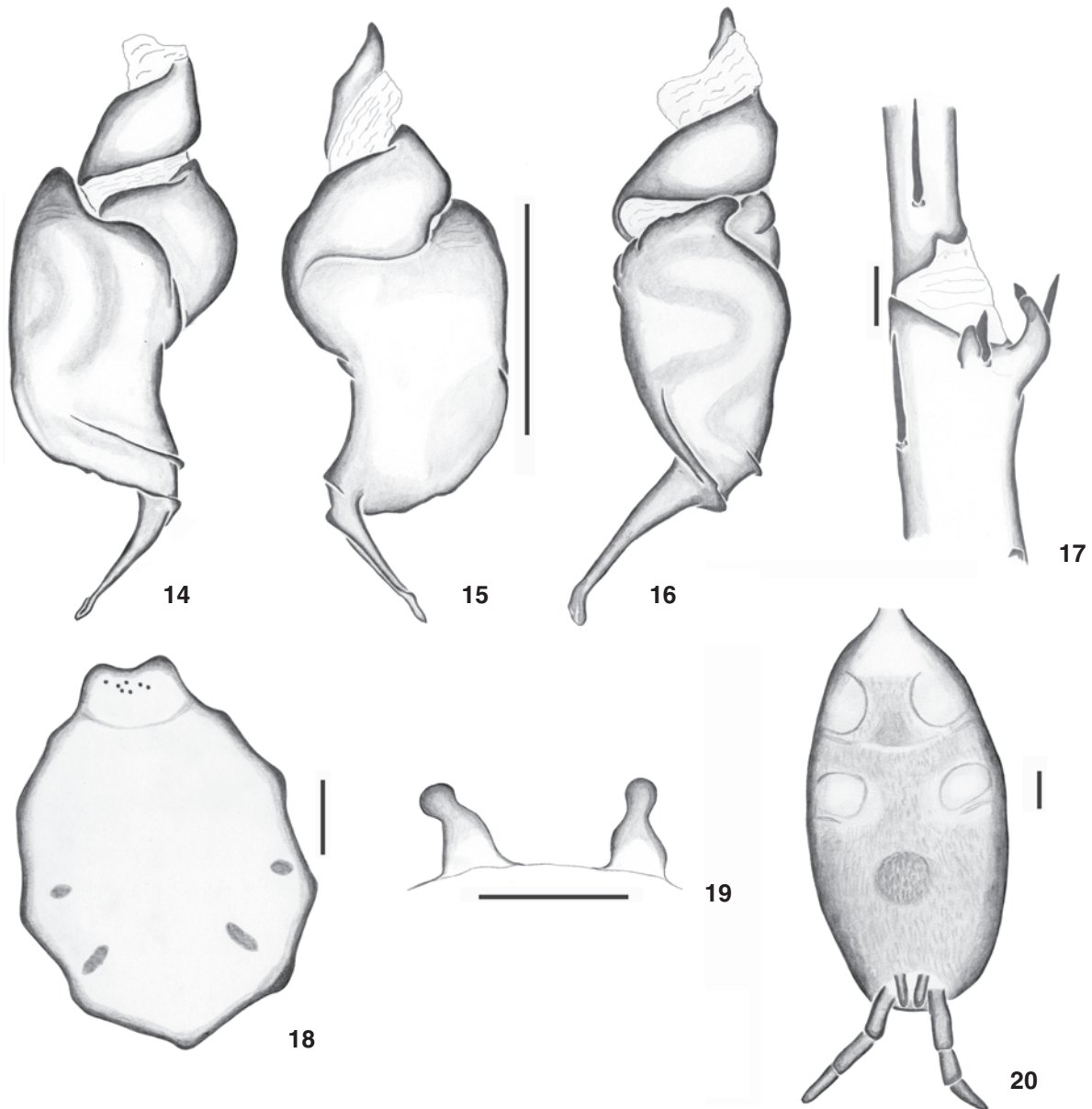


Figures 9-13. *Tmesiphantes amadoi* sp. nov., holotype male. (9-11) Left male palpal bulb: (9) prolateral view; (10) retrolateral view; (11) dorsal view; (12) left tibial apophysis, prolateral view; (13) labium and sternum. Scale bars = 1 mm.

(v) 0-p1-0, (p) 0-0-1, (r) 1-0-0, tibia (d) 0-r1-0, (v) r1-2-p1-r1-1-p1-r1-1-2-ap3, (p) 1-1-1, (r) 2-1-1-1-1, metatarsus (d) 0-r1-r1, (v) 3-r1-r1-p1-r1-1-2-ap3, (p) 1-1-1, (r) 1-1-1. Carapace, legs and abdomen dorsally brown. Sternum, coxae and abdomen ventrally light brown. Clypeus present, narrow. Abdomen with a ventral circular spot (Fig. 20). Urticating hair type III present. Palpal bulb with inferior and superior prolateral keels, the inferior serrated and extending along the embolus. Prolateral tibial apophysis smaller, with a spine on the retrolateral margin of it and retrolateral tibial apophysis larger, with an apical spine

(Fig. 17). Anterior eye row procurved, posterior recurved. Eyes sizes: AME 0.24, ALE 0.43, PME 0.28, PLE 0.31. Scopulae on metatarsi: I half occupied by scopula, II with scopula restricted to 1/3 of the apical portion, III with weak scopula restricted to fifth apical portion, IV without scopula.

Female (Paratype, IBSP 11301). Total length, without chelicera and spinnerets, 22.6. Carapace: length 9.80, width 8.10, fovea procurved. Eye tubercle: length 1.22, width 1.58. Labium: length 1.10, width 1.70. Sternum: length 5.10, width 4.10. Basal segment of chelicera with 11 teeth in the prolateral margin. La-



Figures 14-20. *Tmesiphantes caymmii* sp. nov., holotype male. (14-16) Left male palpal bulb: (14) prolateral view; (15) retrolateral view; (16) dorsal view; (17) left tibial apophysis, prolateral view; (18) labium and sternum; (19) spermathecae (paratype female); (20) abdomen, ventral view. Scale bars = 1 mm.

bium with 15 cuspules. Maxillae with 120 cuspules. Sternum oval (Fig. 18). Measurements: palp: femur 5.40/patella 3.20/tibia 4.10/cymbium 3.3/total 16.00. Legs: I: femur 7.10/patella 4.40/tibia 6.10/metatarsus 3.80/tarsus 2.80/total 24.20; II: 6.50/3.70/5.30/4.30/2.80/22.60; III: 5.80/3.20/4.40/5.50/2.80/21.70; IV: 7.80/3.50/6.50/8.10/3.50/29.40. Spines: palp: femur (d) 0-0-p1, tibia (v) 0-0-p1-ap2. Legs: tarsi without spines; I: femur (d) 0-0-p1, tibia (v) 0-2-0-ap1, metatarsus (v) 0-1-0-ap1; II: femur (d) 0-

0-p1, tibia (v) 0-1-0-ap2, (p) 0-1-0, metatarsus (v) 0-1-0-ap2; III: femur (d) 0-p1-r1-2, patella (v) 0-0-r1, (p) 0-2-0, (r) 1-0-0, tibia (d) 2-2-0, (v) 2-1-0-ap3, (p) 0-1-0, (r) 0-1-0, metatarsus (d) 2-2-2, (v) 2-1-p1-1-r1-p1-ap3; IV: femur (d) 0-0-r1, patella (p) 0-1-0, (r) 0-1-0, tibia (d) p1-0-p1, (v) 3-2-2-p1-ap3, (p) 1-1-1-0, (r) 1-2-1, metatarsus (d) 0-2-2, (v) 2-r1-1-p1-r1-1-2-ap3, (p) 1-0-0, (r) 1-1-0-1. Carapace, legs and abdomen dorsally brown. Sternum, coxae and abdomen ventrally light brown. Abdomen with a ventral

circular spot, like the male (Fig. 20). Urticating hairs type IV present. Spermathecae formed by two receptacula with a slight constriction near the apex (Fig. 19). Clypeus present, narrow. Eyes sizes: AME 0.28, ALE 0.41, PME 0.26, PLE 0.30. Scopulae on metatarsi: I half occupied by scopula, II with scopula restricted to 1/4 of the apical portion, III with weak scopula restricted to fifth apical portion, IV without scopula.

Variation. Males (n = 3): total length: 18.4-23.0. Labium with 6-15 cuspules.

Distribution. Known from the state of Bahia, Brazil.

Tmesiphantes bethaniae sp. nov.

Figs 21-25

Type-material. Male holotype from Una, Bahia, Brazil, XII.1999, K. Kato *leg.* (MZSP 24226). Paratypes: 3 males from Uruçuca, III.2002, J.P.L. Guadanucci *leg.* (MZSP 24125; MZSP24129; IBSP 13438).

Etymology. This species is named in honor of Maria Bethania, a Brazilian popular singer, natural from the state of Bahia.

Diagnosis. Males of *Tmesiphantes bethaniae* sp. nov. differ from the others by the aspect of the palpal bulb, which presents a more slender embolus (Figs 21-23), and by the presence of urticating hairs types IV.

Description. Male (Holotype). Total length, without chelicera and spinnerets, 22.38. Carapace: length 11.50, width 10.38, fovea procurved. Eye tubercle: length 0.84, width 1.26. Labium: length 1.06, width 1.52. Sternum: length 6.08, width 5.12. Basal segment of chelicera with 17 teeth on the prolateral margin. Labium with 12 cuspules. Maxillae with 88 cuspules. Sternum oval (Fig. 25). Measurements: palp: femur 6.24/patella 3.60/tibia 4.96/cymbium 1.92/total 16.72. Legs: I: femur 11.70/patella 6.05/tibia 10.90/metatarsus 9.10/tarsus 5.40/total 43.15; II: 11.20/5.40/9.20/8.90/4.90/39.60; III: 9.90/4.80/8.10/11.90/4.60/39.30; IV: 14.20/5.05/12.10/18.10/5.80/55.25. Spination: palp: femur (d) 0-0-p1, tibia (d) p1-p1-p1, (p) 1-1-1. Legs: tarsi without spines; I: femur (d) 0-0-p1-, tibia (r) 1-2-ap1, metatarsus (v) 0-1-p1-ap1, (p)0-1-0; II: femur (d) 0-0-p1, tibia (v)1-p1-1-ap3, (p) 0-1-0, metatarsus (v)1-1-p1-ap1, (p) 0-1-0; III: femur (d) 0-0-2, patella (p)0-2-0, tibia (d) 2-r1-2-r1, (v) 2-1-0-ap3, (p) 0-1-1, (r) 0-1-1, metatarsus (d) 2-2-1-2, (v) 2-1-p1-1-2-ap3; IV: femur (d) 0-0-2, patella (p) 0-0-1, tibia (d) p1-0-p1-p1, (v) 2-2-0-ap2, (p) 1-1-0, (r) 2-2-2-1, metatarsus (d) 2-2-2-1-2, (v) 2-1-p1-2-3-r1-1-2-ap3, (p) 0-1-0. Carapace and legs dorsally reddish brown. Sternum, coxae and abdomen ventrally light brown. Urticating hairs type III and IV present. Clypeus present, narrow. Palpal bulb with inferior and superior prolateral keels, embolus thin (Figs 21-23). Prolateral tibial apophysis smaller, with a spine on the retrolateral margin of it and retrolateral tibial apophysis larger, with an apical spine (Fig. 24). Anterior eye row procurved, posterior recurved. Eye sizes: AME 0.30, ALE 0.48, PME 0.36, PLE 0.25. Scopulae on metatarsi: I 1/4 of the apical portion occupied by scopula, II with

scopula restricted to 1/5 of the apical portion, III with weak scopula restricted to fifth apical portion, IV without scopula.

Female. Unknown.

Variation. Males (n = 4): total length 15.00-22.38. Labium with 7-12 cuspules.

Distribution. Only known from the type locality.

SPECIES INQUIRENDA

Tmesiphantes chickeringi Caporiacco, 1955

Tmesiphantes chickeringi Caporiacco, 1955: 278; Gerschman de Pikelin & Schiapelli, 1958: 7; Schaefer, 1996: 27.

Type-material. Female holotype from Santa Lucía, Miranda, Venezuela, II.1949, Marcuzzi *leg.*, deposited in Museu de Biología, Universidad Central de Venezuela (n° 215), not examined.

Note. The diagnosis provided by CAPORIAMCO (1955) is not enough to identify this species. According to GERSCHMAN DE PIKELIN & SCHIAPELLI (1958), the type is a juvenile female. Therefore, we considered it species inquirenda.

MISPLACEDS SPECIES

Plesiopelma physopus (Mello-Leitão, 1926) comb. nov.

Tmesiphantes physopus Mello-Leitão, 1926: 318, fig. 6; Gerschmann de Pikelin & Schiapelli, 1958: 7; Bücherl, 1957: 392; Schaefer, 1996: 27, fig. 12.

Type-material. Male holotype. (881 Col. Mello-Leitão) from Campina Grande (Parahyba do Norte). Brazil. T. Leitão *leg.* (MNRJ), not found, probably lost.

Note. According to the original description, MELLO-LEITÃO (1926) mentions the presence of a retrolateral basal nodule on metatarsus I, which flexes between the two branches of the tibial apophysis. According to PÉREZ-MILES *et al.* (1996), such features are diagnostic characters of the genus *Plesiopelma*. SCHAEFER (1996) only reproduces the original description and illustration of Mello-Leitão, without significant contribution. Therefore, it is proposed the transference of this species to *Plesiopelma*.

Plesiopelma minensis (Mello-Leitão, 1943) comb. nov.

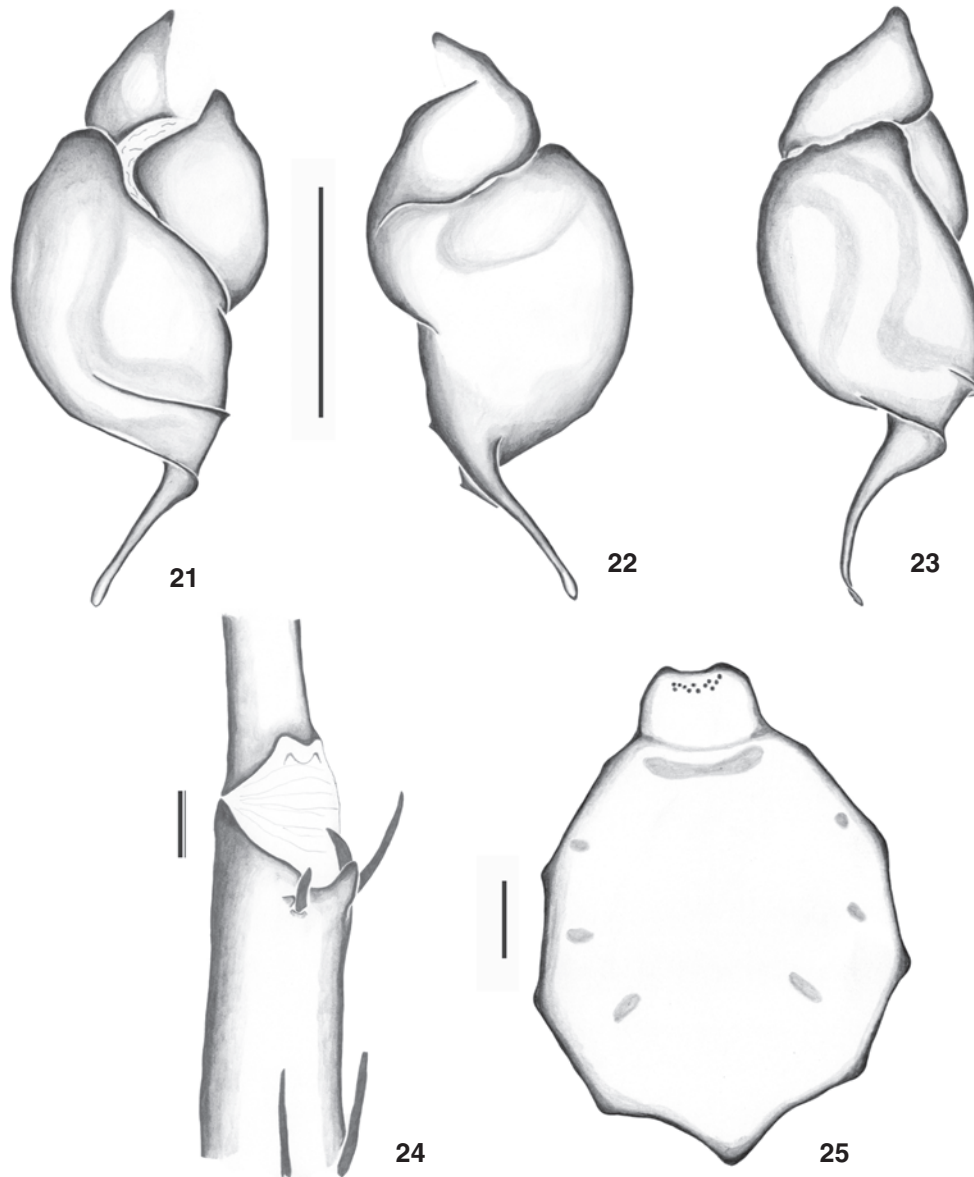
Tmesiphantes minensis Mello-Leitão, 1943: 257; Bücherl, 1957: 392, figs 39, 39a; Schmidt, 1986: 42, figs 22-23; Schaefer, 1996: 27, figs 15-16.

Drytopelma minensis Schmidt, 1993: 65, figs 91-92.

Type-material. Male holotype from Ouro Preto, Minas Gerais, Brazil (MNRJ) not found, probably lost.

Note. In the original description, MELLO-LEITÃO (1943) reports the morphology of the palpal bulb, with a long and curved embolus, the presence of a retrolateral basal nodule on metatarsus I and the labium full of cuspules. All these characters resemble species of the genus *Plesiopelma* (PÉREZ-MILES 1996).

BÜCHERL (1957) describes the palpal bulb with a long embolus and a slender paraembolic process (fig. 39) and the



Figures 21-25. *Tmesiphantes bethaniae* sp. nov., holotype male. (21-23) Left male palpal bulb: (21) prolateral view; (22) retrolateral view; (23) dorsal view; (24) left tibial apophysis, prolateral view; (25) labium and sternum. Scale bars = 1 mm.

tibial apophysis with two branches (fig. 39a). He also mentions a similarity with *Cyriocosmus fasciatus* (Mello-Leitão, 1930) but he did not mention which specimen he examined. The presence of a paraembolic process suggest that he studied a specimen of *Cyriocosmus* Simon, 1903.

We examined representatives of the genus *Plesiopelma* from the IBSP collection from the type locality, Ouro Preto, Minas Gerais (IBSP 12660), which matches with the original description. Therefore we proposed the transfer of *T. minensis* to *Plesiopelma*.

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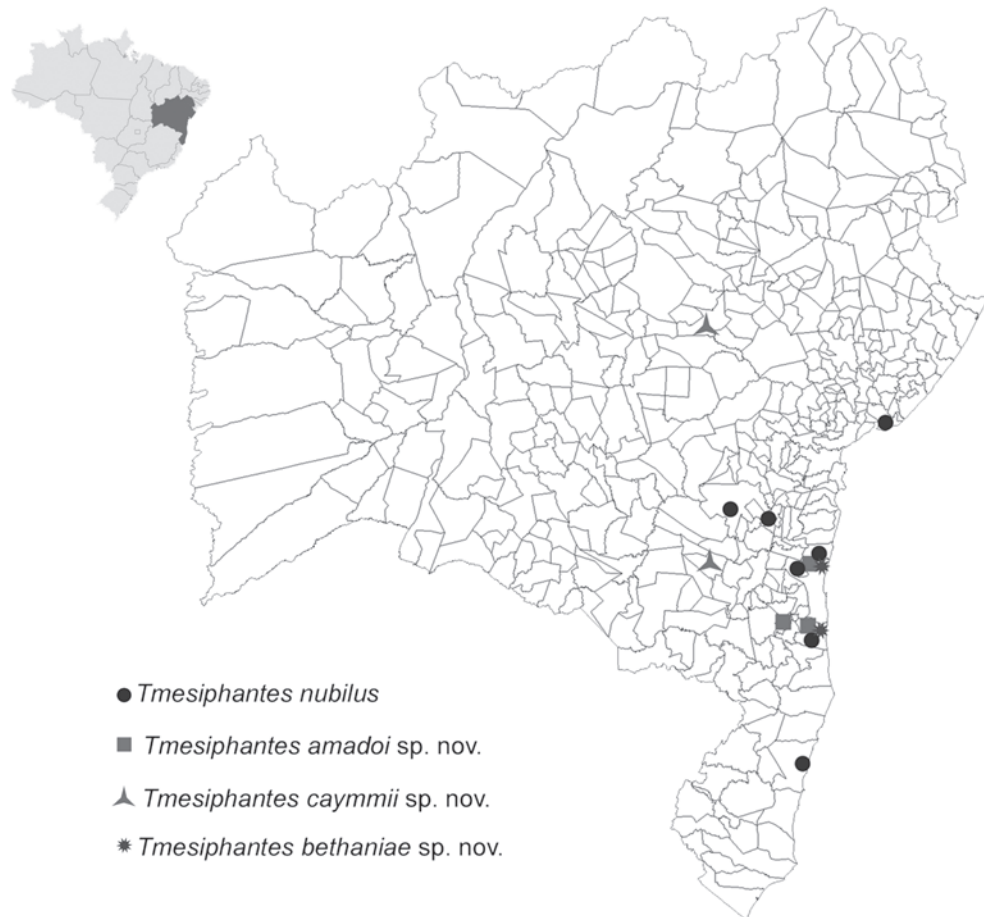


Figure 26. Map of Bahia state, Brazil, with the distribution of the Brazilian species of *Tmesiphantes*.

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