

Taxonomic notes on the genus *Lyssomanes* Hentz 1845 (Araneae: Salticidae) from French Guiana

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Abstract — The paper is devoted to new taxonomic and faunistic data on five *Lyssomanes* species from French Guiana. Three new species are diagnosed, figured and described: *L. aya* sp. nov. (♀), *L. courtiali* sp. nov. (♂♀), and *L. rudis* sp. nov. (♀). A previously unknown female is described for *L. tapirapensis* Galiano 1996. New faunistic records are provided for *L. remotus* Peckham & Peckham 1896 and *L. tapirapensis*.

Key words — South America, spiders, new species, descriptions, distribution

Introduction

The spider fauna of French Guiana is amongst the least studied ones in the Neotropical Region, numbering only 532 recorded/described species (Vedel et al. 2013, Courtial et al. 2014). The Salticidae of French Guiana number 102 species, of which the genus *Lyssomanes* is represented by the following nine species: *L. amazonicus* Peckham, Peckham & Wheeler 1889; *L. benderi* Logunov 2002; *L. elegans* F. O. Pickard-Cambridge 1900; *L. ipanemae* Galiano 1980; *L. jemineus* Peckham, Peckham & Wheeler 1889; *L. longipes* (Taczanowski 1871); *L. nigropictus* Peckham, Peckham & Wheeler 1889; *L. parallelus* Peckham, Peckham & Wheeler 1889; and *L. unicolor* (Taczanowski 1871); good illustrations and (re)descriptions of all these species were provided by Galiano (1962, 1980), Logunov (2002), Peckham et al. (1889), Pickard-Cambridge (1900) and Taczanowski (1871), while full reference lists for all species can be found in WSC (2015). The genus *Lyssomanes* was originally described by Hentz (1845), and then revised and thoroughly re-described by Galiano (1980).

During recent biodiversity surveys in French Guiana conducted by French arachnologists ('Mission Trinite' in 2008 and 2010, and 'Mission Nouragues' in 2013; see Courtial et al. 2014 for a list of the salticid species recorded) numerous specimens of *Lyssomanes* have been collected. The aims of the present work are: (1) to describe three new species of *Lyssomanes* collected during the aforementioned surveys; (2) to describe the female of *L. tapirapensis* Galiano 1996 for the first time; and (3) to provide new records for two species.

The examined material (eight specimens in total) is deposited in The Manchester Museum of the University of Manchester, Manchester, UK (MMUE; curator: D. V. Logunov); accession number – G7558.

Abbreviation used in the text and figures: *Eyes*: AME –

anterior median eye, ALE – anterior lateral eye, C – conductor, E – embolus, MA – median apophysis, PME – posterior median eye, PLE – posterior lateral eye. *Leg segments*: Fm – femur, Pt – patella, Tb – tibia, Mt – metatarsus, Tr – tarsus. *Position of leg spines*: d – dorsal, pr – prolateral, rt – retrolateral, v – ventral. For the leg spination the system adopted is that used by Ono (1988); in the descriptions of males, the term 'tutaculum' is used for a large prolateral bulge situated at the cymbial basis. The sequence of leg segments in measurement data is as follows: femur + patella + tibia + metatarsus + tarsus. All measurements are in mm. For known species, only references to their original descriptions are included, the full reference lists can be found in WSC (2015).

Taxonomy

Lyssomanes aya sp. nov.
(Figs. 1–3)

Type. Holotype ♀ (MMUE; G7558.3) from French Guiana, Trinité National Nature Reserve, Aya, primary forest, beating, 9.12.2010, A. Canard et al.

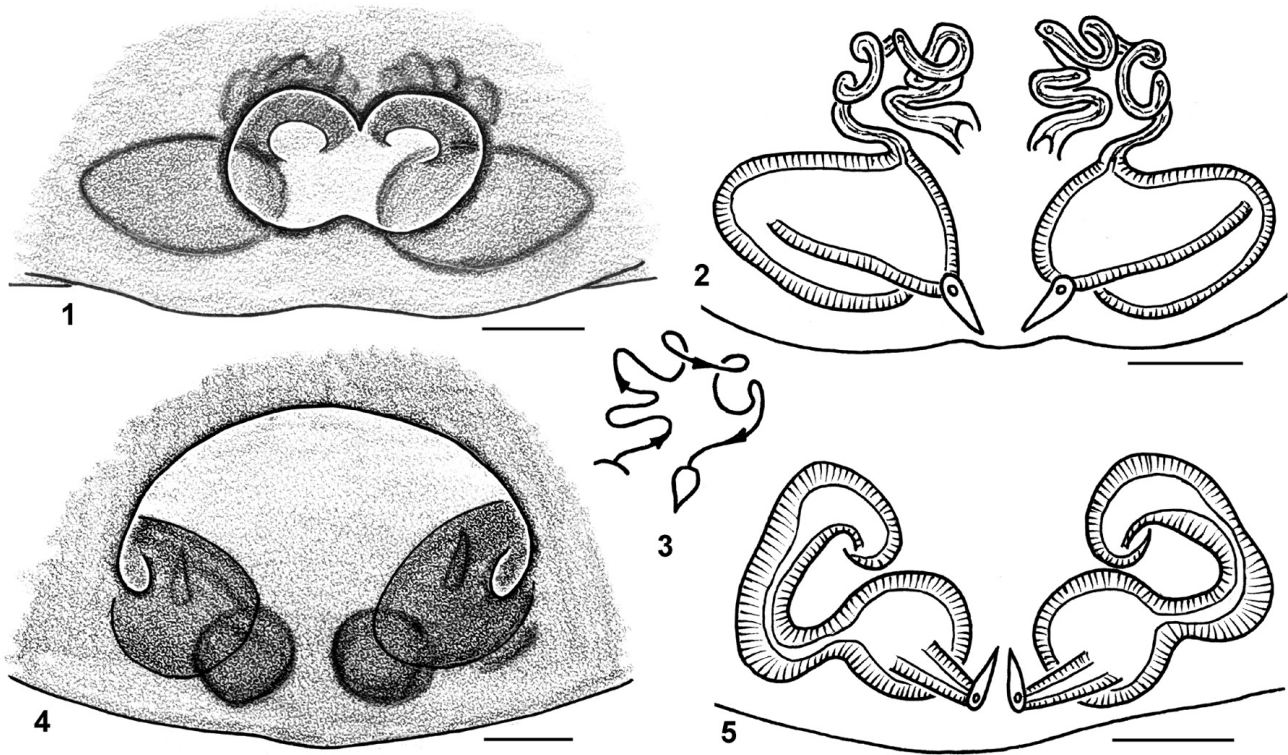
Etymology. The specific name is a noun in apposition taken from the type locality Aya.

Diagnosis. This species seems to belong to the *viridis* group (*sensu* Galiano 1980) and differs from all other *Lyssomanes* species known to me in having the central, gourd-shaped depression of the epigyne, in which the copulatory openings are situated (Fig. 1), and the well-marked, transverse external ridge of the receptacles (Fig. 2).

Distribution. The type locality only.

Description. Male unknown.

Female (the holotype). Measurements. Carapace 2.55 long, 1.90 wide, 1.35 high at PLE. Ocular area 1.30 long; width of eye rows: AME-AME-row 1.18, ALE-ALE-row



Figs. 1–5. Female copulatory organs of *Lyssomanes aya* sp. nov. (1–3) and *Lyssomanes rudis* sp. nov. (4–5). 1, 4, epigyne, ventral view; 2, 5, spermathecae, dorsal view; 3, diagrammatic course of the insemination duct. Scales=0.1 mm.

1.33, PME-PME-row 0.85, PLE-PLE-row 1.00. Diameter of AME 0.58. Abdomen 3.50 long, 1.10 wide. Chelicera 1.10 long. Clypeus 0.18 high. Length of leg segments: I 2.85 + 1.10 + 2.55 + 2.35 + 0.50; II 2.50 + 1.00 + 2.05 + 2.00 + 0.50; III 2.30 + 0.80 + 2.00 + 2.15 + 0.50; IV 2.30 + 0.70 + 2.10 + 2.35 + 0.50. Leg spination: I and II: Fm d 0-1-1-1, pr and rt 0-0-1-1; Tb pr and rt 0-1, v 4 pairs; Mt rt 1-0-0, v 3 pairs. III: Fm d 0-1-1-1, pr and rt 0-0-1-1; Pt d 1ap; Tb d, pr and rt 1-1, v 0-1; Mt pr and rt 1-1-0, v 1-0-0. IV: Fm d 0-1-1-2; Pt d 1ap; Tb d, pr and rt 0-0-1; Pt and Mt without spines. Coloration (in alcohol). Entire body, all legs and palps yellow, but blackened around ALEs, PMEs and PLEs and eye field covered with white adpressed scales. Abdomen with no colour pattern. Epigyne and spermathecae as in Figs. 1–3: epigyne with a central gourd-shaped depression, in which copulation openings are clearly seen; epigynal pocket absent; insemination ducts thin, long and strongly coiled; receptacles ovoid, with a dorsal ridge that as if splits each receptacle in two sections.

Lyssomanes courtiali sp. nov.

(Figs. 6–13)

Types. Holotype ♂ (MMUE; G7558.1) from French Guiana, Nouragues, Pararé, primary forest, beating, 13.12.2013, C. Courtial. Paratype: 1♀ (MMUE; G7558.2), same locality, primary forest, beating, 11.12.2013, C.

Courtial.

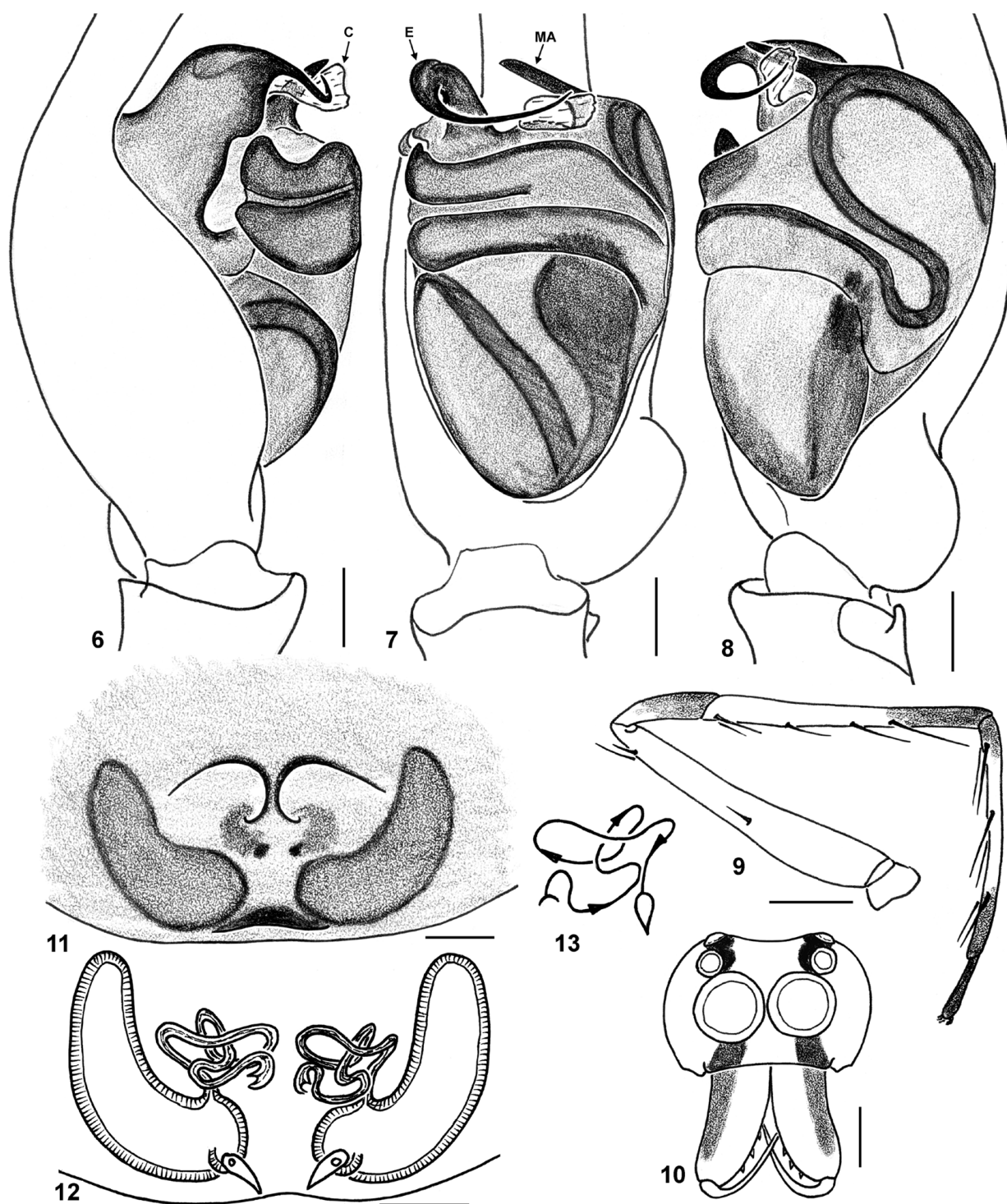
Etymology. The species is named after the collector, Dr Cyril Courtial (Rennes, France).

Diagnosis. The male of *L. courtiali* sp. nov. is most similar to that of *L. temperatus* Galiano 1980 described after a single male from Mexico (see Galiano 1980: figs. 141–143), from which it differs in the smaller size and shape of embolus and the shape of median apophysis (Figs. 6–8). The female is most similar to that of *L. janauari* Logunov & Marusik 2003 described after a single female from Brazil (Logunov 2002: figs. 12–13, sub. *L. benderi*), from which it differs in having the markedly wider epigynal pocket and the visibly more elongated receptacles (Figs. 11–12).

Distribution. The type locality only.

Comments. The male and the female have been matched provisionally reasoning from the fact that they were collected from the same locality by the same collector using the same collecting method. No other suitable female candidate was collected from the type locality.

Description. Male (the holotype). Measurements. Carapace 2.55 long, 1.18 wide, 1.30 high at PLE. Ocular area 1.18 long; width of eye rows: AME-AME-row 1.25, ALE-ALE-row 1.28, PME-PME-row 0.78, PLE-PLE-row 0.93. Diameter of AME 0.63. Abdomen 3.25 long, 1.00 wide. Chelicera 1.08 long. Clypeus 0.14 high. Length of leg segments: I 3.05 + 0.95 + 2.60 + 2.55 + 0.65; II 3.45 + 1.20 + 3.33 + 3.10 + 0.75; III 2.85 + 0.90 + 2.50 + 2.70 + 0.70; IV 2.75 + 0.75 + 2.55 + 3.10 + 0.65. Leg



Figs. 6–13. Copulatory organs and somatic characters of *Lyssomanes courtiali* sp. nov. 6, male palp, median view; 7, ditto, ventral view; 8, ditto, retrolateral view; 9, male leg I, retrolateral view; 10, male face, front view; 11, epigyne, ventral view; 12, spermathecae, dorsal view; 13, diagrammatic course of the insemination duct. For abbreviations see 'Introduction'. Scales = 0.1 mm (6–8, 11–12); 0.5 mm (10); 1 mm (9).

spination: I and II: Fm d 0-1-1-1, pr and rt 0-0-1-1; Tb pr and rt 0-1, v 4 pairs; Mt pr 1-0-0, v 3 pairs. III: Fm d 0-1-1-1, pr and rt 0-0-1-1; Pt d 1ap; Tb d, pr and rt 1-1, v 0-2; Mt pr 1-1-0, rt 1-1-1. IV: Fm d 1-2-2; Pt d 1ap; Tb d 1-0-0, rt 0-0-1; Pt and Mt without spines. Coloration (in alcohol).

Entire body yellow, but blackened around eyes and with two orange-brown longitudinal stripes on clypeus and on the frontal surface of chelicerae (Fig. 10); eye field covered with yellow adpressed scales. All legs yellow, with grey brownish patches on Pt, Tb/Mt joints, distally on Mt, and Tr

brownish completely (Fig. 9). Abdomen with two grey lateral patches near its distal end. Spinnerets light gray. Palps yellow, with brownish cymbium and bulbous. Palpal structure as in Figs. 6–8: median apophysis finger-shaped; conductor leaf-shaped; embolus with a wide base and thin, bent tip; cymbium with a well-developed tutaculum; tibial process short, finger-shaped.

Female (the paratype). Measurements. Carapace 2.70 long, 1.70 wide, 1.45 high at PLE. Ocular area 1.15 long; width of eye rows: AME-AME-row 1.18, ALE-ALE-row 1.23, PME-PME-row 0.75, PLE-PLE-row 0.88. Diameter of AME 0.55. Abdomen 3.50 long, 1.50 wide. Chelicera 1.03 long. Clypeus 0.15 high. Length of leg segments: I 2.95 + 1.15 + 2.55 + 2.40 + 0.60; II 2.60 + 2.05 + 0.90 + 2.10 + 0.60; III 2.50 + 0.80 + 2.00 + 2.35 + 0.65; IV 2.40 + 0.70 + 2.20 + 2.70 + 0.60. Leg spination: I and II: Fm d 0-1-1-1, pr and rt 0-0-1-1; Pt without spines; Tb pr and rt 0-1, v 4 pairs; pr and rt 1-0-0, Mt v 3 pairs. III: Fm d 0-1-1-1, pr and rt 0-0-1-1; Pt d 1ap; Tb d 1-0-0, pr and rt 1-1, v 0-1-0; Mt pr and rt 1-1-0, v 1-0-0. IV: Fm d 0-1-1-2; Pt d 1ap; Tb d 1-0-0, pr and rt 0-0-1; Mt pr 1-0-0, v 0-1-0. Coloration (in alcohol). Entire body, all legs and palps yellow. Blackened around eyes. Eye field covered with yellow adpressed scales. Abdomen with no colour pattern. Epigyne and spermathecae as in Figs. 11–13: copulation openings are separated by narrow median septum; wide epigynal pocket present; insemination ducts thin, long and strongly coiled; receptacles elongated, bean-shaped.

Lyssomanes remotus Peckham & Peckham 1896

Lyssomanes remotus Peckham & Peckham 1896: 100, pl. 7, fig. 9 (description of male).

Material. FRENCH GUIANA: 1♂ (MMUE; G7558.6), Cayenne, Matouri, garden, beating, 1.12.2010, C. Courtial.

Comments. To date, this species has been known from Panama, Colombia, Brazil, and Trinidad & Tobago (Galiano 1980; Logunov 2002, 2014). New record for French Guiana.

Lyssomanes rudis sp. nov.
(Figs. 4–5)

Type. Holotype ♀ (MMUE; G7558.4) from French Guiana, Trinité National Nature Reserve, Aya, primary forest, beating, 9.12.2010, A. Canard et al.

Etymology. From the Latin word ‘rudis’ meaning ‘simple’ and referring to the fact that the female of this species has got a very simple conformation of the copulatory organs (Figs. 4–5).

Diagnosis. This species belongs to the *robustus* species group (*sensu* Galiano 1980) and can easily be distinguished from all its congeners by the fertilization ducts that are situated on elongated tubes of the receptacles (Fig. 5); in other

species the fertilization ducts originate directly from the receptacles (cf. Galiano 1980: fig. 44; Logunov & Marusik 2003: figs. 18–19; Logunov & Deza 2010: fig. 5).

Distribution. The type locality only.

Description. Male unknown.

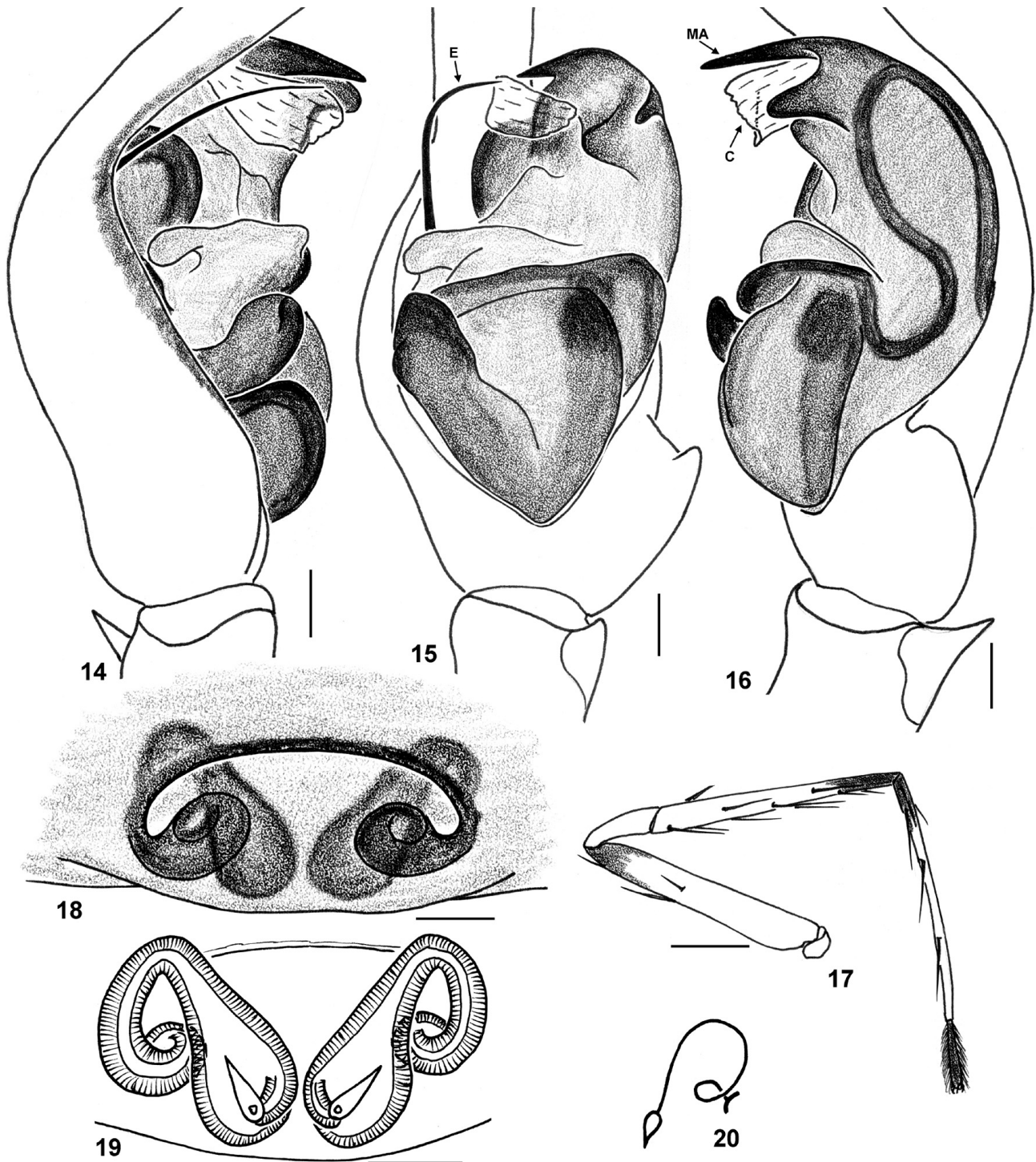
Female (the holotype). Measurements. Carapace 2.80 long, 2.35 wide, 1.90 high at PLE. Ocular area 2.90 long; width of eye rows: AME-AME-row 1.33, ALE-ALE-row 1.50, PME-PME-row 0.88, PLE-PLE-row 1.13. Diameter of AME 0.65. Abdomen 4.95 long, 2.25 wide. Chelicera 1.45 long. Clypeus 0.30 high. Length of leg segments: I 3.35 + 1.25 + 3.00 + 3.13 + 0.70; II 3.20 + 1.15 + 2.70 + 2.70 + 0.70; III 2.80 + 0.95 + 2.35 + 2.80 + 0.75; IV 2.70 + 0.85 + 2.35 + 3.00 + 0.75. Leg spination: I: Fm d 0-1-1-1, pr and rt 0-0-1-1; Pt d 1 ap; Tb d 1-0-0, pr and rt 0-0-1, v 4 pairs; Mt pr and rt 1-0-0, v 3 pairs. II: Fm d 0-1-1-1, pr and rt 0-0-1-1; Pt d 1 ap; Tb d, pr and rt 0-1, v 4 pairs; Mt pr and rt 1-0-0, v 3 pairs. III: Fm d 0-1-1-1, pr and rt 0-0-1-1; Pt d 1ap; Tb d 1-1, pr and rt 0-1, v 2-2; Mt pr and rt 1-0-0, v 2-2-0-2. IV: Fm d 0-1-1-2; Pt d 1ap; Tb d 1-0-2, v 2-2; Mt d 0-1-0, pr and rt 1-1, v 1-0. Entire body, all legs and palps yellow, but blackened around ALEs, PME and PLE and eye field covered with orange adpressed scales. Abdomen with no colour pattern. Epigyne and spermathecae as in Figs. 4–5: copulation openings are situated at the ends of Ω-shaped ridge; epigynal pocket absent; insemination ducts tube-like and bent, with thick walls; receptacles round; fertilization ducts are situated on elongated tubes directed mediad.

Lyssomanes tapirapensis Galiano 1996
(Figs. 14–20)

Lyssomanes tapirapensis Galiano 1996: 26, figs. 8–10 (description of male).

Material. FRENCH GUIANA: 1♂2♀ (MMUE; G7558.5), Trinité National Nature Reserve, Aya, primary forest, beating, 10.2008, Y. Frédéric.

Diagnosis. This species belongs to the *robustus* species group (*sensu* Galiano 1980) and is most close to *L. taczanowskii* Galiano 1980 known from Trinidad, Peru and Ecuador (Logunov & Marusik 2003: figs. 41–45). From the latter species, *L. tapirapensis* can be easily separated by the visibly narrower ventral branch of the median apophysis (Fig. 16; wide and round in *L. taczanowskii*) and the narrower, whip-shaped embolus (Figs. 14–15; the thicker, almost stiletto-shaped embolus in *L. taczanowskii*) in the males, and by the larger, elongated receptacles in the females (Fig. 19). It is worth mentioning that the sex matching in *L. taczanowskii* remains provisional, as two different types of the females have been described to date (cf. Galiano 1980: figs. 44 and Logunov & Deza 2010: fig. 5; see Logunov & Marusik 2003 for a discussion). The male of *L. tapirapensis* is also similar to those of *L. velox* Peckham, Peckham & Wheeler 1889 from Brazil, Peru and



Figs. 14–20. Copulatory organs and somatic characters of *Lyssomanes tapirapensis* Galiano 1996. 14, male palp, median view; 15, ditto, ventral view; 16, ditto, retrolateral view; 17, male leg I, retrolateral view; 18, epigyne, ventral view; 19, spermathecae, dorsal view; 20, diagrammatic course of the insemination duct. For abbreviations see 'Introduction'. Scales = 0.1 mm (14–16, 18–19); 1 mm (17).

Ecuador (Logunov & Marusik 2003: figs. 46–48) and *L. paravelox* Logunov 2002 from Brazil (Logunov 2002: figs. 20–22), but can be reliably distinguished from both by the shape of median apophysis and conductor of the palp (Figs. 14–16).

The female of *L. tapirapensis* (Figs. 18–19) is also very

similar to those of *L. lampeli* Logunov 2014 from Guyana (see Logunov 2014: figs. 19–20) and *L. velox* (Logunov & Marusik 2003: figs. 49–50), but differs from the former in having the ovoid receptacles that are poorly separated from the insemination ducts (clearly separated in *L. lampeli*) and from the latter in a different shape and arrangement of the

insemination ducts.

Distribution. To date, this species has been known from Venezuela (Rio Mawarinuma) and Brazil (Mato Grosso) only (Galiano 1996; Logunov 2014). New record for French Guiana.

Description. The male of *L. tapirapensis* was described and illustrated by Galiano (1996). This description could be complemented by the following details. The first legs of the male have brownish markings on the distal ends of femora (dorsally) and on the Tb/Mt joints; tarsi I are completely brown with dorsal and ventral brushes of thin dense hairs (Fig. 17). The male palp as in Figs. 14–16: tibial apophysis torn-shaped; cymbium with a well-developed tutaculum; median apophysis bifurcated at its tip and with a central ventral buldge; embolus thin, its base is hidden behind the bulbus; conductor wide and well-developed.

Female. Measurements. Carapace 3.00 long, 2.15 wide, 1.85 high at PLE. Ocular area 1.68 long; width of eye rows: AME-AME-row 1.40, ALE-ALE-row 1.41, PME-PME-row 0.75, PLE-PLE-row 1.10. Diameter of AME 0.75. Abdomen 4.40 long, 2.15 wide. Chelicera 1.13 long. Clypeus 0.20 high. Length of leg segments: I 3.25 + 1.00 + 2.90 + 2.80 + 0.85; II 3.10 + 1.00 + 2.75 + 2.85 + 0.75; III 3.00 + 0.95 + 2.65 + 3.25 + 0.80; IV 3.00 + 0.85 + 2.70 + 3.65 + 0.75. Leg spination: I: Fm d 0-1-1-1, pr and rt 0-0-1-1; Pt d 1ap; Tb pr and rt 0-1, v 4 pairs; Mt pr and rt 1-0-0, v 3 pairs. II: Fm d 0-1-1-1, pr and rt 0-0-1-1; Pt d 1ap; Tb d 1-0-1, pr and rt 0-1, v 4 pairs; Mt pr and rt 1-0-0, v 3 pairs. III: Fm d 0-1-1-1, pr and rt 0-0-1-1; Pt d 1ap; Tb d, pr and rt 1-0-1, v 0-2-0; Mt d 1-0, pr and rt 1-1-0, v 3 pairs. IV: Fm d 0-1-1-3; Pt d 1ap; Tb d, pr and rt 1-1; Mt d 0-1-0, pr and rt 1-1-0, v 2-0-0. Coloration (in alcohol). Entire body, all legs and palps yellow, but blackened around ALEs, PMEs and PLEs and eye field covered with white adpressed scales. Abdomen with no colour pattern. Epigyne and spermathecae as in Figs. 18–20: copulation openings are situated at the ends of transverse ridge; epigynal pocket absent; insemination ducts tube-like, S-shaped, with thick walls; receptacles ovoid, poorly separated from the insemination ducts; fertilization ducts sit on elongated tubes directed dorsad.

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