

REICHENBACHIA

Staatliches Museum für Tierkunde Dresden

Band 34

Ausgegeben: 1. Mai 2002

Nr. 27

New species and new records of *Lyssomanes* HENTZ, 1845 from Brazil (Arachnida: Araneae: Salticidae)

With 26 figures

DMITRI V. LOGUNOV

Abstract. Four new species of *Lyssomanes* are diagnosed, figured and described from Brazil: *L. adisi* sp. n. (male and female), *L. benderi* sp. n. (male and female), *L. paravelox* sp. n. (male) and *L. pseudobenderi* sp. n. (female). New faunistic records for ten species in Brazil are provided as well.

Key words. Araneae, Salticidae, *Lyssomanes*, new species, new records, Brazil.

Introduction

The genus *Lyssomanes* is known to comprise 73 valid species (see GALIANO, 1962, 1980, 1984, 1996; BRIGNOLI, 1984; PRÓSZYŃSKI, 1990; JIMÉNEZ & TEJAS, 1993; LOGUNOV, 2000a,b), two of which are fossil species (WUNDERLICH, 1986, 1988). The aim of the present paper is to describe four new *Lyssomanes* species from Brazil and to give new Brazilian faunistic records for ten others. All these species are shared between the Laboratório de Artrópodos Peçonhentos, Instituto Butantan, São Paulo, Brazil (Dr. A. D. BRESCOVIT; LAIB) and The Manchester Museum, The University of Manchester, Manchester, UK (Dr. D. V. LOGUNOV; MMUM).

Abbreviation used in the text and figures: AME – anterior median eye, ALE – anterior lateral eye, d – dorsal, Fm – femur, Mt – metatarsus, PME – posterior median eye, PLE – posterior lateral eye, pr – prolateral, Pt – patella, rt – retrolateral, Tb – tibia, Tr – tarsus, v – ventral. For the leg spination the system adopted is that used by ONO (1988). The sequence of leg segments in measurement data is as follows: femur + patella + tibia + metatarsus + tarsus. All measurements are in mm.

Description of new species

Lyssomanes adisi sp. n. (figs 1–5)

Material. Holotype male (LAIB; IB-17227), Brazil, Paraná, Ilha de Curari, Manaus, Amazonas, 3.08.1979, J. Adis *et al.*

Author's address:

Dr. Dmitri V. Logunov, Siberian Zoological Museum, Institute for Systematics and Ecology of Animals, Frunze street 11, Novosibirsk 630091, Russia

Present address: Manchester Museum, The University of Manchester, Oxford Road, M13 9PL, UK; e-mail: dmitri.v.logunov@man.ac.uk

Paratypes: Three males (LAIB; IB-17229, IB-17233, IB-17236), one male (MMUM), together with the holotype; one female (MMUM), one male and one female (LAIB; IB-17195, IB-17188), Igapó, Tatumã-Mirim, Manaus, Amazonas, 27-29.07.1979, J. Adis *et al.*

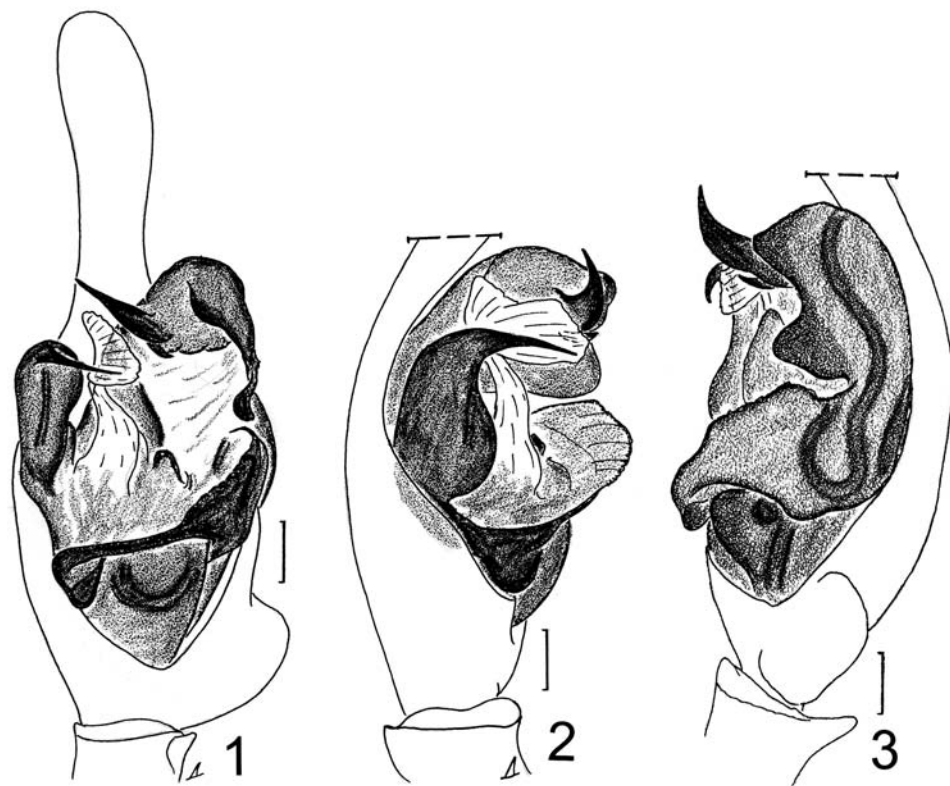
Etymology. The species is named in honour of the well-known Germany scientist, Dr. J. Adis, who collected the type series.

Diagnosis. The males of the new species are fairly close to those of *L. nigrofimbriatus* MELLO-LEITÃO, 1940 (see GALIANO, 1962: tab. II, figs 5–7), but can be distinguished from it by the shape of the embolic base (fig. 2) and the tegulum (fig. 3). The females of *L. adisi* sp. n. are close to those of *L. unicolor* (TACZANOWSKI, 1871), but can be separated by the arrangement and proportions of the receptacles (cf. figs 4–5 and 6–7).

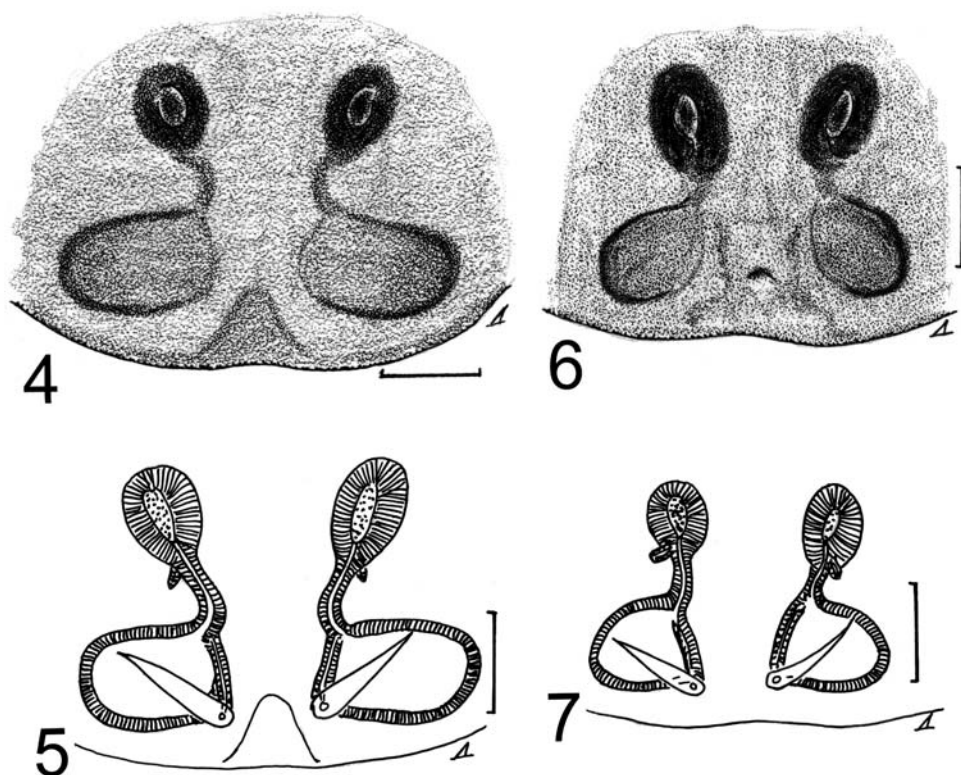
Distribution. Brazil (Amazonas: Paran  and Igap ).

Description.

Male (the paratype from Paran ). Carapace 2.48 long, 1.78 wide, 1.00 high at PLE. Ocular area 1.14 long. Distances between eyes: AME-AME 0.95, ALE-ALE 0.95, PME-PME 0.55, PLE-PLE 0.75. Diameter of AME 0.50. Abdomen 3.30 long, 1.10 wide. Cheliceral length 0.75. Clypeal height 0.11. Length of leg segments: I 3.80+1.10+3.88+3.88+0.65; II 2.80+0.85+2.55+2.78+0.58; III 2.55+0.73+2.08+2.65+0.58; IV 2.45+0.65+2.70+2.95+0.58. Leg spination: I: Fm d 1-1-1, pr



Figs 1–3: Copulatory organs of *Lyssomanes adisi* sp. n. (the paratypes from Brazil: Paran ): 1 – male palp, ventral view; 2 – ditto, median view; 3 – ditto, retrolateral view. – Scale lines: 0.1 mm.



Figs 4–7: Copulatory organs of *Lyssomanes adisi* sp. n. (4–5; the paratypes from Brazil: Paraná) and *Lyssomanes unicolor* (6–7; the specimen from Brazil: São Cristóvão); 4, 6 – epigyne; 5, 7 – spermathecae, dorsal view. – Scale lines: 0.1 mm.

and rt 0-1-1, Tb pr and rt 0-0-1, v 4 pairs; Mt pr and rt 1-0-0, v 3 pairs. II: Fm d 1-1-1, pr and rt 0-1-1, Tb d, pr and rt 0-0-1, v 4 pairs; Mt v 3 pairs. III: Fm d 1-1-1, pr and rt 0-1-1, Pt d 1ap; Tb d and rt 0-1, pr 1-1, Mt without spines; IV: Fm d 1-1; Pt d 1ap; Tb d 1-0-1, pr and rt 0-0-1, Mt without spines. Coloration (in alcohol). All body and legs yellow, except as follows: carapace tinged with brownish; black around eyes; dorsum with 3 pairs of elongated brown patches; femora I anterior with longitudinal brownish stripes; and tibia of all legs distally brownish. Palpal structure as in figs 1–3.

F e m a l e (the paratype from Igapó). Carapace 2.33 long, 1.88 wide, 1.25 high at PLE. Ocular area 1.38 long. Distances between eyes: AME-AME 1.09, ALE-ALE 1.33, PME-PME 0.59, PLE-PLE 0.84. Diameter of AME 0.53. Abdomen 1.50 long, 1.13 wide. Cheliceral length 0.93. Clypeal height 0.20. Length of leg segments: I 3.05+1.05+2.55+1.95+0.58; II 2.65+0.85+2.00+1.98+0.55; III 2.16+0.55+1.80+2.04+0.58; IV 2.05+0.65+1.90+2.25+0.50. Leg spination: I: Fm d 1-1-1, pr and rt 0-1-1, Tb pr and rt 0-0-1, v 4 pairs; Mt pr and rt 1-0-0, v 3 pairs. II: Fm d 1-1-1, pr and rt 0-1-1, Tb pr and rt 0-0-1, v 3 pairs; Mt v 3 pairs. III: Fm d 1-1-1, pr 0-1-1, Pt d 1ap, Tb d, pr and rt 1-1, v 1-2, Mt pr and rt 1-1-1; IV: Fm d 1-1; Pt d 1ap; Tb d, pr and rt 1-1, Mt rt 1-1. Coloration (in alcohol) as in male, except as follows: round patches on dorsum smaller and paler; eye field densely covered with orange appressed scales. Epigyne and spermathecae as in figs 4–5.

Lyssomanes benderi sp. n. (figs 8–13, 16–18)

Material. Holotype male (LAIB; IB-7277), Brazil, Lago Janauari, Manaus, AM, 29.07.1996, E. Vinticique.

Paratypes: Two females (LAIB; IB-7277), together with the holotype; one male (MMUM), Brazil, Paraná, Ilha de Curari, Manaus, Amazonas, 3.08.1979, J. Adis *et al.*

Etymology. The species is dedicated to the famous personage of I. Il'f & E. Petrov's novels, Ostap Bender, whose dream was to come to Brazil, to put on white trousers and to have a stroll over the embankments of Rio de Janeiro.

Diagnosis. The new species is closely related to *L. tenuis* PECKHAM, PECKHAM & WHEELER, 1889 (see GALIANO, 1962: tab. 6, figs 4–6; 1980: figs 8–9) and *L. peruensis* LOGUNOV, 2000 (see LOGUNOV, 2000a: figs 6–8), but can be easily distinguished from them by the shorter embolus and the shape of the conductor in males (figs 8, 9), and by the thinner insemination ducts and the shape of the receptacles in females (fig. 13). See also below comments under "Diagnosis" of *L. pseudobenderi* sp. n.

Distribution. Brazil (Amazonas: Lago Janauari and Paraná).

Description.

Male (the holotype). Carapace 3.05 long, 2.20 wide, 1.40 high at PLE. Ocular area 1.28 long. Distances between eyes: AME-AME 1.15, ALE-ALE 1.23, PME-PME 0.78, PLE-PLE 0.95. Diameter of AME 0.63. Abdomen 4.05 long, 1.40 wide. Cheliceral length 3.00. Clypeal height 0.23. Length of leg segments: I 5.10+1.53+5.05+4.50+0.83; II 3.70+1.15+3.30+3.15+0.75; III 3.20+0.88+2.85+3.20+0.80; IV 3.08+0.80+3.00+3.55+0.80. Leg spination: I: Fm d 1-1-1, pr and rt 0-1-1, Tb pr and rt 0-0-1, v 4 pairs; Mt v 3 pairs. II: Fm d 1-1-1, pr and rt 0-1-1, Tb pr and rt 0-0-1, v 4 pairs; Mt pr and rt 1-0-0, v 3 pairs. III: Fm d 1-1-1, pr and rt 0-1-1, Pt d 1ap; Tb d 1-0-1, pr and rt 1-1, v 4 pairs; Mt pr and rt 1-0-0, v 3 pairs. IV: Fm d 1-1-1, rt 0-0-1; Pt d 1ap; Tb d 1-0-1; Mt rt 0-0-1, v 0-1-0. Coloration (in alcohol). All body and legs yellow, except as follows: black around eyes; chelicerae anterior with longitudinal brown stripes (fig. 11); dorsum with 2 pairs of elongated gray patches; tibiae and metatarsi brown on their ends; tarsi completely brown. Palpal structure as in figs 8–10, 16–18.

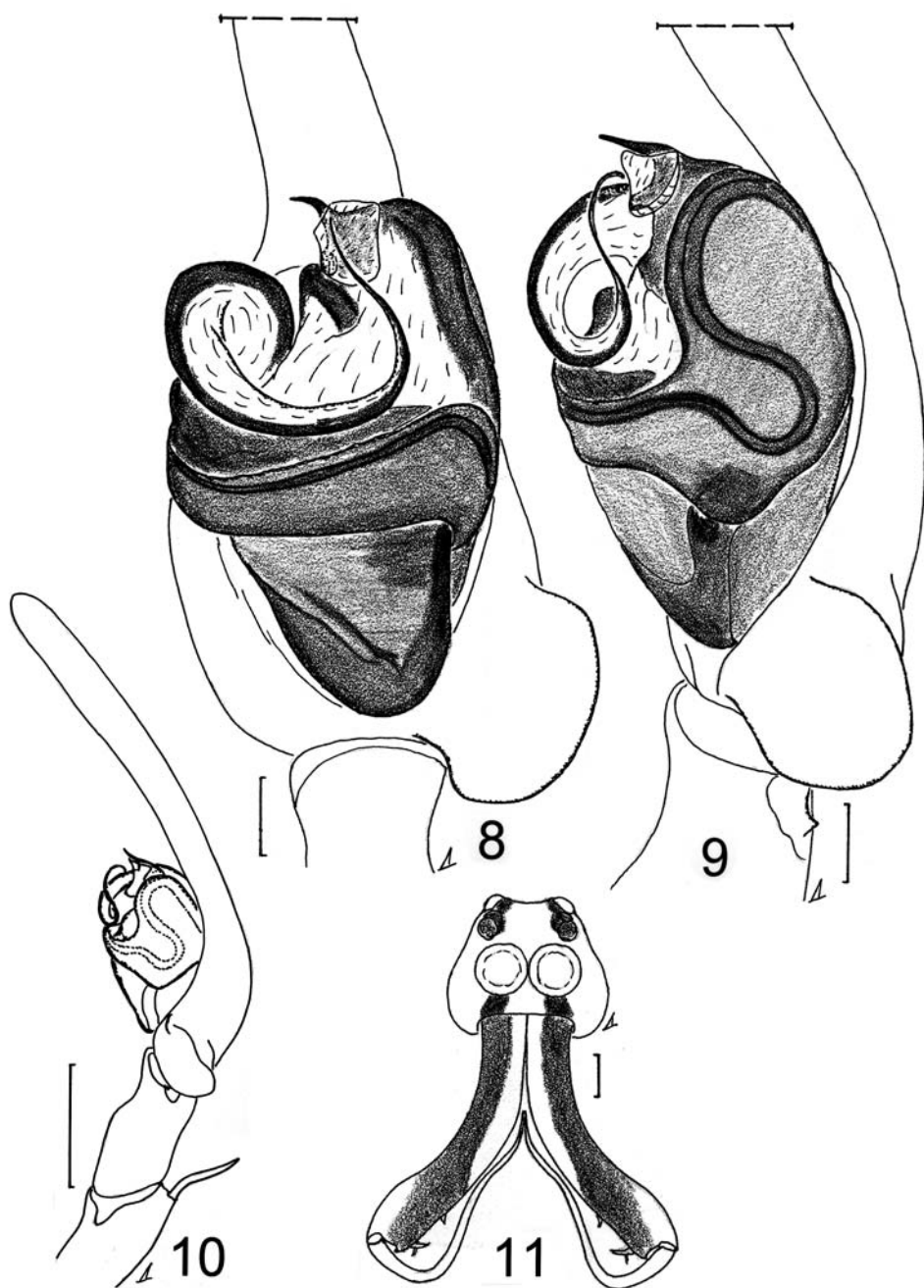
Female (the paratype). Carapace 2.45 long, 1.98 wide, 1.35 high at PLE. Ocular area 1.20 long. Distances between eyes: AME-AME 1.14, ALE-ALE 1.23, PME-PME 0.78, PLE-PLE 0.95. Diameter of AME 0.55. Abdomen 4.80 long, 3.10 wide. Cheliceral length 1.03. Clypeal height 0.14. Length of leg segments: I 3.20+1.13+2.78+2.50+0.68; II 2.75+0.80+2.20+2.25+0.53; III 2.53+0.85+2.06+2.33+0.50; IV 2.63+0.78+2.28+2.80+0.65. Leg spination: I: Fm d 1-1-1, rt and rt 0-1-1, Tb pr and rt 0-0-1, v 4 pairs; Mt v 3 pairs. II: Fm d 1-1-1, pr and rt 0-1-1, Tb pr and rt 0-0-1, v 4 pairs; Mt v 3 pairs. III: Fm d 1-1-1, pr and rt 0-0-1, Pt d 1ap; Tb d 1-0-0, pr and rt 1-1, Mt pr 1-1, v 1-0. IV: Fm d 1-1-1, rt 0-0-1; Pt d 1ap; Tb d 1-1, rt 0-1, Mt without spines. Coloration (in alcohol). Whole body and legs yellow, with black around eyes. Epigyne and spermathecae as in figs 12–13.

Lyssomanes paravelox sp. n. (figs 20–22)

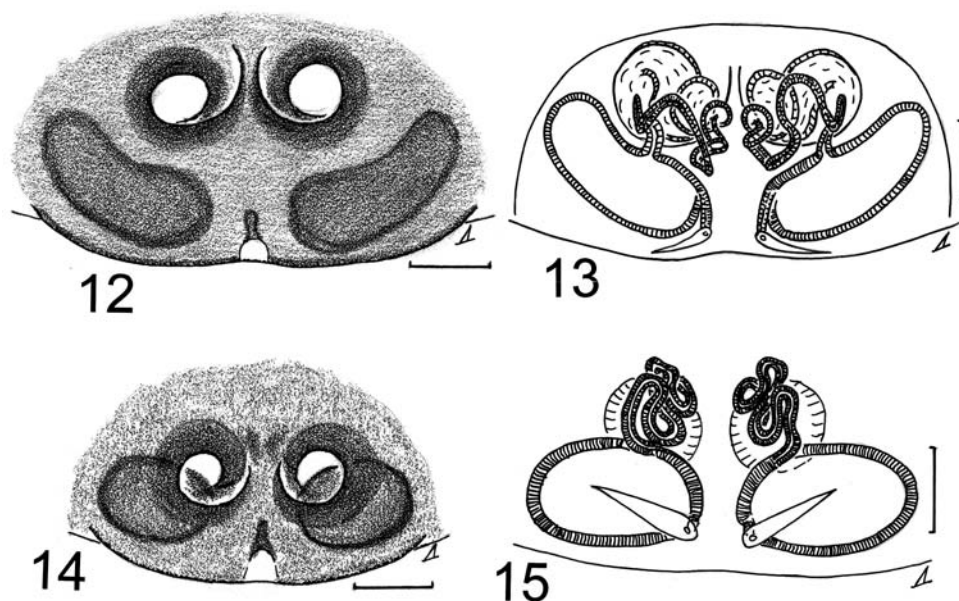
Material. Holotype male (LAIB; IB-7069), Brazil, Reserva 1501, Km41ZF3, Fazenda Esteio, Manaus, AM, 1995, L. E. & F. R. E. Silva.

Etymology. The specific epithet refers to the closely relation of the new species to *L. velox* PECKHAM, PECKHAM & WHEELER, 1888.

Diagnosis. The new species is fairly close to *L. velox* (see GALIANO, 1962: tab. VII, figs 1–4), but can be distinguished from it by the shape and position of the conductor (fig. 21), as well as by the shape of the tegulum (fig. 20).



Figs 8–11: Copulatory organs and somatic characters of *Lyssomanes benderi* sp. n. (8–11; the male holotype): 8 – male palp, ventral view; 9, 10 – ditto, retrolateral view; 11 – male face, anterior view. – Scale lines: 0.1 mm (8–10), 0.5 mm (11).



Figs 12–15: Copulatory organs of *Lyssomanes benderi* sp. n. (12–13; the female paratypes from Brazil: Lago Janauari) and *Lyssomanes pseudobenderi* sp. n. (14–15, the holotype): 12, 14 – epigyne; 13, 15 – spermathecae, dorsal view. – Scale lines: 0.1 mm (12–15).

Distribution. The type locality only.

Description.

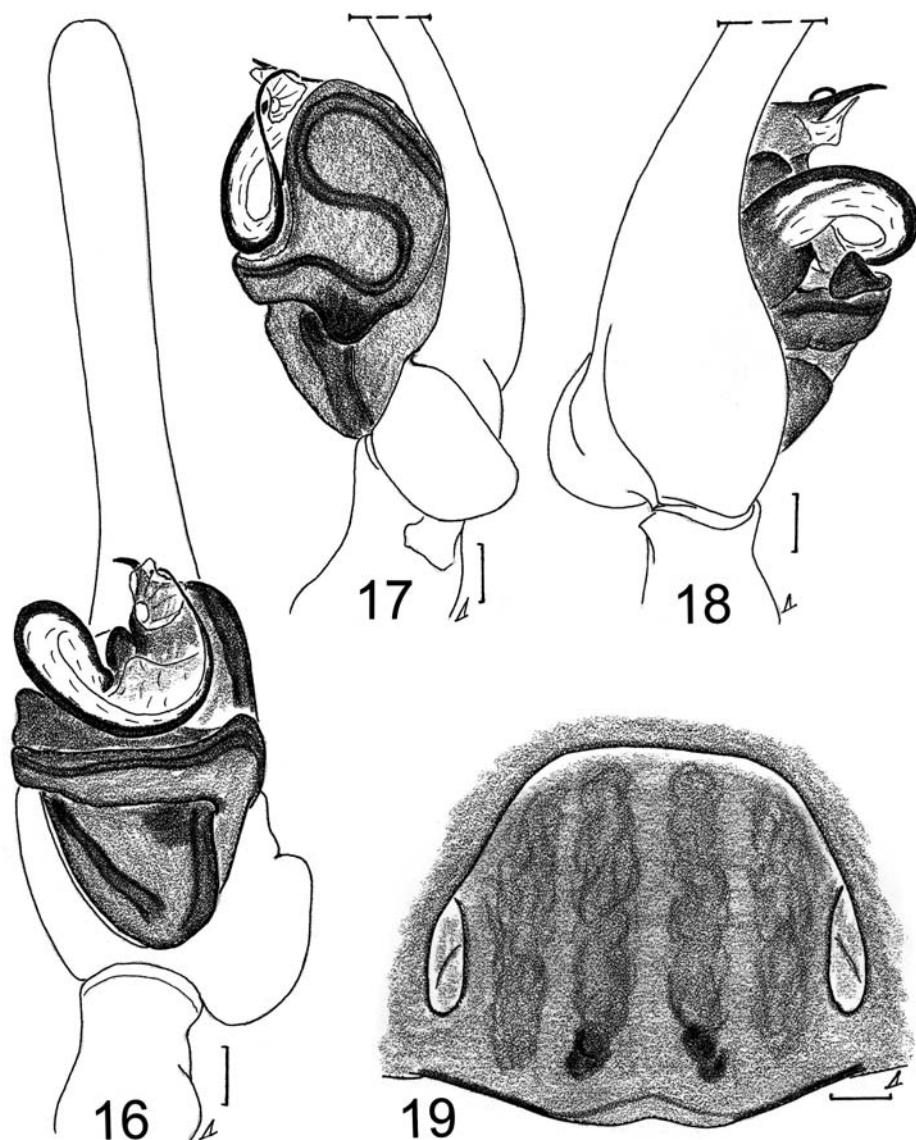
Male (the holotype). Carapace 2.60 long, 2.05 wide, 1.40 high at PLE. Ocular area 1.73 long. Distances between eyes: AME-AME 1.38, ALE-ALE 1.45, PME-PME 0.75, PLE-PLE 1.14. Diameter of AME 0.68. Abdomen 3.45 long; width cannot be measured, as the abdomen squashed laterally. Cheliceral length 0.83. Clypeal height 0.19. Length of leg segments: I 3.35+1.10+3.95+3.70+0.95; II 3.20+1.03+2.93+3.30+0.75; III 3.10+0.95+2.80+3.55+1.00; IV 3.05+0.75+2.75+3.90+0.80. Leg spination: I and II: Fm d 1-1-1, pr and rt 0-1-1, Pt d 1ap; Tb d, pr and rt 1-1, v 3 pairs; Mt pr and rt 1-0-0, v 3 pairs. III: Fm d 1-1-1, pr and rt 0-1-1, Pt d 1ap; Tb d 1-1, pr and rt 1-1, v 0-2-0, Mt pr 1-1-1, rt 1-1, v 2-2-0. IV: Fm d 1-1-1, pr 0-1-1, rt 0-0-1; Pt d 1ap; Tb d, pr and rt 1-1, Mt pr and rt 0-1-0. Coloration (in alcohol). All body and legs yellow, except as follows: black around eyes; carapace and dorsum with a median brownish stripe; clypeus brownish; tarsi I dark brown, swollen and squashed laterally. Palpal structure as in figs 20–22.

Lyssomanes pseudobenderi sp. n. (figs. 14–15)

Material. Holotype female (LAIB; IB-15655), Brazil, Maravilha, Porto Velho, Rondônia, 04.1996, coll. ?.

Etymology. The specific epithet refers to the closely relation of the new species to *L. benderi* sp. n.

Diagnosis. The new species is fairly close to *L. benderi* sp. n., but can be easily separated from it by the arrangement of the insemination ducts and the shape of the receptacles (cf. fig. 15 and 13).

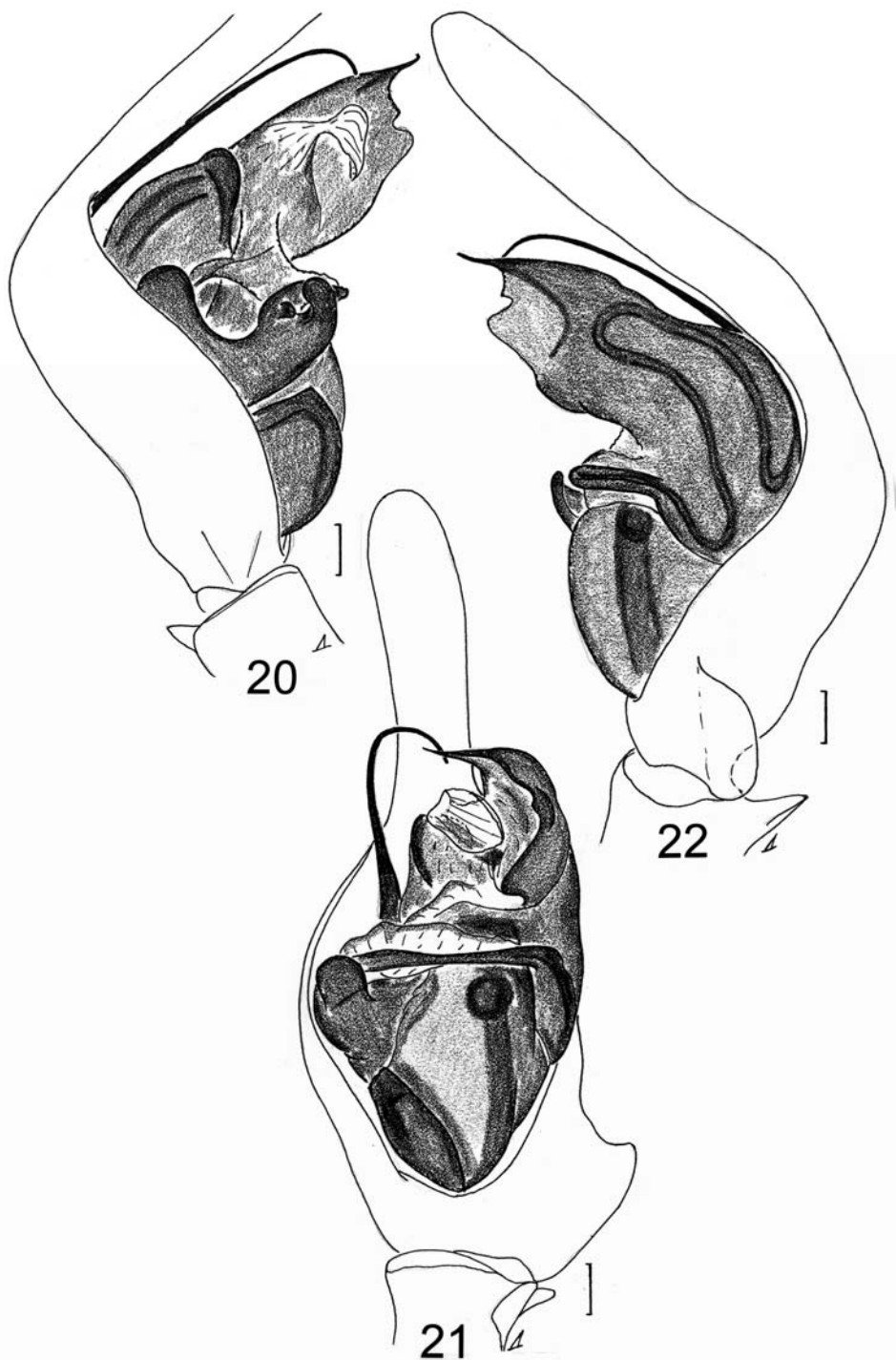


Figs 16–19: Copulatory organs of *Lyssomanes benderi* sp. n. (16–18; the paratypes from Brazil: Paraná) and *Lyssomanes amazonicus* (19; the specimen from Brazil: Paraná): 16 – male palp, ventral view; 17 – ditto, retrolateral view; 18 – ditto, median view; 19 – epigyne. – Scale lines: 0.1 mm.

Distribution. The type locality only.

Description.

Female (the holotype). Carapace 2.35 long, 1.75 wide, 1.20 high at PLE. Ocular area 1.23 long. Distances between eyes: AME-AME 1.05, ALE-ALE 1.20, PME-PME 0.75, PLE-PLE 0.90. Diameter of AME 0.53. Abdomen 3.00 long, 1.05 wide. Cheliceral length 0.88. Clypeal height 0.13. Length of leg segments: I 2.80+1.05+2.43+2.20+0.55; II 2.38+0.90+1.80+2.00+0.55; III 2.15+0.80+1.78+2.05+0.55; IV 2.05+0.68+1.80+2.35+0.55. Leg spination: I: Fm d 1-1-1, pr and



Figs 20–22: Male palp of *Lyssomanes paravelox* sp. n. (the holotype): 20 – median view; 21 – ventral view; 22 – retrolateral view. – Scale lines: 0.1 mm.

rt 0-1-1, Tb pr and rt 0-0-1, v 4 pairs; Mt rt 1-0-0, v 3 pairs. II: Fm d 1-1-1, pr and rt 0-1-1, Tb pr and rt 0-0-1, v 4 pairs; Mt pr and rt 1-0-0, v 3 pairs. III: Fm d 1-1-1, pr 0-1-1, rt 0-1-1, Pt d 1ap; Tb d 1-0-0, pr and rt 1-1, v 0-1, Mt pr and rt 1-1-0; IV: Fm d 1-1-1, rt 0-0-1; Pt d 1ap; Tb d 1-1, rt 0-1, Mt without spines. Coloration (in alcohol). Whole body and legs yellow, with black around eyes. Epigyne and spermathecae as in figs 14–15.

New faunistic records

Lyssomanes amazonicus PECKHAM, PECKHAM & WHEELER, 1889 (fig. 19)

Material. One male (LAIB; IB-17199) one male (MMUM), Brazil, Igapó, Tarumã-Mirim, Manaus, Amazonas, 29.07.1979, J. Adis *et al.*; two females (LAIB; IB-17248, IB-17247), Brazil, Paraná do Xiboreninho, Manaus, Amazonas, 7.08.1979, J. Adis *et al.*; one female (MMUM), Brazil, Reserva Extrativista de Catuaba, Rio Branco, Acre, 9.04.1996, coll. ?; one female (LAIB; IB-16030), Brazil, Pimenteira, Xapurí, Acre, 5-7.04.1996, coll. ?

Comments. This species has so far been reported from Brazil (GALIANO, 1962), Bolivia and Guyana (GALIANO, 1980).

Lyssomanes camacanensis GALIANO, 1980 (figs 25–26)

Material. One female (LAIB; IB-21150), Brazil, Foz do Chopim, Cruzeiro do Iguaçu, Dois Vizinhos, Paraná, 8-15.10.1998, coll. ?.

Comments. This is a first record of this species after the original description (GALIANO, 1980); the species is known from Brazil only.

Lyssomanes elegans F. PICKARD-CAMBRIDGE, 1900

Material. One male (LAIB; IB-11234), Brazil, Ribeirão Preto, SP, 1992, E. Camillo.

Comments. This species has so far been reported from Mexico, Panamá, Brazil, Bolivia and Venezuela (GALIANO, 1980).

Lyssomanes leucomelas MELLO-LEITÃO, 1917

Material. One male, one female (LAIB; IB-7679), Brazil, Parque Serra do Mar, Nucleo Santa Virginia, SP, 11.1996, L. S. Rocha; two males (LAIB; IB-19984), Brazil, Pindamonhangaba, São Paulo, 11.1995, R. Martins; one male (LAIB; IB-20018), same locality, 1-2.04.1995, R. Martin; one male, one female (MMUM), two females (LAIB; IB-20175), Brazil, Jundiaí, São Paulo, 30.10-2.11.1998, C. A. Rheims; one female (LAIB; IB-6562), Brazil, Telemaco Barba - PR, 12.1995, E. Ramires & R. Bertani.

Comments. This species has so far been reported from Brazil and Argentina (GALIANO, 1980).

Lyssomanes longipes (TACZANOWSKI, 1871)

Material. One male, one female (MMUM), one female, one juvenile (LAIB; IB-10855), Brazil, Usina Hidrelétrica de Balbina, Presidente Figueiredo, AM, 1987/1988; one male (LAIB; IB-7056), Brazil, Reserva 1501, Km41ZF3, Fazenda Esteio, Manaus, AM, 1995, L. E. & F. R. E. Silva; one female (LAIB; IB-15442), Brazil, Rio Atininga, Manicoré, Amazonas, 19.04.1996, coll. ?.

Comments. This species has so far been reported from Brazil and Guyana (GALIANO, 1980).

Lyssomanes pauper MELLO-LEITÃO, 1945 (figs 23–24)

Material. Two females (LAIB; IB-20748, IB-20733), Brazil, Pratinha, Iraquara, Bahia (12°21'09"S, 41°32'30"W), 22.12.1998, L. S. Rocha.

Comments. This species has so far been reported from Brazil and Argentina (GALIANO, 1980).

Lyssomanes remotus PECKHAM & PECKHAM, 1896

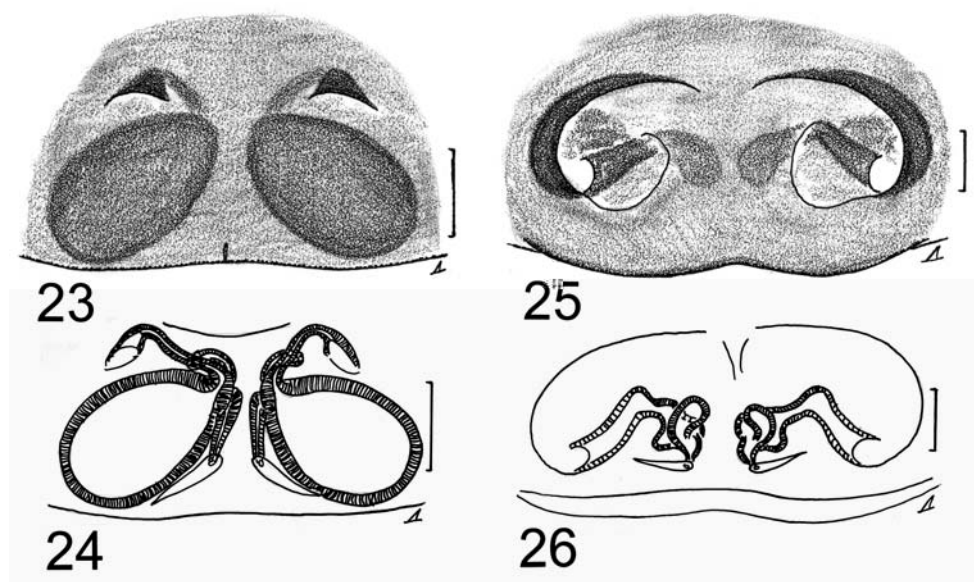
Material. One male, one female (LAIB; IB-10371, IB-10354), Brazil, Campus UFSE, São Cristovão, SE s/data, Alunos UFSE.

Comments. This species has so far been reported from Brazil and Panamá (GALIANO, 1980).

Lyssomanes tenuis PECKHAM, PECKHAM & WHEELER, 1889

Material. One male (LAIB; IB-12504), Brazil, Parque Nacional da Serra do Divisor, AC, Tipologia 5 - Sitio 6, 18.03.1997, L. Resende & R. Vieira; one female (LAIB; IB-16184), Brazil, Porto Velho, Rondônia, 15.04.1996, coll. ?.

Comments. This species has so far been reported from Guyana (GALIANO, 1962) and Brazil (GALIANO, 1980; LOGUNOV, 2000b).



Figs 23–26: Female copulatory organs of *Lyssomanes pauper* (23–24; the specimen from Brazil: Pratinha) and *Lyssomanes camacensis* (25–26; the specimen from Brazil: Paraná): 23, 25 – epigyne; 24, 26 – spermathecae, dorsal view. – Scale lines: 0.1 mm.

Lyssomanes unicolor (TACZANOWSKI, 1871) (figs 6, 7)

Material. One male (LAIB; IB-14263), Brazil, João Pessoa, PB, 23.12.1982, M.S. dos Santos (ref. 42955); one male (MMUM; IB-17210), Brazil, Igapó, Tarumã-Mirim, Manaus, Amazonas, 29.07.1979, J. Adis *et al.*; one male, two females (LAIB; IB-7638, IB-10404), Brazil, Campus UFSe, São Cristóvão, SE, 12.11.1996, A. D. Brescovit; one female (LAIB; IB-15510), Brazil, Balneário de Lira Borba, Amazonas, 22.06.1996, coll. ?.

Comments. This species has so far been reported from Mexico, Panama, Brazil, Guyana and Peru (GALIANO, 1962, 1980; LOGUNOV, 2000a).

Lyssomanes vinocuræ GALIANO, 1996

Material. One male (LAIB; IB-10127), Brazil, Crasto, Santa Luiza do Itanhi, SE, 12-14.11.1996, A. D. Brescovit.

Comments. *L. vinocuræ* is known from Brazil only (GALIANO, 1996; present data); this is the first record of the species after the original description.

Acknowledgements

I wish to express my warmest thanks to Dr. A. D. BRESCOVIT (of the LAIB) for giving access to the *Lyssomanes* collections deposited in his museum. This research was in part sponsored by the grant for young scientists (No. 266) from the Russian Academy of Sciences.

References

- BRIGNOLI, P. M. (1984): On some West Indian *Mimetes* and *Lyssomanes* (Araneae: Mimetidae, Salticidae). – Bull. Br. arachnol. Soc. **6** (5): 200–204.
- GALIANO, M. E. (1962): Redescrición de especies del género *Lyssomanes* Hentz, 1845 basadas en los ejemplares típicos. – Acta Zool. Lilloana **18**: 45–97.
- GALIANO, M. E. (1980): Revisión del género *Lyssomanes* Hentz, 1845 (Araneae, Salticidae). – Op. Lilloana **30**: 1–104.
- GALIANO, M. E. (1984): New species of *Lyssomanes* Hentz, 1845 (Araneae, Salticidae). – Bull. Br. arachnol. Soc. **6** (6): 268–276.
- GALIANO, M. E. (1996): Descripción de tres nuevas especies de *Lyssomanes* de Brazil (Araneae, Salticidae). – Iheringia, Sér. Zool., Porto Alegre, **81**: 23–30.
- JIMÉNEZ, M. L. & TEJAS, A. (1993): Two new species of the genus *Lyssomanes* (Hentz) from the Cape Region, D.C.S., Mexico. – J. Arachnol. **21**: 205–208.
- LOGUNOV, D. V. (2000a): Three new species of *Lyssomanes* Hentz, 1845 from Peru (Arachnida: Araneae: Salticidae). – Reichenbachia Mus. Tierkde. Dresden **33** (33): 267–270.
- LOGUNOV, D. V. (2000b): A new species of *Lyssomanes* Hentz, 1845 from Brazil (Araneae: Salticidae). – Bull. Br. arachnol. Soc. **11** (8): 343–344.
- ONO, H. (1989): A revisional study of the spider family Thomisidae (Arachnida, Araneae) of Japan. 1–252. National Science Museum, Tokyo.
- PRÓSZYŃSKI, J. (1990): Catalogue of Salticidae (Araneae): Synthesis of quotations in the world literature since 1940, with basic taxonomic data since 1758. 1–336. Rozprawa Naukowa, WSRP, Siedlce. (INTERNET version: <<http://spiders.arizona.edu/salticid/main.htm>>).
- WUNDERLICH, J. (1986): Spinnenfauna gestern und heute. Fossile Spinnen in Bernstein und ihre heute lebenden Verwandten. 1–283. Wiesbaden: Bauer bei Quelle & Meyer.
- WUNDERLICH, J. (1988): Die Fossilen Spinnen (Araneae) im Dominikanischen Bernstein. – Beitr. Araneologie **2**: 1–378.