

The genus *Lyssomanes* (Araneae: Salticidae: Lyssomaninae) in Mexico: a new species, new taxonomic notes and records

William Galvis¹

¹ Grupo de Investigación en Aracnología y Miriapodología (GAM-UN), Instituto de Ciencias Naturales, Universidad Nacional de Colombia, sede Bogotá, Colombia, e-mail wlgalvisj@unal.edu.co

Abstract. A new species of the salticid genus *Lyssomanes* Hentz, 1845 (Araneae: Salticidae: Lyssomaninae), *L. franckei* sp. n., is described and illustrated from the southern state of Chiapas, Mexico. Additionally, new faunistic data for six species (*L. deinognathus* F. O. Pickard-Cambridge, 1900; *L. diversus* Galiano, 1980; *L. jemineus* Peckham, Peckham & Wheeler, 1889; *L. maddisoni* Logunov, 2014; *L. mandibulatus* F. O. Pickard-Cambridge, 1900; *L. spiralis* F. O. Pickard-Cambridge, 1900) are given, from Mexico. Also, the unknown female of *L. mexicanus* Logunov, 2014 is described. Finally, an updated checklist of the 17 recorded species of *Lyssomanes* from Mexico is given.

Keywords. jumping spiders, *Lyssomanes franckei*, *Lyssomanes mexicanus*, lyssomanines, Neotropics, New World

Introduction

Jumping spiders (Salticidae) constitute the largest spider family of the order Araneae, with more than 6100 described species in 644 genera, and seven subfamilies, six of which are considered as deeply-diverging groups (Maddison, 2015; World Spider Catalog, 2020). Together with other three genera (*Chinoscopus* Simon, 1900; *Hindumanes* Logunov, 2004; *Sumakuru* Maddison, 2016), *Lyssomanes* Hentz, 1845 make up one of these six deeply-diverging subfamilies of jumping spiders, the Lyssomaninae Blackwall, 1877 (Maddison, 2015; Sudhin et al. 2017). This is the only genus of the subfamily to have been found so far in Central and North America.

The genus *Lyssomanes* was described by Hentz (1845) to include its type species, *Attus viridis* Walckenaer, 1837, and currently includes 93 New World described species, distributed from USA (North Carolina state) to Argentina (Buenos Aires) (Galvis & Rubio 2016), with its greatest richness located in the Amazon and Chocó-Darién tropical rainforests. Galiano (1980), Jiménez & Tejas (2003), and Logunov (2014) provided the latest taxonomic data of the genus from Mexico, describing seven new species and giving new faunistic data. Richman et al. (2012) provided the latest published checklist of *Lyssomanes* from Mexico, including 12 species.

In this sense, the aims of the present paper are: (1) to describe and illustrate the new *L. franckei* sp. n. from the southern state of Chiapas, Mexico, (2) to describe the previously unknown female of *L. mexicanus* Logunov, 2014, and (3) to give new faunistic data and an updated checklist for 15 other species of *Lyssomanes* from the country, along with distributional maps for all of these. A total of 17 species of *Lyssomanes* are officially recorded from Mexico, seven of which are considered to be endemic.

Materials and methods

The examined specimens are deposited in the following arachnological collections: American Museum of Natural History (AMNH, L. Prendini), New York, USA; Centro de Investigaciones Biológicas del Noreste, CIBNOR, del Instituto Politécnico Nacional (CARCIB, M. L. Jiménez), La Paz, Baja California Sur, Mexico; Instituto de Biología of the Universidad Nacional Autónoma de México (CNAN-T for types, and CNAN for the remaining non type material, O. F. Francke), México D. F., México; Instituto de Ciencias Naturales of the Universidad Nacional de Colombia (ICN-Ar, E. Flórez D.), Bogotá, Colombia; Museo Argentino de Ciencias Naturales (MACN, C. Grismado, C. Scioscia, and M. Ramírez), Buenos Aires, Argentina; and Museo de Historia Natural of the Universidad Mayor de San Marcos (MUSM, D. Silva), Lima, Peru.

The multifocal photographs of genitalia were taken with a Leica MC-170 HD digital camera attached to a Leica M205A stereomicroscope, and then joined by the image stacking software Leica Application Suite version 4.6.0. The measurements were taken with an AmScope MU300 digital camera, attached to an Advanced Optics JSZ-6 stereomicroscope, and they are given in millimeters. For visualization of female genitalia, the epigynal plate was dissected and cleared in 10% KOH. The altitudinal distribution data is given in meters above the mean sea level.

The information in square brackets was added to complement the label data. Records without coordinates in the label were approximated to locations and/or municipalities via GoogleMaps®, and the gazetteers GeoLocator® and GeoNames®. The map was prepared using the Geographic Information System QGIS 'Pi' (version 3.14.0, QGIS team, www.qgis.org). Raster files from NaturalEarth® were used to draw up the distributional maps of the records.

Abbreviations used in the text and figures are: ALE = anterolateral eyes; AME = anteromedian eyes; c = conductor; cd = copulatory duct; co = copulatory opening; d = dorsal; di = distal; eAb = embolar apophysis base; eAp = embolar apophysis; fd = fertilization duct; m = meters above the mean sea level; MA = median apophysis; MCZ = Museum of Comparative Zoology (Harvard University, Cambridge, USA); me = medial; OC = ocular quadrangle; p = prolateral; PLE = posterolateral eyes; PME = posteromedian eyes; pr = proximal; r = retrolateral; sp = spermatheca; Spe = spermophore; v = ventral; vpMA = ventral projection of the MA.

Taxonomy

Salticidae Blackwall, 1841

Lyssomaninae Blackwall, 1841

***Lyssomanes* Hentz, 1845**

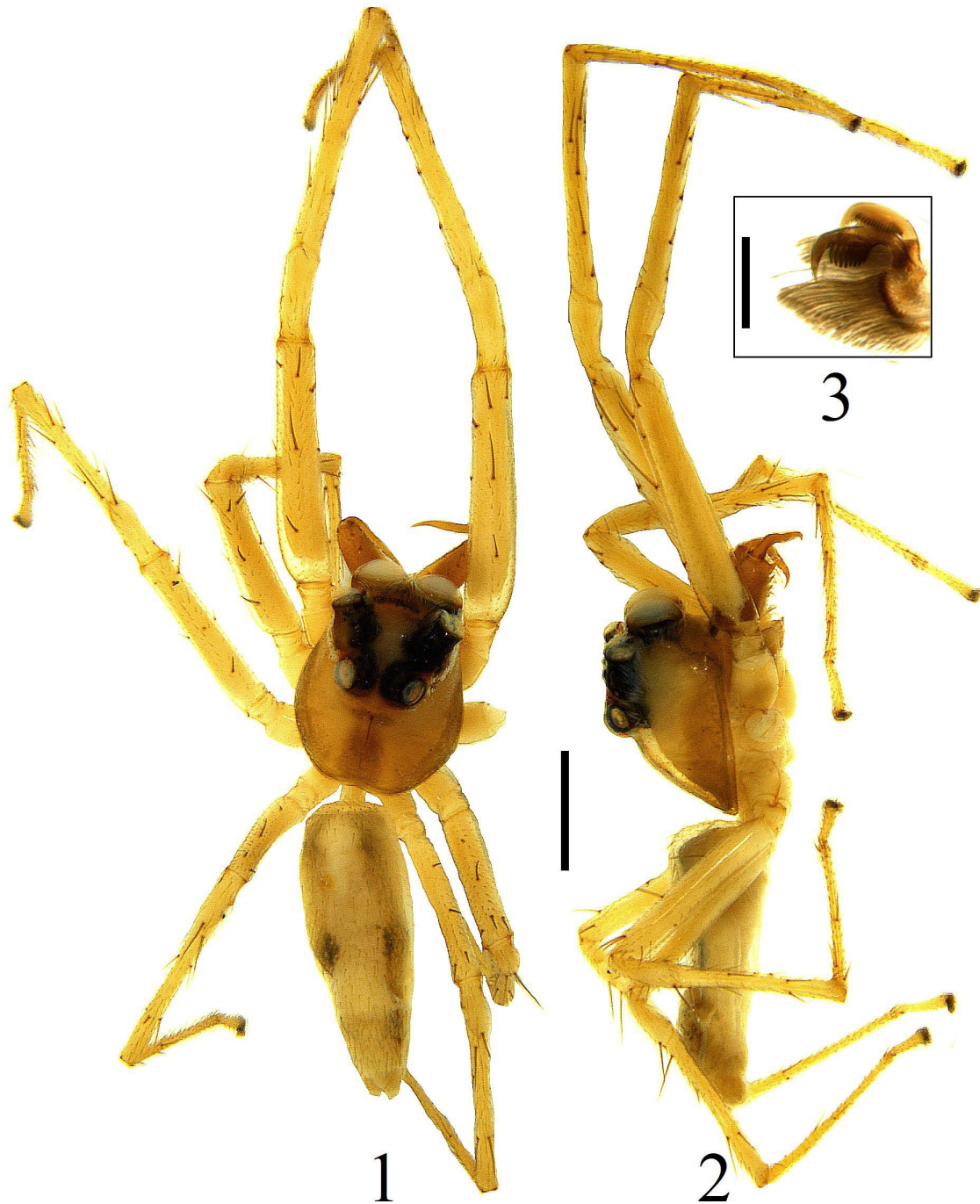
Type species: *L. viridis* (Walckenaer, 1837)

***Lyssomanes franckei* sp. n.**

Figures 1-9, 19

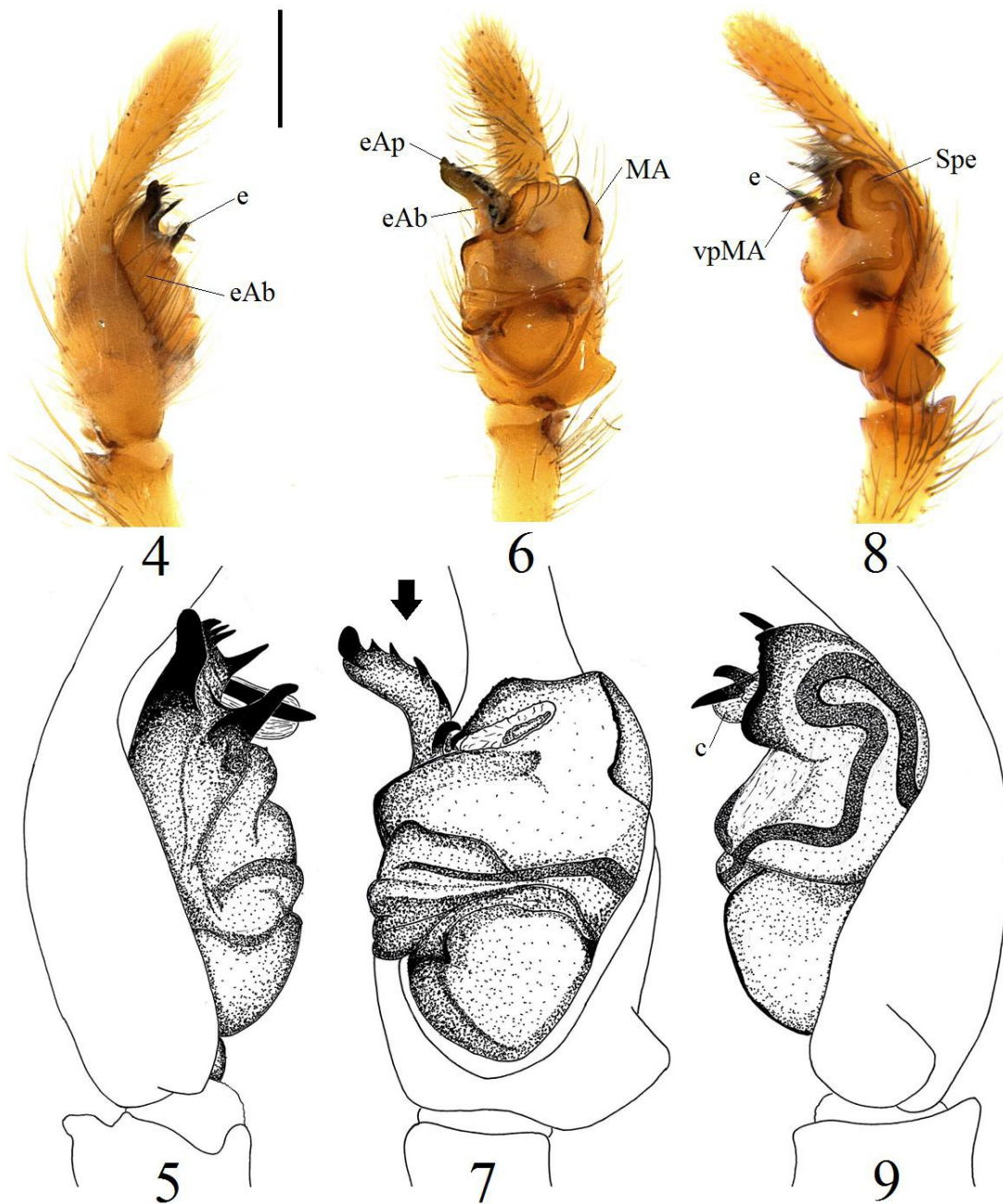
Material examined. 1♂ from Reserva Comunal de La Lacandonia, Ocosingo, Chiapas, Mexico, 16.5843°N, 91.0071°W, 150 m, 11 Apr 2005, O. Francke, A. Ballesteros, A. Valdez, CNAN-T 147.

Etymology. The specific epithet is a patronym in honor of the Arachnologist Oscar F. Francke Ballvé, who has made great contributions in taxonomic and systematic studies of New World arachnids, and one of the fathers of Arachnology in Mexico.



Figures 1-3. *Lyssomanes franckei* sp. n. **1**, Male holotype (CNAN-T 147), dorsal view. **2**, Same, lateral view. **3**, Same, lateral view of the fourth pair of tarsal claws. Scale bars = 1.0 mm (1-2), 0.2 mm (3).

Diagnosis. Males of *L. franckei* sp. n. resemble those of *L. lancetillae* Galiano, 1980 in the general morphology and disposition of sexual characters, but differ from them in having three additional embolic apophyses, placed distally in the palp, together with a more slender and less wide embolic apophysis base (Figures 4-9).



Figures 4-9. *Lyssomanes franckei* sp. n. 4-5, Male holotype (CNAN-T 147), left palp, prolatateral view. 6-7, Same, ventral view. 8-9, Same, retrolateral view. Scale bar = 0.5 mm. Abbreviations: c = conductor, eAb = embolar apophysis base, eAp = embolar apophysis, MA = median apophysis, Spe = spermophore, vpMA = ventral projection of the MA.

Description. Male holotype (CNAN-T 147, Figures 1-9). Total length: 4.43. Carapace length: 1.90; width: 1.55; height: 1.16. Carapace high, brown-yellowish, with the eyes on black marks, and darker lateral and posterior borders (Figures 1-2). OC: 1.15. Width of eye rows, first: 0.99; second: 1.22; third: 0.67; fourth: 0.83. Diameter AME: 0.46; ALE: 0.29; PME: 0.03; PLE: 0.26. Clypeus low (0.17 height). Chelicera length: 0.74, brownish, horizontal, with six large retromarginal (five in the other chelicera) and three promarginal teeth. Sternum length: 0.93; width: 0.88, yellowish. Labium length: 0.30; width: 0.31, yellowish. Thoracic groove 0.31 long. Legs I longer and stronger than the others, all brown-yellowish. Legs I II IV III. Leg segments, I: 2.42+0.83+2.16+2.14+0.52; II: 1.96+0.71+1.60+1.63+0.48; III: 1.45+0.49+1.22+1.39+0.45; IV: 1.55+0.53+1.26+1.57+0.41. Leg macrosetae: Femur I d 2 di, p 0-1-1; II-III

d 2 di, p 0-1-1, r 1 me; IV d 2 di. Patella II-III d 1 di. Tibia I v 2-2-2-2, p 0-0-1-0, r 0-0-1-0; II v 2-0-2-2, p 0-1-1-0, r 0-1-1-0, d 1-0-1-0; III v 1 me, p 0-1-1-0, r 0-1-1-0, d 1-0-1-0; IV p 1 di, r 0-1-1-0, d 1-0-1-0. Metatarsus I-II v 2-2-2, p 1 pr, r 1 pr; III v 2-2-1, p 1 pr, r 1 pr; IV v 1 di, p 1 me, r 1 me. The tarsal claws have nine teeth, being surrounded by a dense claw tuft (Figure 3). Abdomen with two diffused dorsal, lateral and longitudinal brown stripes (Figures 1-2), 2.53 long, 0.99 wide. Palp (Figures 4-9): with a lateral, short and thick embolus, armed by five embolar distal apophyses (arrow in Figure 7), all together in a common embolar apophysis base (eAb); median apophyses (MA) with a ventral projection (vpMA). The palpal tibia has a little dorsal and distal projection, and the cymbium is short, and brownish, with a relatively large paracymbium.

Distribution and Comments. Mexico (Chiapas) (Figure 19). The holotype male was collected by hand at night, in a low forest. The species has been found in sympatry with *L. deinognathus* and *L. jamineus*. Known altitudinal distribution: 150 m.

Lyssomanes mexicanus Logunov, 2014

Figures 10-19

Lyssomanes mexicanus Logunov, 2014: 65, figs. 37-39 (male holotype from Mexico, Veracruz, about 7 km N of Huatusco, deposited in MCZ, not examined); World Spider Catalog, 2020.

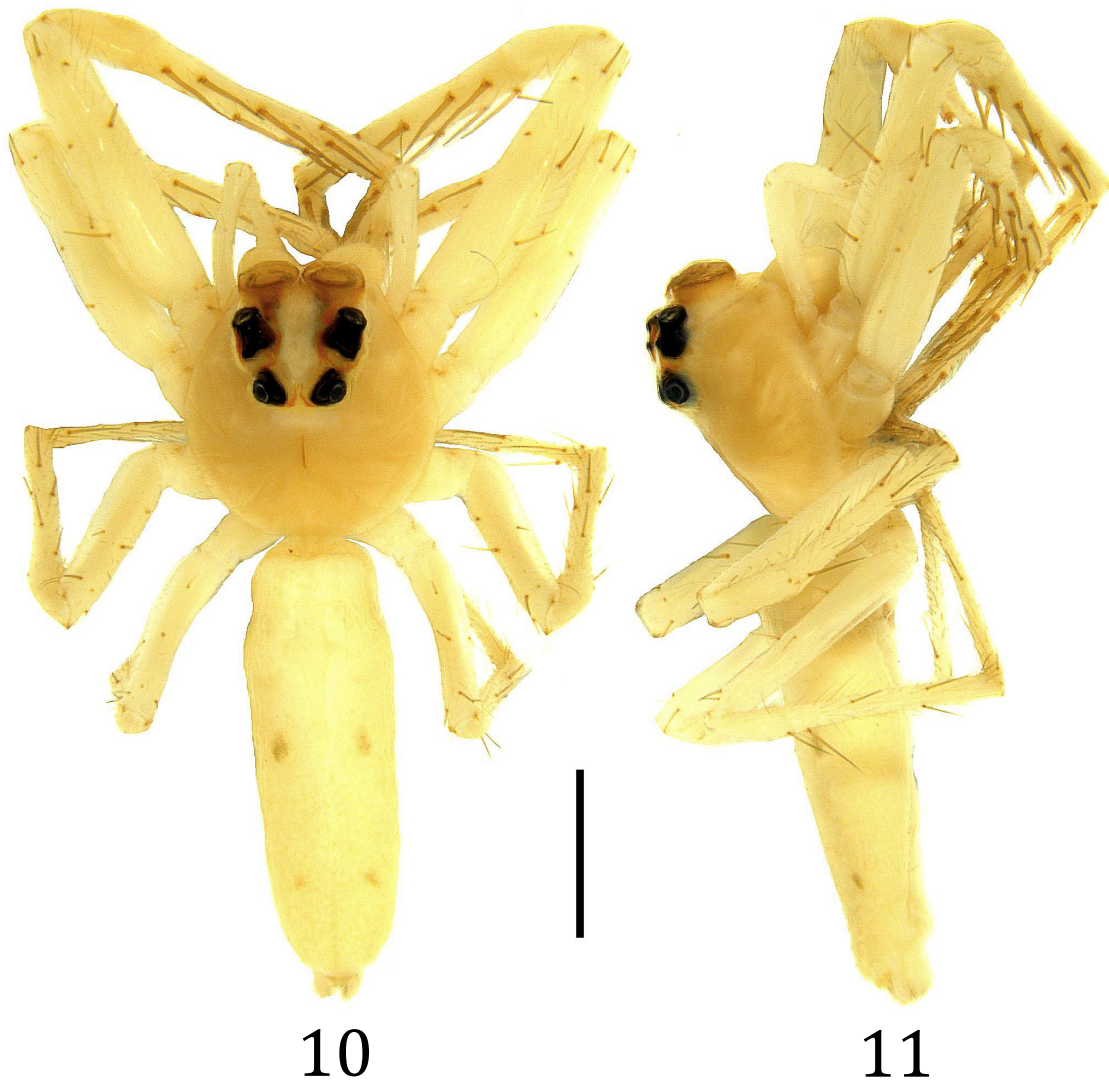
Material examined. MEXICO, Veracruz: Xamaticpac de Calchualco, 19.1261°N, 97.0670°W, 1700 m, 15-24 Feb 2013, 2 males and 2 females, U. Garcilazo-Cruz, CNAN 10186-10189.

Diagnosis. Males of *L. mexicanus* are close to those of *L. anchicaya* Galiano, 1984 and *L. taczanowski* Galiano, 1980, but they can be distinguished from both by the thicker embolus with large obtuse basal outgrowth (absent in the other two species), and the shape of median apophysis (Figures 12-15). On the other hand, females are similar to those of the *L. elegans* F. O. Pickard-Cambridge, 1900 and *L. michae* Brignoli, 1984, for their rounded spermathecae, and copulatory openings (co) lateral and anteriorly located. From these species, the females of *L. mexicanus* can be differentiated by their longer copulatory ducts (cd), more distally located glandular ducts (arrow in Figure 18) and anterior and internally located fertilization ducts (fd) (Figures 16-18).

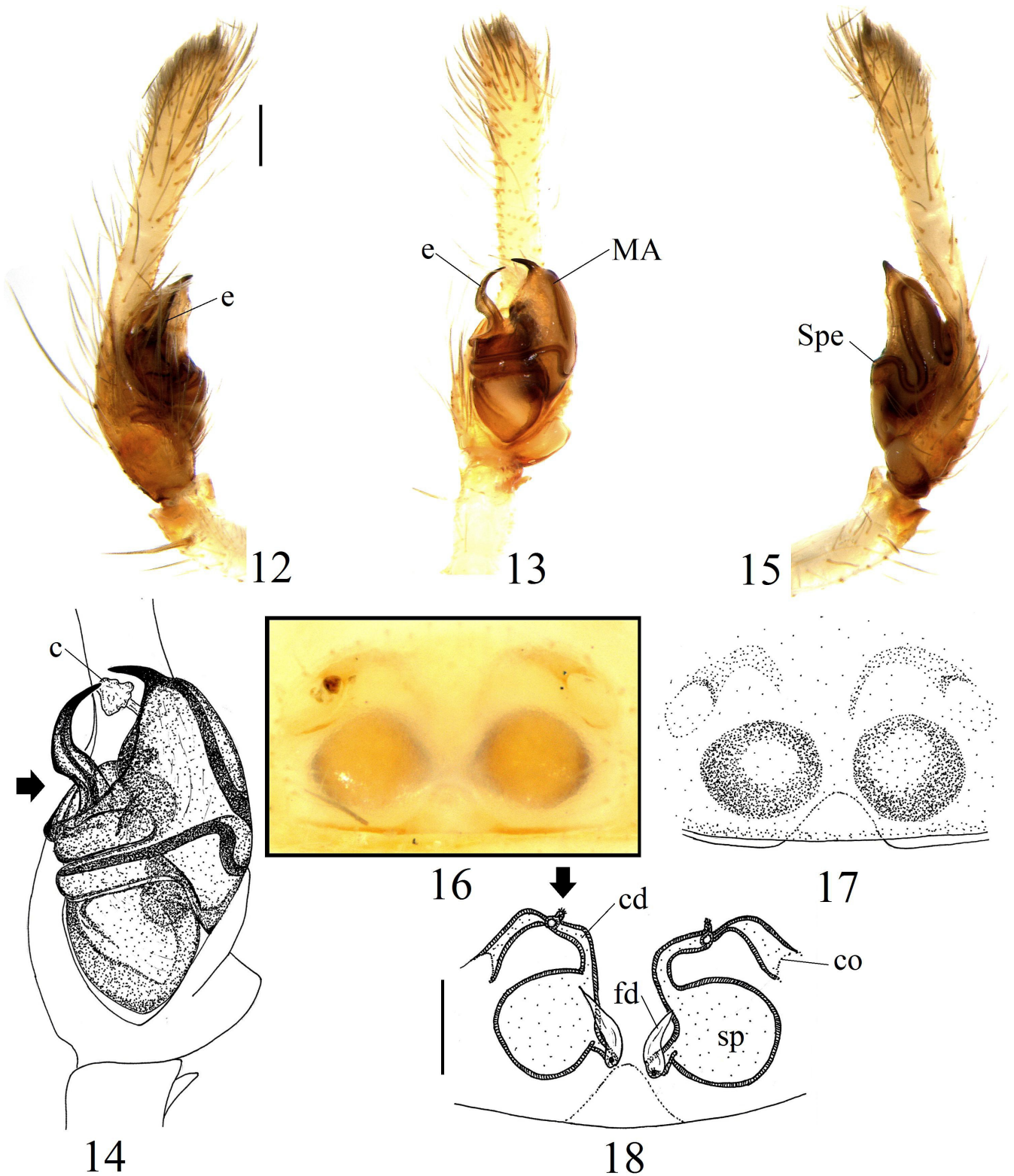
Description. Female (CNAN 10186, figs. 10-11, 16-18). Total length: 6.91. Carapace length: 2.59, width: 2.23, height: 0.92. Carapace high, rounded and yellowish (Figures 10-11). OC: 1.29, with some dispersed orange hairs. Width of eye rows, first: 1.24; second: 1.23; third: 0.80; fourth: 0.90. Diameter AME: 0.58; ALE: 0.26; PME: 0.04; PLE: 0.23. Clypeus low (0.14 height). Chelicera length: 0.98, yellowish, vertical, with six retromarginal and two promarginal teeth. Sternum length: 1.24; width: 1.17, white. Labium length: 0.39; width: 0.31, yellowish. Thoracic groove 0.41 long. Legs I-II stronger than III-IV, all yellowish. Legs I II IV III. Leg segments, I: 2.85+1.23+2.58+2.51+0.60; II: 2.37+1.03+2.08+2.03+0.61; III: 2.30+0.80+1.91+1.95+0.69; IV: 2.43+0.78+1.86+2.35+0.50. Leg macrosetae: Femur I-III d 2 di, p 0-1-1, r 1 me; IV d 2 di, p 1 di. Tibia I v 2-2-2-2, p 1 di, r 1 di; II v 2-2-2-2, p 0-1-1-0, r 0-0-1-0, d 0-0-1-0; III v 2-0-2-0, p 0-1-1-0, r 0-0-1-0, d 1-0-1-0; IV v 1-0-2-0, p 0-1-1, r 0-1-1, 1-0-1. Metatarsus I-II v 2-2-2, p 1 pr, r 1 pr; III-IV v 2-2-1, p 1 pr, r 1 pr. Abdomen cylindrical and yellowish, with two pair of brown spots, dorsal and laterally located (Figures 10-11), 4.32 long, 1.67 wide. Epigyne (Figures 16-18): epigynal plate small, weakly sclerotized, with a posterior straight border; two rounded and small anterior and lateral copulatory openings; relatively short copulatory ducts, and rounded median spermathecae, with posterior and internal fertilization ducts (fd).

Variation. (n=2) Total length: 6.48-6.91, carapace length: 3.99. The other female examined presented more abundant orange hairs in the OC. On the other hand, males (n=2) total length: 5.96-7.00, carapace length: 2.36-2.85, presented a more slender and less wide embolar base (arrow in Figure 14).

Distribution and Comments. Mexico (World Spider Catalog, 2020) (Figure 19). This species appear to be endemic to Mexico, from the southeastern state of Veracruz (Logunov, 2014). Here, a new southwestern and altitudinal record of the species is presented, in the state of Veracruz. In the Arachnological Collection of the Facultad de Ciencias of the Universidad Nacional Autónoma de México (CAFC, F. Álvarez-Padilla) the author examined another 46 specimens of this species, with the same data as presented above in the examined material, two of which were females and one juvenile. This material cannot be put in *material examined* because it is in process to be donated to CNAN. This species has been collected by beating low vegetation, and by hand, during the daytime in mountain ecosystems. Known altitudinal distribution: 1148-1700 m.



Figures 10-11. *Lyssomanes mexicanus* Logunov, 2014. **10**, Female (CNAN 10186), dorsal view. **11**, Same, lateral view. Scale bar = 1.5 mm.



Figures 12-18. *Lyssomanes mexicanus* Logunov, 2014. **12**, Male (CNAN 10188), left palp, prolateral view. **13-14**, Same, ventral view. **15**, Same, retrolateral view. **16-17**, Female (CNAN 10186), epigyne, ventral view. **18**, Same, dorsal view. Scale bar = 0.2 mm. Abbreviations: c = conductor, cd = copulatory duct, co = copulatory opening, e = embolus, fd = fertilization duct, MA = median apophysis, sp = spermatheca, Spe = spermophore.

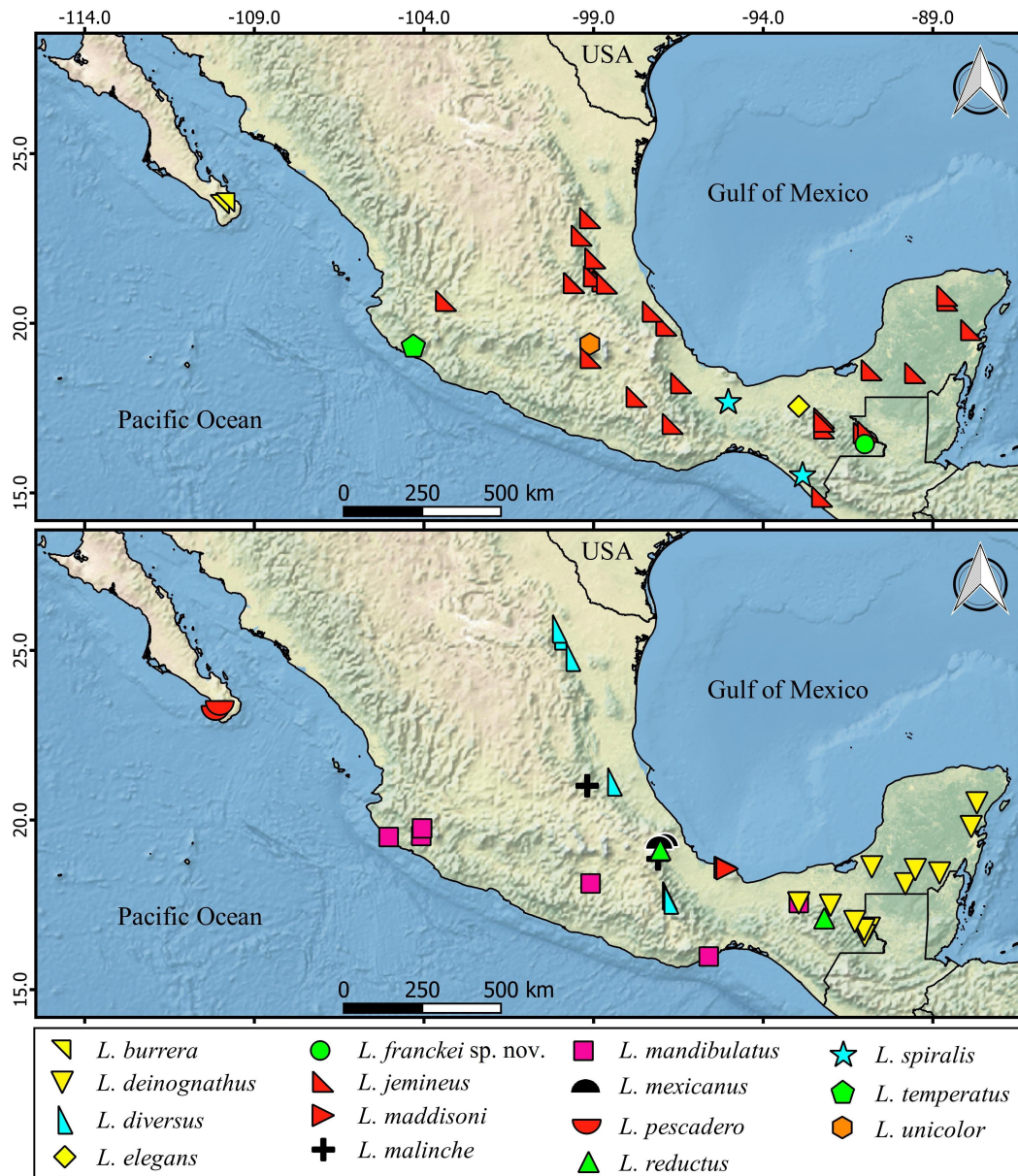


Figure 19. Known distribution of the species of *Lyssomanes* (Salticidae) in Mexico.

Checklist of *Lyssomanes* (Salticidae) from Mexico

Lyssomanes burrera Jiménez & Tejas, 1993

For diagnosis and diagnostic figures, see Jiménez & Tejas (1993: 205, figs. 1-8). **No material examined.**
Distribution and Comments. Mexico (World Spider Catalog, 2020). This species is endemic to Mexico (Figure 19), and it is known from the northwestern state of Baja California Sur (Jiménez and Tejas, 1993). This species has been collected under leaves of the introduced Mango plant (*Mangifera indica* L.) and the underside of wide leaves of riparian shrubs, in sub-xerophytic ecosystems of Sierra de La Laguna. Some samples of *Lyssomanes* were examined at CARCIB, from Sierra de La Laguna (Baja California Sur), possibly of this species, but all specimens were juveniles. The type specimens are the only ones known to be adults. This species has been found in sympatry with *L. pescadero*. Known altitudinal distribution: 600-753 m.

***Lyssomanes deinognathus* F. O. Pickard-Cambridge, 1900**

For diagnosis and diagnostic figures, see Galiano (1980: 69, figs. 153-156); complete references in World Spider Catalog (2020). **Material examined.** MEXICO: Campeche, Calakmul, [18.113°N, 89.807°W], [237 m], 17 Jul 1998, 1 male, F. Álvarez-Padilla & J.L. Castelo, CNAN 9509. Chiapas, Ocosingo, El Taller, Sierra de La Cojolita, 16.7626°N, 91.0322°W, 257 m, 7 Sep 2005, 1 male and 5 juveniles, O. Francke, M. Cordova, A. Jaimes, A. Valdez & H. Montaña, CNAN 5608; the same municipality, Reserva Comunal de La Lacandonia, 16.5843°N, 91.0071°W, 150 m, 11 Aug 2005, 1 female, R. Paredes, G. Montiel, A. Valdez, L. Castelo, E. Cabrera & A. Ávila, CNAN 5609; the same municipality, road to El Tornillo, 16.8035, 90.8699°W, 150 m, no date, 1 female, J.L. Castelo, CNAN 5607. **Distribution and Comments.** Mexico and Honduras (World Spider Catalog, 2020). New faunistic data from the Campeche and Chiapas states (Figure 19). Previously known from the Campeche, Chiapas, Quintana Roo, and Tabasco states (Galiano 1980; Logunov 2014). Some specimens were collected by beating low vegetation or by hand in the daytime. The species has been found in sympatry with *L. elegans*, *L. franckei* **sp. n.**, *L. jemineus* and *L. mandibulatus*. Known altitudinal distribution: 13-270 m.

***Lyssomanes diversus* Galiano, 1980**

For diagnosis and diagnostic figures, see Galiano (1980: 66, figs. 145-148) and Logunov (2014: 58, figs. 7-14). **Material examined.** MEXICO: Oaxaca, Domingullo, [17.643°W, 96.911°N], [802 m], 20 Aug 1998, 1 male, no coll., CNAN 3843; San Pedro de Chicozapotes, [17.767936°N, 96.957422°W], [626 m], 19 Aug 1998, 1 male, C. Durán, CNAN 5121. Nuevo León, Monterrey, Guadalupe, Rincón de la Sierra, [25.636021°N, 100.202327°W], [552 m], 18 May 1965, 2 males, C. Solís Rojas & N. Treviño-Garza, MACN 8391. **Distribution and Comments.** Mexico (World Spider Catalog, 2020). This species is endemic to Mexico. New record from the southwestern state of Oaxaca, which is its southernmost record in the country, and new faunistic data from the northeastern state of Nuevo León (Figure 19). Previously known from the Hidalgo and Nuevo León states (Galiano, 1980; Logunov, 2014). This species has been collected under leaves in Oak-Walnut (*Quercus* sp.-*Juglans* sp.) mixed scrub forests. Known altitudinal distribution: 480-802 m.

***Lyssomanes elegans* F.O. Pickard-Cambridge, 1900**

For diagnosis and diagnostic figures, see Galiano (1962: 93, pl. VIII, figs. 1-4; 1980: 47, figs. 117-118, 123-124); complete references in World Spider Catalog (2020). **No material examined. Distribution and Comments.** Mexico to Brazil (World Spider Catalog, 2020). In Mexico, this species is known from the southeastern state of Tabasco (Galiano, 1980) (Figure 19). This record represents the northernmost known locality for this species. This species has been found in sympatry with *L. deinognathus* and *L. mandibulatus*. Known altitudinal distribution: 47 m.

***Lyssomanes franckei* Galvis, 2020**

For material examined and distribution data, see the species account on pages 2-5, 8 of this paper.

***Lyssomanes jemineus* Peckham, Peckham & Wheeler, 1889**

For diagnosis and diagnostic figures, see Galiano (1962: 65, pl. III, figs. 1-4; 1980: 63, figs. 133-137, 140, 149-152); complete references in World Spider Catalog (2020). **Material examined.** MEXICO: Chiapas, Ocosingo, Área Natural Protegida Lacandonia, 16.759°N, 91.006°W, 392 m, 15 Jul 2004, 1 male, J. Castelo, CNAN 5603; the same locality data, 159 m, 6 Aug 2005, 1 female, R. Paredes, G. Montiel, A. Valdez, L.

Castelo & E. Cabrera, CNAN 5605; the same municipality and collectors, Puente Agua Azul, Frontera, 16.8051°N, 90.9069°W, 106 m, 9 Aug 2005, 1 male, CNAN 5604; the same municipality, road to El Chucero, 16.7974°N, 90.9168°W, 133 m, 13 Jul 2004, 1 female, J. Castelo, CNAN 5602; the same municipality, El Taller, Sierra de La Cojolita, 16.7626°N, 91.0322°W, 257 m, 7 Sep 2005, 1 female, O. Francke, M. Cordova, A. Jaimes, A. Valdez & H. Montaña, CNAN 3754; Tapachula, [14.884°N, 92.261°W], [136 m], Jul 1968, 1 female, Taboada, CNAN 3848. Morelos, Camohmila, [18.977168°N, 99.080865°W], [1647 m], 15 Jul 1922, 1 female, no coll., CNAN 3844. Oaxaca, Santiago Huajolotitlán, Santiago Huajolotitlán, [17.830°N, 97.729°W], [1638 m], 15 Aug 1992, 1 male, F. Barrera & E. Mayega, CNAN 5122. Querétaro, Jalpan de Serra, Cañón to W of Jalpan, 21.186°N, 99.570°W, 1212 m, 28 Aug 2017, 2 females, V. Muñoz-Charry & W. Maddison, ICN-Ar 8892, MUSM; the same municipality and collector, Sierra Gorda, Álamos (El Álamo), 21.1867°N, 99.579°W, 970 m, 29 Aug 2017, 3 females, ICN-Ar 8893, AMNH. San Luis Potosí, Xilitla, 21.388366°N, 98.985283°W, 620 m, 9 Aug 2000, 1 male and 2 females, Álvarez, González, Delgado, Castelo, Lira & Durán, CNAN 5120. Veracruz, Misantla, La Libertad, 10 km de Mtz. De La Torre, Rancho La Herradura, [19.93°N, 96.85°W], [305 m], 15 Sep 1996, 2 males and 3 females, F. Álvarez-Padilla & J.L. Castelo, CNAN 3845; Papantla, La Isla, [20.344°N, 97.249°W], [41 m], Jul 2000, 1 male, J.L. Castelo & E.M. Lira, CNAN 3847. **Distribution and Comments.** Mexico to Guyana (World Spider Catalog, 2020). New records from the Morelos and Querétaro states, and new faunistic data from the Chiapas, Oaxaca, San Luis Potosí and Veracruz states (Figure 19). This species has a wide New World distribution and in Mexico it was previously known from the Campeche, Chiapas, Guadalajara, Oaxaca, Quintana Roo, San Luis Potosí, Tamaulipas, and Yucatán states (Galiano, 1962, 1980; Logunov 2014). Previously this was known as the most widely distributed *Lyssomanes* species in Mexico, and the Tamaulipas state is its northernmost locality. Some specimens were collected by beating low vegetation or by hand in the daytime and at night, in many different types of ecosystems, mainly in low and dry forests. This species has been found in sympatry with *L. deinognathus*, *L. diversus*, *L. franckei* **sp. n.** and *L. reductus*. Known altitudinal distribution: 13-1647 m. Together with *L. mandibulatus* this species has one of the widest ranges of altitudinal distribution of any *Lyssomanes* in Mexico.

***Lyssomanes leucomelas* Mello-Leitão, 1917**

For diagnosis and diagnostic figures, see Galiano (1980: 22, figs. 52-54), and Logunov (2014: 72, figs. 54-58); complete references in World Spider Catalog (2020). **No material examined. Distribution and Comments.** Mexico, Brazil and Argentina (World Spider Catalog, 2020). In Mexico, the exact locality of this species is unknown (Logunov, 2014), and for this reason it is not included in the map (Figure 19), but this record represents the northernmost known locality for *L. leucomelas*. It is of interest that this is the only known record of this species from northern Central America, and this could be an error in the labeling of the specimen.

***Lyssomanes maddisoni* Logunov, 2014**

For diagnosis and diagnostic figures, see Logunov (2014: 61, figs. 22-29). **Material examined.** MEXICO: Veracruz, Estación de Biología Los Tuxtlas, [18.558°N, 95.059°W], [19 m], 26-28 Aug 2014, 1 male and 1 female, F. Cala-Riquelme & CARBIO team, ICN-Ar 7901; the same locality data, 13-19 Jul 2014, 2 males and 3 females, W. Maddison & G. Ruiz, CNAN 10333. **Distribution and Comments.** Mexico (World Spider Catalog, 2020). This species is endemic to Mexico (Figure 19), and it is known from the southeastern state of Veracruz (Logunov, 2014). *L. maddisoni* has been collected by beating low vegetation in low forests. Known altitudinal distribution: 19-360 m.

***Lyssomanes malinche* Galiano, 1980**

For diagnosis and diagnostic figures, see Galiano (1980: 32, figs. 30-32), and Logunov (2014: 73, figs. 59-60). **No material examined. Distribution and Comments.** Mexico (World Spider Catalog, 2020). This species is endemic to Mexico (Figure 19), and it is known from the central and southeastern states of Hidalgo and Veracruz, respectively (Galiano 1980; Logunov 2014). Known altitudinal distribution: 1240-1344 m.

***Lyssomanes mandibulatus* F. O. Pickard-Cambridge, 1900**

For diagnosis and diagnostic figures, see Galiano (1980: 58, figs. 92-95) and Logunov & Marusik (2003: 419, figs. 22-28). **Material examined.** MEXICO: Guerrero, Atenango del Río, Selva B.C., 18.1258°N, 99.0899°W, 651 m, 14 Jun 2000, 1 male and 1 juvenile, G. Montiel, FAP, Ed. G.S., J.L. Castelo & Ossa, CNAN 3136. Jalisco, El Limón, San Buenaventura, 19.7501°N, 104.0592°W, 840 m, 4 Jul 1997, 1 male and 1 female, F. Álvarez-Padilla & J.L. Castelo, CNAN 2897; the same locality data and collector, 2 Aug 1997, 1 female, CNAN 2644; the same locality data and collector, 31 Aug 1997, 1 female, CNAN 2646; the same locality data and collector, 4 Oct 1997, 2 females and 1 juvenile, CNAN 2895; the same municipality and collector, no date, 1 female, CNAN 2891; Telcruz, Sierra de Manantlán, 19.5275°N, 104.0831°W, [2036 m], no date, 1 male and 3 juveniles, W.P. Maddison, CNAN 3133. Oaxaca, Santiago Astata, [15.9729°N, 95.6073°W], [90 m], no date, 1 male, M. Hedin & W.P. Maddison, CNAN 3134. **Distribution and Comments.** Mexico to Panamá (World Spider Catalog, 2020). New records from the southwestern states of Guerrero and Oaxaca. The Oaxaca locality is the southernmost record of the species in the country. Also new faunistic data from the central-western state of Jalisco is presented (Figure 19). Previously known from the Jalisco and Tabasco states (Galiano, 1980; Logunov, 2014). This species has been found in sympatry with *L. deinognathus* and *L. elegans*. Known altitudinal distribution: 47-2036 m. Together with *L. jemineus* this species has one of the widest ranges of altitudinal distribution for *Lyssomanes* in Mexico.

***Lyssomanes mexicanus* Logunov, 2014**

For material examined and distribution data, see the species account on pages 5-8 of this paper.

***Lyssomanes pescadero* Jiménez & Tejas, 1993**

For diagnosis and diagnostic figures, see Jiménez & Tejas (1993: 207, figs. 9-15). **No material examined. Distribution and Comments.** Mexico (World Spider Catalog, 2020). This species is endemic to Mexico (Figure 19), and it is known from the northwestern state of Baja California Sur (Jiménez and Tejas, 1993). *L. pescadero* has been collected in sub-xerophytic ecosystems of Sierra de La Laguna, and in mesic vegetation of xerophytic ecosystems of oases, formed by *Juncus acutus* L., *Prosopis* sp., *Vallesia glabra* (Cav.), *Cryptostegia grandiflora* (Roxb.), and arboreally in *Washingtonia robusta* H. Wendl and *Phoenix dactylifera* L. (Jiménez et al. 2015). It has been found in sympatry with *L. burrera*. Some samples of *Lyssomanes* were examined at CARCIB, from Sierra de La Laguna (Baja California Sur), possibly of this species, but all specimens were juveniles. The type specimens are some of the only ones known to be adults. Known altitudinal distribution: 87-600 m.

***Lyssomanes placidus* Peckham, Peckham & Wheeler, 1889**

For diagnosis and diagnostic figures, see F. O. Pickard-Cambridge (1900: 185, pl. 13, fig. 3) and Peckham, Peckham & Wheeler (1889: 229, pl. 11, fig. 5). **No material examined. Distribution and Comments.** Mexico (World Spider Catalog, 2020). Although this species is endemic to Mexico, the exact type locality is not known, and for this reason it is not included in the map (Figure 19). Galiano (1980) considered it to be a *species inquirenda* because the holotype specimen was apparently lost and the original illustrations are not of good quality.

***Lyssomanes reductus* Peckham & Peckham, 1896**

For diagnosis and diagnostic figures, see Galiano (1980: 60, figs. 82-86), and Logunov (2014: 66, figs. 40-46); complete references in World Spider Catalog (2020). **No material examined. Distribution and Comments.** Mexico, Guatemala, Honduras, and Panama (World Spider Catalog, 2020). In Mexico, this species is known from the southeastern states of Veracruz and Chiapas (Figure 19) (Logunov, 2014), its northernmost known localities. Known altitudinal distribution: 762-1067 m.

***Lyssomanes spiralis* F. O. Pickard-Cambridge, 1900**

For diagnosis, diagnostic figures and comments about how differentiate it from the similar *L. jemeus* Peckham, Peckham & Wheeler, 1889 and *L. flagellum* Kraus, 1955, see Galiano (1980: 65, figs. 138-139); complete references in World Spider Catalog (2020). **Material examined.** MEXICO: Chiapas: La Victoria, [15.508°N, 92.839°W], [277 m], 25 Sep 1939, 1 male, C. Bolívar & D. Pelaez, CNAN 5123. **Distribution and Comments.** Mexico, Belize and Guatemala (World Spider Catalog, 2020). New record from the southeastern state of Chiapas (Figure 19). Previously known from the Veracruz state, the northernmost known locality for this species. Known altitudinal distribution: 40-277 m.

***Lyssomanes temperatus* Galiano, 1980**

For diagnosis and diagnostic figures, see Galiano (1980: 67, figs. 141-144). **No material examined. Distribution and Comments.** Mexico (World Spider Catalog, 2020). The species is endemic to Mexico (Figure 19), and it is known from the central-western state of Colima (Galiano, 1980). Known altitudinal distribution: 31 m.

***Lyssomanes unicolor* (Taczanowski, 1871)**

For diagnosis and diagnostic figures, see Galiano (1962: 89, pl. VI, figs. 1-3; 1980: 56, figs. 90-91), and Logunov (2002: 239, figs. 6-7); complete references in World Spider Catalog (2020). **No material examined. Distribution and Comments.** Mexico and Panama, Trinidad & Tobago, Venezuela, Guyana, French Guiana, Peru, Ecuador and Brazil (World Spider Catalog, 2020). This species has a wide New World distribution but in Mexico it is known only from Mexico City (Figure 19) (Galiano, 1980), the northernmost known locality for *L. unicolor*. It is of interest that this is the only known record of this species from northern Central America. Known altitudinal distribution: 2220 m.

Acknowledgments

Thanks to Oscar Francke Ballvé (CNAN); Cristian Grismado, Cristina Scioscia, and Martín Ramírez (MACN); Fernando Álvarez-Padilla (CAFC); and María Luisa Jiménez (CARCIB) for allowing me to examine part of the material herein referenced, and to their colleagues and students for having created a very pleasant and warm lab environment. For their help and advice in my visit to their countries, especially Abel Pérez, Carlos Palacios-Cardiel, Daniela Candia, Dariana Guerrero, Griselda Montiel, Luis Piacentini and Uriel Garcilazo. To all my friends in Argentina and Mexico for their help and friendship during my visits there, especially to Abraham Melchor and family, Arnulfo Blanco, Andrea Bonilla-Garzón and family, Jaime Flores, Mario Droszler and family, Marisa Cabrera, Martín Nikolov, and Diego Sánchez and family. To Franklyn Cala-Riquelme, Valentina Muñoz-Charry and Wayne Maddison for the donation of some *Lyssomanes* specimens that were included in the present work. To the Laboratorio de Equipos Ópticos Compartidos (LEOC), Departamento de Biología, Facultad de Ciencias, Universidad Nacional de Colombia, for their help in photographing the material examined.

References

- Galiano, M. E. 1962.** Redescrpciones de especies del género *Lyssomanes* Hentz, 1845, basadas en los ejemplares típicos. Descripción de una especie nueva (Araneae, Salticidae). *Acta Zoologica Lilloana* 18: 45-97.
- Galiano, M. E. 1980.** Revisión del género *Lyssomanes* Hentz, 1845 (Araneae, Salticidae). *Opera Lilloana* 30: 1-104.
- Galvis, W. and G. D. Rubio. 2016.** On new records and distribution of ten species of the genus *Lyssomanes* Hentz from southern South America (Araneae: Salticidae: Lyssomaninae). *Acta Arachnologica* 65 (1): 19-25. doi:10.2476/asjaa.65.19
- Jiménez, M. L., I. G. Nieto-Castañeda, M. M. Correa-Ramírez and C. Palacios-Cardiel. 2015.** Las arañas de los oasis de la región meridional de la península de Baja California, México. *Revista Mexicana de Biodiversidad* 86: 319-331. doi:10.1016/j.rmb.2015.04.028
- Jiménez, M. L., and A. Tejas. 1993.** Two new species of the genus *Lyssomanes* (Hentz) [SIC] from the Cape region, B.C.S., Mexico. *The Journal of Arachnology* 21: 205-208.
- Logunov, D. V. 2002.** New species and new records of *Lyssomanes* Hentz, 1845 from Brazil (Arachnida: Araneae: Salticidae). *Reichenbachia* 34: 229-239.
- Logunov, D. V. 2014.** New species and records of *Lyssomanes* Hentz, 1845 from Central and South Americas (Aranei: Salticidae). *Arthropoda Selecta* 23 (1): 57-56.
- Logunov, D. V. and Y. M. Marusik. 2003.** Taxonomic and faunistic notes on *Chinoscopus* Simon, 1900 and *Lyssomanes* Hentz, 1845 from the Neotropical region (Araneae, Salticidae). *Bulletin of the British Arachnological Society* 12: 415-24.
- Maddison, W. P. 2015.** A phylogenetic classification of jumping spiders (Araneae: Salticidae). *The Journal of Arachnology* 43: 231-292. doi: 10.1636/arac-43-03-231-292
- Peckham, W. G., E. G. Peckham and W. H. Wheeler. 1889.** Spiders of the subfamily *Lyssomanae*. *Transactions of the Wisconsin Academy of Sciences, Arts and Letters* 7: 222-256.
- Pickard-Cambridge, F. O. 1900.** Arachnida - Araneida and Opiliones. In: *Biologia Centrali-Americana, Zoology*. London 2: 89-192.
- Richman, D. B., B. Cutler and D. E. Hill. 2012.** Salticidae of North America, including Mexico. *Peckhamia* 95.3: 1-88.
- Sudhin, P. P., K. S. Nafin and A. V. Sudhikumar. 2017.** Revision of *Hindumanes* Logunov, 2004 (Araneae: Salticidae: Lyssomaninae), with description of a new species from the Western Ghats of Kerala, India. *Zootaxa* 4350 (2): 317-330. doi: 10.11646/zootaxa.4350.2.7
- World Spider Catalog. 2020.** World Spider Catalog, Natural History Museum Bern, *online at* wsc.nmbe.ch, version 21.0, accessed on 8 June 2020. doi: 10.24436/2