

A contribution to the knowledge of ichneumon flies of the tribe Cryptini (Hymenoptera: Ichneumonidae: Cryptinae) from Mexico

Материалы к познанию наездников-ихневмонид трибы Криптини (Hymenoptera: Ichneumonidae: Cryptinae) Мексики

D.R. KASPARYAN

Д.Р. КАСПАРЯН

D.R. Kasparyan, Zoological Institute, Russian Academy of Sciences, 1 Universitetskaya Emb., St Petersburg 199034, Russia. E-mail: hymenopt@zin.ru

This article is addendum to the revision “Cryptini de México” (Kasparyan & Ruíz Cancino, 2005, 2008a). New data on ichneumon flies of the tribe Cryptini are given mainly on material from “Universidad Nacional Autónoma de México” collected in 2007–2009. Five new species, *Debilos nigriceps* sp. nov., *Diapetimorpha zaldivari* sp. nov., *Lymeon albifemur* sp. nov., *L. clebschi* sp. nov. and *Whympertia oaxaca* sp. nov., are described from Oaxaca State in southern Mexico. *Acerastes tarsoleucus* (Cameron, 1886) is recorded from Mexico for the first time, and female of this species is described for the first time. First representative of the Neotropical genus *Debilos* Townes, 1966 is described in Mexican fauna. New data on distribution in Mexico of some cryptine species are given.

Статья является дополнением к ревизии “Cryptini de México” (Kasparyan & Ruíz Cancino, 2005, 2008a). Новые данные по наездникам-ихневмонидам трибы Криптини приведены преимущественно по материалам из “Universidad Nacional Autónoma de México”, собранным за 2007–2009 гг. Пять новых видов – *Debilos nigriceps* sp. nov., *Diapetimorpha zaldivari* sp. nov., *Lymeon albifemur* sp. nov., *L. clebschi* sp. nov. и *Whympertia oaxaca* sp. nov. – описаны из штата Оахака в южной Мексике. *Acerastes tarsoleucus* (Cameron, 1886) впервые указан для Мексики, и впервые описана самка этого вида. Описан первый представитель неотропического рода *Debilos* Townes, 1966 в фауне Мексики. Для нескольких видов криптини приводятся новые данные по распространению в Мексике.

Key words: ichneumon flies, taxonomy, distribution, Mexico, Hymenoptera, Ichneumonidae, Cryptinae, Cryptini, *Acerastes*, *Debilos*, *Diapetimorpha*, *Lymeon*, *Whympertia*, new species

Ключевые слова: наездники, таксономия, распространение, Мексика, Hymenoptera, Ichneumonidae, Cryptinae, Cryptini, *Acerastes*, *Debilos*, *Diapetimorpha*, *Lymeon*, *Whympertia*, новые виды

INTRODUCTION

The Mexican fauna of Cryptini with about 300 species of 56 genera was recently revised (Kasparyan & Ruíz Cancino, 2005; Kasparyan, 2007, 2009; Kasparyan & González Hernández 2007a, 2007b; Kasparyan & Ruíz Cancino, 2007, 2008a, 2008b). Types of Neotropical Cryptini have been investigated in the American Entomological Institute, Gainesville, Florida, USA

(AEI); Natural History Museum, London, UK (BMNH); Academy of Natural Sciences of Philadelphia, Philadelphia, USA (ANSP); U.S. National Museum of Natural History, Washington, USA (USNM). In the recent monographs (Kasparyan & Ruíz Cancino, 2005, 2008a), keys to the genera *Diapetimorpha*, *Lymeon* and *Whympertia* comprise all Neotropical species occurring in North America from Panama to Mexico. Here five new species from genera *Debilos*,

Diapetimorpha, *Lymeon* and *Whymperia* are described, *Acerastes tarsoleucus* is recorded for Mexico for the first time, and new data on distribution in Mexico of some cryptine species are given.

Material studied is deposited in the following collections: Facultad de Ingeniería y Ciencias, Universidad Autónoma de Tamaulipas, Cd. Victoria, México (UAT); Universidad Nacional Autónoma de México, México (UNAM); Zoological Institute, Russian Academy of Sciences, St Petersburg, Russia (ZIN).

TAXONOMY

Order **HYMENOPTERA**

Family **ICHNEUMONIDAE**

Subfamily **CRYPTINAE**

Tribe **CRYPTINI**

Acerastes tarsoleucus (Cameron, 1886)

Christolia, holotype: male, Guatemala (BMNH; examined); Townes & Townes, 1966: 98 (*Acerastes*); Kasparyan & Ruíz Cancino, 2008a: 35, 47.

New material. 1 female; **Mexico**, Jalisco, Chabela Biological Station, "camino Calandria", 19.50485°N, 105.03786°W, 45 m, dry forest, Malaise trap, 6–7 Sept. 2009, H. Clebsch (UNAM). New record for Mexico.

Description. *Female* (described for first time). Fore wing about 9.5 mm long. Antenna about 13 mm, almost as long as body, with 36 flagellar segments; flagellomeres 1 and 2 combined 1.9 times as long as maximum diameter of eye; segments 6–10(11) weakly depressed. Malar space 0.78 times as long as basal width of mandible. Lower edge of mandible in basal 0.75 looks like a high flange. Clypeal foveae small, rounded, connected with eye by a short sulcus. Face mat, finely granulate with moderately large punctures; clypeus almost smooth, with large punctures separated 1–2 their diameters. Clypeus in lower 0.4 subpyramidal in profile with deep polished impression along its lower edge. Temples strongly narrowed

beyond eyes and slightly broadened to mandibles. Occipital carina high and sharp (as a flange); oral carina just beyond mandible weakly raised in translucent lobe.

Epomia distinct, vertical, ending dorsally just below the anterior bulge of upper margin of pronotum. Notauli deep and long, proximally (on central lobe) with coarse transverse rugae. Mesoscutum with coarse and rather dense punctures, smooth between punctures; its hind part (0.15) before prescutellar groove polished and almost impunctate. Mesopleuron in upper 0.5 coarsely and densely longitudinally striate (except for speculum); its lower half coarsely punctate, distances between punctures 0.5–1.5 their diameters. Speculum large, polished, moderately punctate with long erect fine hairs. Postscutellum polished. Metapleuron and pleural area of propodeum coarsely punctato-rugose; only anterior part of pleural carina distinct (before basal transverse carina of propodeum). First lateral areas of propodeum (before basal transverse carina) large and almost polished. Propodeum beyond transverse carina coarsely rugose, smooth around apophyses. Apophyses rather large, obtuse-subconical, polished. Apical transverse carina absent. Areolet open, rather small, 0.33 times as long (high) as second recurrent vein above the bulla; nervulus strongly antefurcal; postnervulus intercepted at upper 0.27; nervellus in hind wing intercepted at lower 0.25, brachiella distinct and long, reaching about 0.8 the distance to wing margin. Hind femur 7.1 times as long as wide; proportion of segments 1–5 of hind tarsus is 11 : 5 : 3 : 1.2 : 2.5.

First metasomal segment polished, without longitudinal carinae; its spiracles hardly beyond the middle (at apical 0.52). Second tergite 2.1 times as long as wide. Tergites 2–8 almost smooth, very finely alutaceous, with fine scattered punctures bearing rather short hairs. Tip of upper valve of ovipositor beyond the nodus about 0.9 times as long as segment 2 of hind tarsus and 4.5 times as long as height of ovipositor on nodus. Ovipositor sheath about 0.3 times as long as hind tibia.

Body black with whitish-yellow spots and bands and with predominantly pale rufous mesopleuron, metapleuron and hind half of propodeum. Antennae black; flagellar segments 6–10 completely, segment 5 in apical half and segments 11–12 dorsally white. Head predominantly whitish with lower margin of clypeus, wide longitudinal median band of frons, vertex, upper half of temple, and occiput entirely black. Propleura white; pronotum black with broad whitish band on front and upper margins (dorsal part of collar black). Mesoscutum black, with two yellowish white submedian stripes and with a pair of minute sublateral yellow white spot just close to tegulae. Fore and hind tegulae white. Thorax beyond the subalar prominence to base of scutellum and metanotum black. Scutellum and postscutellum white. Mesopleuron pale rufous with large blackish spot under the subtegular ridge; stripe on subtegular ridge, speculum, spots above and below sternaulus, and a spot in hind corner of mesopleuron white. Metapleuron pale rufous with a large whitish-yellow spot under pleural carina. Propodeum rufous on pleural and basal areas and in hind half with two pairs of large whitish spots: first pair on first lateral areas and second one on apophyses (down to apex of propodeum); the large black spot present between basal transverse carina and apophyses. Fore wing hyaline. Pterostigma brownish black. Fore and mid legs predominantly reddish rufous; fore coxa and trochanter I whitish, mid coxa posteriorly with basal white spot with basal white spot, segment 5 of fore tarsus and segments 3–5 of mid tarsus brownish. Hind coxa reddish with basal white spot posteriorly; hind trochanters and base of hind femur (0.1) reddish. Hind femur black. Hind tibia rufous at basal 0.7 and darkened at extreme base and blackish apically (0.3); hind spurs dark brown. Hind tarsus white, basal 0.2 of segment 1 and segment 5 entirely blackish. Tergite 1 white, postpetiole in basal 0.6 with dorsal black spot; tergites 2–7 black with broad apical band which laterally expands

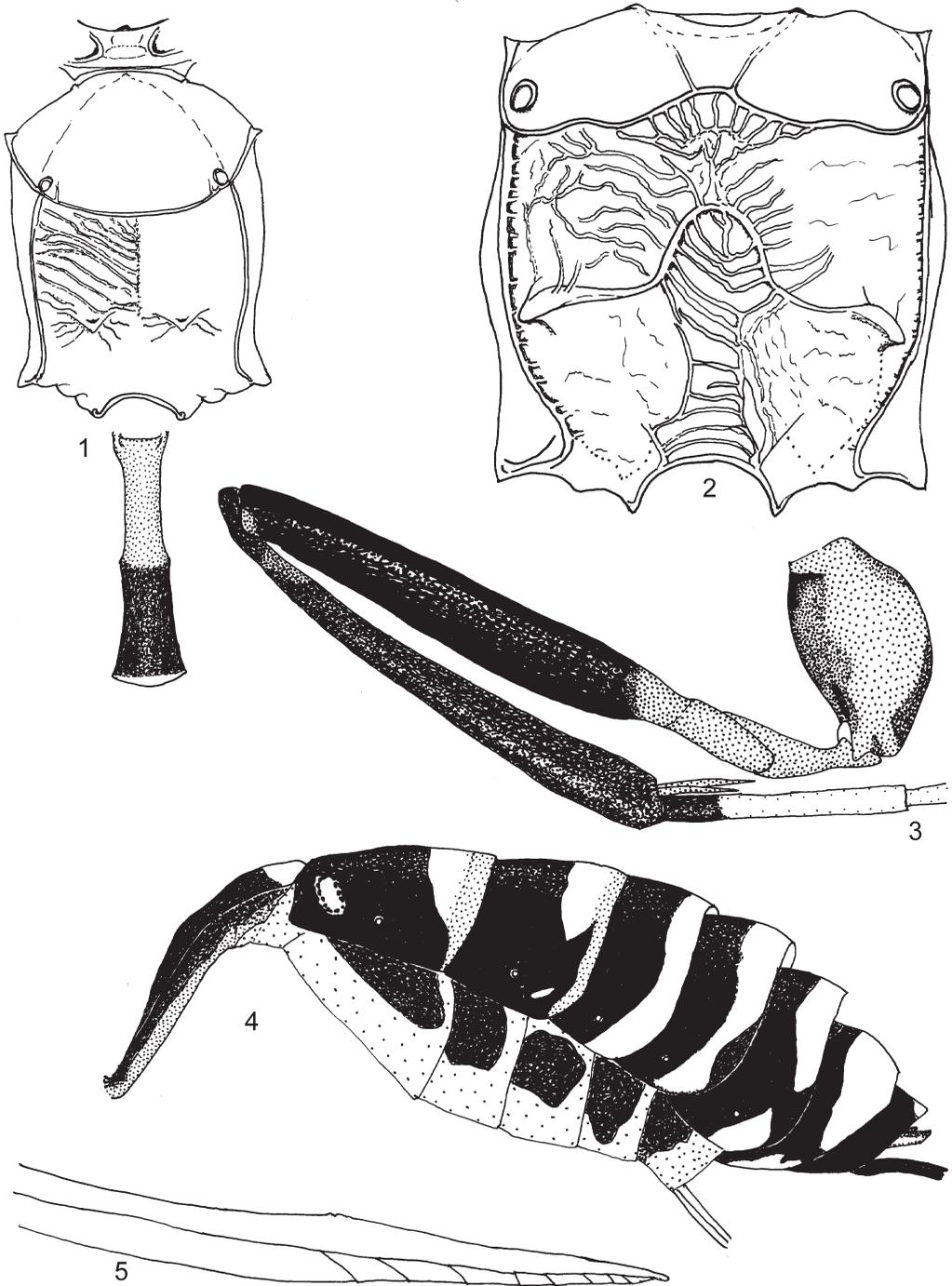
to spiracles; ventral margin of tergites also white; tergite 8 almost entirely black with very narrow white apical margin and with moderately large white lateral spot. Sternites 2–5 white with black lateral spots; sternite 6 black with white lateral spot in its apical half (and with white membranous apical edge).

***Debilos nigriceps* sp. nov.**

(Fig. 1)

Holotype. Male; **Mexico**, *Oaxaca*, Santiago Comaltepec, 17.62809°N, 96.29642°W, 413 m, tropical rainforest, yellow pan trap, 15–17 June 2007, H. Clebsch (UNAM).

Description. *Male* (holotype). Fore wing 6.3 mm, body 8 mm long. Antenna with 33 flagellomeres; flagellum thin, long (about 9 mm), setiform at apex, its first segment 6 times as long as wide; segments 2–4 subequal, 5 times as long as wide; segments 1 and 2 combined 1.58 times as long as maximum diameter of eye. Head rather small, strongly narrowed behind the eyes, mat (except for clypeus), evenly and finely granulate. Clypeus rather high, evenly convex but weakly flattened below the middle, its apex truncate. Malar space 0.8 times as long as basal width of mandible. Mandible small, its apex very narrow, upper tooth distinctly longer than lower tooth, its lower margin bordered by a thin carina. Occipital carina complete, slightly sinuate laterally in lower half of temple. Thorax rather long, finely granulate and with short hairs. Epomia rather weak, moderately short; upper margin of pronotum not swollen. Prepectal carina reaching front margin of mesopleuron at level 0.55 of hind margin of pronotum; sternaulus deep in anterior half of mesopleuron and traceable to hind lower corner of mesopleuron. Notauli distinct, thin, reaching center of mesoscutum. Scutellum dorsally bordered by lateral carinae to apex, carinae strong in basal 0.8 of scutellum and weak on its hind slope; median longitudinal ridge of scutellum absent. Submetapleural carina strong, high, its hind end almost reaching hind coxa and upcurved. Propodeum long with basal



Figs 1–5. 1, *Debilos nigriceps* sp. nov., male (holotype), propodeum and first tergite, dorsal view. 2–5, *Diapetimorpha zaldivari* sp. nov., female (holotype): 2, propodeum (punctures border yellow areas), dorsal view; 3, hind leg, colour pattern; 4, metasoma, colour pattern, lateral view; 5, apex of ovipositor.

transverse carina and pleural carinae complete; apical carina represented by a pair of weak flattened apophyses (Fig. 1) (in females of genus apophyses often longer than in males; Townes, 1970: 257); basal part of propodeum without longitudinal carinae, finely scabrous-granulate; surface between basal transverse carina and apophyses with rugosity (Fig. 1). Areolet minute, open distally, about 0.33 as long as portion of second recurrent vein above the bulla; nervulus weakly postfurcal, postnervulus intercepted at upper 0.31; nervellus in hind wing intercepted at lower 0.37; brachiella reaching 0.85 the distance to wing margin. Apical half of *MCu* in hind wing strongly arched. Legs slender; coxae, trochanters and femora finely granulate and covered with dense fine punctures and short hairs. Hind femur 6.8 times as long as wide; hind trochanter II long, its ventral length 4 times more than its diameter; proportion of segments 1–5 of hind tarsus 6.0 : 2.7 : 1.7 : 1.0 : 1.4.

First tergite slender, without basolateral tooth, 4 times as long as wide at apex (Fig. 1); its surface finely granulate with rather dense and moderately fine setiferous punctures, apex of tergite (0.07) polished, without hairs. Tergite 2 about 1.3 times as long as wide; tergite 3 subquadrate; both tergites mat, alutaceous; subsequent tergites smoother and more shiny; all tergites covered with dense punctures bearing rather short hairs (on apical tergites punctures somewhat sparser and hairs slightly longer).

Antenna black with flagellomeres 8–13 (14) white; scape brownish dorsally and reddish ventrally (on convex side); pedicel reddish brown with large dorsal white spot. Head black; palpi and labrum white, mandibles whitish with basal spot and teeth brown. Mesosoma (including tegulae), coxae, trochanters, fore and middle femora reddish. Collar broadly, apex of epimeron, fore trochanters I and fore tarsus (except for brown segment 5) whitish. Fore and middle tibiae brownish with anterior side and basal 0.2 dull whitish; middle spurs and tarsus dark brown. Hind femur blackish brown in

apical half and gradually became dark reddish brown to base. Hind tibia black with base (0.2) white; spurs blackish; hind tarsus white with basal 0.4 of segment 1 and segment 5 almost entirely blackish. Metasomal tergites (except for reddish petiole – Fig. 1) black; sternite 1 reddish, sternites 2–6 white with a pair of large blackish brown spot on each; sternites 7 and 8 blackish. Wings hyaline, without dark spot.

Diagnosis. *Debilos nigriceps* sp. nov. differs from all the described species in having mesosoma completely light red, metasomal tergites black with reddish petiole only, and flagellum with 33 flagellomeres (fore wing 6.3 mm) (*vs.* 25–29 flagellomeres in other species with similar size of fore wing). It is closer to the *typurum* species group (Scherrer & Aguiar, 2012) but, besides of above-mentioned characters, differs in the wings without dark spots. I have seen in the collection of AEI 23 species of *Debilos* (most of them are unidentified, except for type species *D. soror*), almost all of them are from South America. All these species are larger and darker (thorax black, brownish or red with black). In this collection, there is another undescribed species from Mexico (Oaxaca) known only from 2 males (Ruíz et al., 2002); this species differs from *D. nigriceps* in the mesoscutum black with white marking, basal half of tergites 2 and 3 brownish, and fore wing with postnervulus intercepted in upper 0.55.

Remarks. Originally in the genus *Debilos*, only the genotype *Cryptus soror* Trentepohl, 1829 (female, British Guiana) was included (Townes, 1966). Latter a second species, *Neomesostenus trochanteratus* Szépligeti, 1916 (male, Bolivia), was transferred to this genus (Townes, 1970). Recently the *Debilos* was revised by Scherrer & Aguiar (2012), and 26 new species from South America and one new species (*D. nivatum* Scherrer et Aguiar) from Costa Rica were described.

Etymology. The name “*nigriceps*” refers to black head contrasting with entirely red thorax.

***Diapetimorpha zaldivari* sp. nov.**
(Figs 2–5)

Holotype. Female; **Mexico**, *Oaxaca*, Santiago Comaltepec, 17.62755°N, 96.29652°W, 308 m, tropical rainforest, yellow pan trap, 15–17 June 2007, H. Clebsch (UNAM).

Description. *Female* (holotype). Fore wing 9.1 mm long. Antenna with 32 flagellar segments; flagellar segments 1 and 2 subequal and combined about 1.5 times as long as maximum diameter of eye; segments (3)4–9 moderately compressed. Face and upper half of clypeus mat, finely scabrous with fine dense punctures; lower half of clypeus smooth with fine scattered punctures; clypeus moderately convex, its lower margin straight, sharp and polished. Labrum exposed, 0.4 as high as clypeus. Frons in lower half polished, broadly concave, with median longitudinal carina; its upper half very finely alutaceous. Temple and vertex densely and finely punctate.

Pronotum with oblique epomia, and laterally in upper 0.5 covered with very dense, moderately fine punctures; its dorsolateral margin from base of notaulus to hind corner with deep groove. Notauli distinct, moderately long. Mesoscutum and mesosternum shiny, smooth, evenly and densely covered with rather fine punctures; on mesopleuron, punctures rather similar but closer and partly merged. Speculum large and polished, with very fine scattered punctures; vertical groove before speculum with short strong rugae. Sternaulus deep to lower hind corner of mesopleuron. Scutellum smooth with moderately fine punctures. Postscutellum polished. Metapleuron with coarse longitudinal rugae covered with dense punctures (grooves between rugae almost impunctate). Basal part of propodeum mainly smooth, but with separate punctures close to basal transverse carina; pleural areas with horizontal transverse rugae. Apical transverse carina strongly arched anteriorly between apophyses (Fig. 2); apophyses depressed, subquadrate above, 0.8 times as long as wide at base. Propodeum before and between apophyses with irregular coarse rugae (Fig. 2).

Areolet small, 0.4 times as long as second recurrent vein above the bulla; nervulus interstitial, postnervulus intercepted at upper 0.45; nervellus in hind wing intercepted at lower 0.3; brachiella present, reaching about 0.65 the distance to wing margin. Hind femur 6.8 times as long as wide (Fig. 3); proportion of segments 1–5 of hind tarsus 9.0 : 3.1 : 1.9 : 0.6 : 2.6.

Metasomal segment 1 almost polished, shiny, with hardly discernible fine alutaceous sculpture dorsally and with very scattered fine punctures bearing short hairs. Tergite 2 mat, finely granulate, with rather dense very fine setiferous punctures; sculpture of following tergites is rather similar. Tip of upper valve of ovipositor beyond the nodus slender (Fig. 5), about as long as 2nd segment of hind tarsus and 6 times as long as height of the ovipositor on nodus. Ovipositor sheath about 1.3 times as long as hind tibia.

Antenna mainly black; flagellar segments 4–10 (except for ventral side), apical 0.2 of segment 3 and basal half of segment 11 white; the flat ventral side of segments 12–30 blackish brown. Labrum yellowish, maxillary palpi white with two apical segments pale brownish, labial palpi brownish. Head black with white large orbital markings from lower 0.4 of frons to level of hind margin of ocellar area, and with a spot on cheeks just below eyes. Thorax black with following whitish marks: broad band on all front margin of pronotum (except for weak interruption dorsally and its lower corners), small central spot on mesoscutum, scutellum dorsally (except for posterior margin), tegulae and humeral plate of fore wing, stripe on subtegular ridge, small median stripe on mesopleuron and dull stripe in its lower hind corner, spot on postscutellum, large spot on upper division of metapleuron, two large spot on propodeum from apophyses to its hind margin (Fig. 2). Wing venation and pterostigma blackish. All coxae and hind trochanters red, coxae with dorsal side predominantly blackish; fore and mid trochanters predominantly black-

ish. Fore and mid femora blackish with anterior side brownish; fore and mid tibia and tarsi brownish with posterior side blackish. Hind femur black with extreme base reddish, hind tibia blackish with small subbasal dark brown marking (Fig. 3); hind tarsus white with basal 0.25 of segment 1 black and segment 5 entirely dark brown. Metasoma black with white bands on hind margins of tergites 1–7 (Fig. 4); sternite 1 reddish, hind edge of tergites 2 and 3 beyond the white band pale rufous.

Diagnosis. *Diapetimorpha zaldivari* differs from the other congeners in a black coloration of the hind femur and tibia combined with black body (with few whitish markings) and red both hind coxa and trochanter (Figs 3, 4).

Etymology. This species is named in honor of my friend, entomologist of UNAM, Alejandro Zaldívar-Riverón.

***Lymeon albifemur* sp. nov.**
(Figs 6–9)

Holotype. Female; **Mexico**, *Oaxaca*, Santiago Comaltepec, 17.62809°N, 96.29642°W, 413 m, tropical rainforest, 15–17 June 2007, H. Clebsch (UNAM).

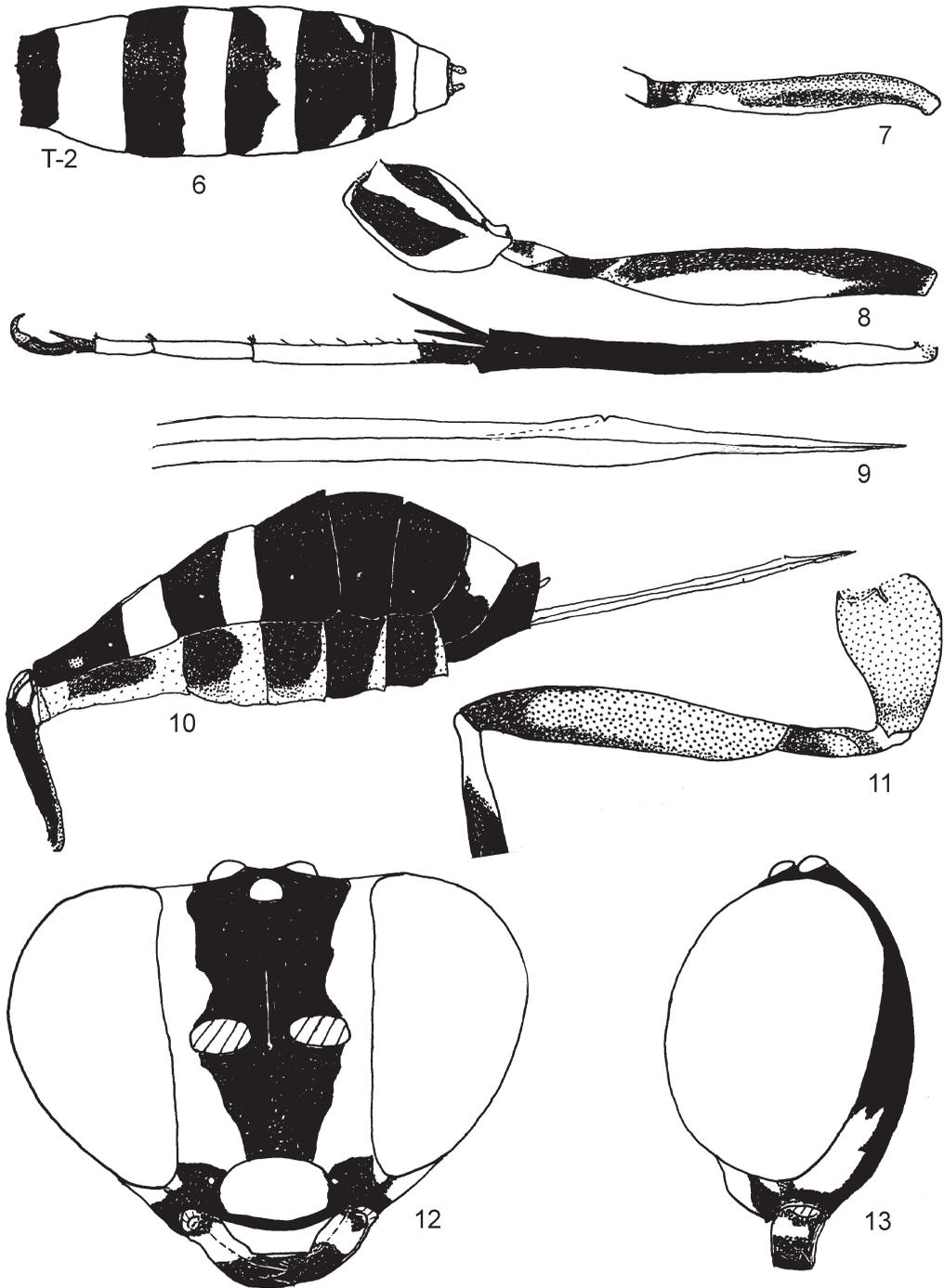
Description. *Female* (holotype). Fore wing 6.0 mm long. Antenna with 28 flagellar segments; flagellar segments 1 and 2 subequal, very long and together about 1.7 times as long as maximum diameter of eye; segments 4–9 moderately compressed, segment 7 about 2 times as long as maximum width and about 1.8 times as wide as segment 1 at the middle; apex of flagellum filiform. Face mat, finely granulate with punctures moderately coarse at centre, and fine and sparser laterally. Frons with median longitudinal carina, very finely granulate. Vertex mat, with very fine inconspicuous punctures, slightly concave dorsally, thus ocelli hardly projecting above the level of eyes. Temples strongly narrowed beyond the eyes and slightly broadened to mandibles; in profile their maximal length about 1.7 times as its minimal length (at level of upper 0.25 of eye). Occipital carina weakly sinuate be-

fore its connection with hypostomal carina; oral carina distinctly raised to a lobe, rather short (0.6 times as long as malar space); malar space 0.75 times as long as basal width of mandible. Epomia distinct. Notauli long and deep. Mesoscutum mat, and as mesosternum and mesopleuron covered with very fine and dense punctures; speculum on mesopleuron polished with some rugae anteriorly. Metapleuron scabrous with dense oblique rugosity. Propodeum with pleural longitudinal carinae and a basal transverse carina, with oblique rugosity laterally and with longitudinal dense rugae in apical half between apophyses. Apophyses conical and rather long, about as long as wide at base. Propodeum before basal transverse carina weakly rugose, without punctures; groove between propodeum and metanotum narrow and rather deep.

Areolet small, about 0.35 times as long as second recurrent vein above the bulla; nervulus anterfurcal, postnervulus intercepted at upper 0.38. Nervellus intercepted at lower 0.31; brachiella present, reaching about to wing margin. Hind femur 6.1 times as long as wide; proportion of segments 1–5 of hind tarsus 6.7 : 2.7 : 1.7 : 0.5 : 1.6.

Tergite 1 almost polished with fine smooth granulation at dorsal part of postpetiole. Tergite 2 mat, granulate without distinct punctures and hairs; sculpture of subsequent tergites is rather similar but finer. Tip of upper valve of ovipositor beyond the nodus rather slender (Fig. 9), 0.8 times as long as 2nd segment of hind tarsus and 5.7 times as long as height of the ovipositor on nodus. Ovipositor sheath about 0.5 times as long as hind tibia.

Scape white below, brownish above and on dorsolateral margins; pedicel white above and brownish below. Flagellum blackish with segments 5–10 (and apex of segment 4) white, except ventrally. Head white with teeth of mandibles brown; central part of frons and ocellar area blackish brown; vertex and upper 0.2 of temples (except for orbits) brownish-red. Mesosoma red with following white markings:



Figs 6–13. 6–9, *Lymeon albifemur* sp. nov., female (holotype): 6, metasoma, dorsal view; 7, middle femur, colour pattern; 8, hind leg, colour pattern; 9, apex of ovipositor. 10–13, *L. clebschi* sp. nov., female (holotype): 10, metasomal, colour pattern, lateral view; 11, base of hind leg, colour pattern; 12, head, anterior view; 13, head, lateral view.

propleura, except for their blackish hidden lateral parts, broad band on front margin of pronotum, stripe on its dorsolateral margins in anterior 0.6, stripe on subtegular ridge, speculum and large yellowish-white spot just beyond prepectal carina on mesopleuron, scutellum dorsally in apical half, wedge-like spot on dorsoposterior corner of metapleuron, apophyses of propodeum. Tegulae brownish with white spot on fore and hind margins. Wings hyaline; pterostigma blackish with brownish yellow median part. Fore and mid legs with coxae completely white, their trochanters I predominantly white with brownish base; trochanters II brownish with white apex; femora predominantly brownish with ventral side white and anterodorsal stripe pale brownish (Fig. 7); fore and mid tibiae blackish with base partly whitish (0.15), and white ventrally and at apex (0.2); tarsi entirely dark brown. Hind legs blackish and white (Fig. 8); coxa on inner side with large basal pale brown spot. Metasomal tergites black with white apical bands; tergite 1 also whitish at extreme base; tergite 5 with apical band widely interrupted dorsally (Fig. 6).

Diagnosis. The new species resembles *L. tobiasi* Kasparyan, 2004 from Guatemala in the coloration and many structural characters. It differs from *L. tobiasi* in absence of very long erect setae on the flagellomeres 1–8, hind trochanters, femora and tibiae, in a different coloration of the coxae, and in having legs slightly slenderer and ovipositor slenderer and shorter.

Etymology. The name of species refers to the white coloration of ventral side of hind femur.

***Lymeon clebschi* sp. nov.**

(Figs 10–13)

Holotype. Female; **Mexico**, *Oaxaca*, Santiago Comaltepec, 17.62809°N, 96.29642°W, 413 m, tropical rainforest, 15–17 June 2007, H. Clebsch (UNAM).

Description. *Female* (holotype). Fore wing 6.0 mm long. Antenna with 24 flagellar segments; first flagellar segment as long

as 2nd, and both segments combined 1.41 times as long as maximum diameter of eye; segments 4–9 moderately compressed, segment 7 about 2 times as long as wide and 1.5 times as wide as segment 1. Face and frons mat, granulate, with fine dense shallow punctures. Malar space 0.6 times as long as basal width of mandible. Temples very strongly narrowed beyond eyes, in profile widened from top of head to mandible. Occipital carina before connection with hypostomal carina almost straight; oral carina (just beyond mandible) short, 0.5 times as long as basal width of mandible and as high as occipital carina. Epomia weak. Notauli deep, extend to centre of mesoscutum. Mesoscutum and mesosternum mat, finely granulate; mesoscutum covered with fine dense shallow punctures, in posterior 0.5 with median longitudinal wrinkles. Mesopleuron completely covered with longitudinal rugae, speculum densely superficially punctate. Scutellum on a smooth background with moderately large dense punctures. Metapleuron and pleural areas of propodeum covered with longitudinal rugae. Propodeum with coarse irregular rugae, which become rather shallow basad of basal carina; apophyses rather large, more or less conical, slightly depressed. Areolet rather small, about 0.6 times as long as second recurrent vein above the bulla; nervulus distinctly antefurcal; postnervulus intercepted at upper 0.32; nervellus intercepted at lower 0.25. Hind femur 6.4 times as long as wide. Tergite 2 evenly and finely granulate, with fine moderately sparse short hairs which are very scattered on basal 0.25. Tip of upper valve of ovipositor beyond the nodus about 0.82 times as long as segment 2 of hind tarsus and 6 times as long as the height of the ovipositor on nodus; ovipositor sheath 0.82 times as long as hind tibia.

Antennae blackish; flagellar segments 4–9 white, blackish ventrally. Head black, anteriorly on orbits to top of eyes broadly white; clypeus white (except for blackish anterior margin and clypeal foveae); malar space black with small orbital white spot;

mandible blackish with subbasal white spot; temple black with large white orbital spot in its lower 0.4. Thorax reddish; pronotum with anterior margin completely white; tegulae in hind half brown; stripe on subtegular ridge, apex of epimeron, hind upper corner of metapleuron, and apophyses whitish. Fore wing with dark brown large apical spot, and a second large spot covering brachial cell and lower half of discocubital cell. All coxae entirely red (except for dorso-posterior brown spot at apex of hind coxa). Fore and mid trochanters brownish dorsally and pale rufous ventrally; fore and middle femora reddish, brownish posterodorsally and with whitish posteroventral stripe in apical half of fore femur; tibiae pale brownish, with small subbasal (0.15) whitish spot and with anterior and posterior dull whitish markings; fore and mid tarsi brownish, mid tarsus with apex of segment 1 and segments 2, 3 entirely whitish. Hind trochanters almost entirely blackish (trochanter I reddish ventrally); hind femur red, widely blackish at apex and reddish brown ventrally; hind tibia black with white base (0.15); hind spurs blackish; hind tarsus white, its segment 1 at basal 0.2 black, segment 4 at apex and segment 5 entirely dark brown.

Metasomal tergites black with four white markings (apical band on tergites 1–3 and dorsum of tergite 7 completely white – Fig. 10); visible apical margin of tergite 8 rufous (as far as it could be seen in the type specimen). Metasomal sternite 1 reddish brown, its membranous apical part white; sternites 2 and 3 whitish with a pair of large dark brown lateral spots; sternites 4–6 sclerotized and dark brown with their apical 0.3 membranous and whitish (Fig. 10). Ovipositor sheath black.

Diagnosis. The new species resembles *Lymeon rufinotum* Kasparyan et Ruíz, 2004 and *L. rufithorax* (Cameron, 1886) in the coloration: in all three species, wings with dark bands, thorax red, head black with white marks, abdomen black with white apical bands on first three tergites and with tergites 4–5 completely black. It differs

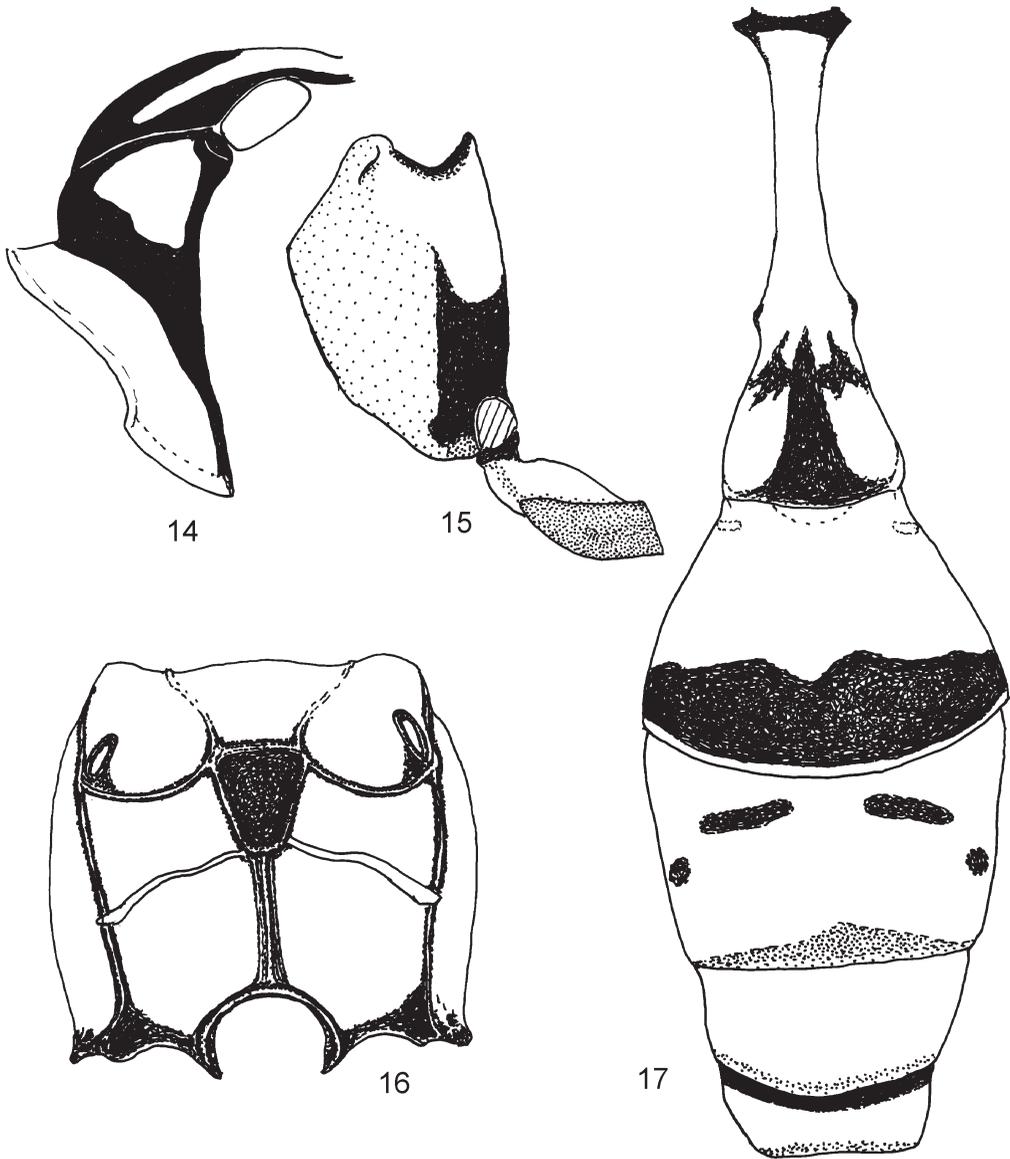
from both species in having temple in upper half and tergite 6 completely black. Additionally *L. clebschi* may be distinguished from *L. rufinotum* by entirely reddish coxae and scutellum, and from *L. rufithorax* by a white anterior margin of pronotum and a predominantly white hind tarsus.

Etymology. The species is named in honour to Hans Clebsch who has collected holotypes of all five new species described here.

***Whymperia oaxaca* sp. nov.**
(Figs 13–16)

Holotype. Female; **Mexico**, *Oaxaca*, Santiago Comaltepec, 17.62755°N, 96.29652°W, 308 m, tropical rainforest, yellow pan trap, 15–17 June 2007, H. Clebsch (UNAM).

Description. *Female* (holotype). Fore wing 9 mm long. Antenna with 28 flagellar segments; two basal flagellomeres combined 1.1 times as long as maximum diameter of eye; flagellomeres 13–25 flattened ventrally, thickened, transverse, about 1.5 times as wide as long. Malar space 0.6 times as long as basal width of mandible. Face with transverse rugosity. Clypeus smooth with moderately coarse punctures. Frons between vertical suborbital carinae polished. Hypostomal carina raised beyond the mandible to a lobe. Epomia absent. Pronotum bulging just before its hind lateral corner. Notauli absent. Mesosoma mat, more or less smooth, with very fine and almost invisible punctures, hairs fine and rather dense. Submetapleural carina complete and in anterior half high. Propodeum with both transverse carinae and distinct areola (Fig. 16); apical transverse carina with strong lateral crests; spiracles large, elongate. Areolet in fore wing large, 1.3 times as wide as long and 0.6 times as long as second recurrent vein; nervulus interstitial; nervellus intercepted slightly below the middle, its hind portion strongly reclivous. Hind femur 6.4 times as long as wide. Metasoma with segment 1 polished, postpetiole with fine, very scattered setiferous punctures; tergites 2–8 mat with very fine close punctures and with dense very short hairs. Ovipositor sheath



Figs 14–17. *Whymperia oaxaca* sp. nov., female (holotype): 14, pronotum, lateral view; 15, hind coxa and trochanters; 16, propodeum, dorsal view; 17, metasomal tergites 1–5, dorsal view.

0.48 times as long as hind tibia. Tip of lower valve of ovipositor with 13 teeth, upper valve with 5–6 teeth.

Antenna blackish, flagellomeres 4–12 white (segments 4, 11, 12 blackish ventrally), scape brownish ventrally in basal 0.7. Head predominantly white, mandibular teeth blackish in apical half, frons with

median black band extended from antennal sockets through ocellar area to occipital carina; upper half of occiput also black. Propleura whitish. Pronotum black and white (Fig. 14), its hind corners black. Mesoscutum black with a pair of wide and long whitish stripes on the place of notauli. Scutellum white dorsally with apex, prescutellar

groove and lateral carinae black. Mesopleuron, metapleuron and propodeum yellowish white with blackish sutures and carinae. Sides of scutellum, metanotum entirely and areola of propodeum (Fig. 16) black. Wings hyaline; veins dark brown; Pterostigma yellowish with margins brownish. All coxae and trochanters I whitish; middle coxa with small dorsoapical black spot, hind coxa with large black spot (Fig. 15). Fore and mid legs beyond trochanters I rufous, except that tarsomeres 2 to 5 brownish. Hind trochanter I whitish with black base, trochanter II brownish red (Fig. 15). Hind femur and hind tibia uniformly yellowish rufous (except that both slightly brownish at extreme base); hind spurs brownish rufous; hind tarsus whitish with segment 5 at apical half brownish.

Metasoma predominantly yellowish white with black pattern in apical 0.4 of tergites 1 and 2, four small black stripes in basal half of tergite 3, and narrow pale brownish band on hind edges of tergites 3–5 (Fig. 17); segment 1 below dull whitish with a pair of longitudinal brownish line on the place of ventrolateral sutures. Coloration of tergites 6 and 7 similar that of tergite 5 in Fig. 17; tergite 8 entirely brownish dorsally with yellowish white lateroventral parts. Sternites almost entirely whitish; sternites 1–3 with a pair of lateral small brownish sclerites on each.

Diagnosis. *Whymperia oaxaca* is very similar in main peculiarities of its very special coloration (Figs 14, 17) to *Wh. megapoda* (Cameron, 1885) from Guatemala, but *Wh. oaxaca* is smaller, much paler, with ovipositor shorter, and with areola of propodeum quite distinct (Fig. 16).

Etymology. The name of new species refers to its type locality.

NEW DATA ON DISTRIBUTION OF CRYPTINI IN MEXICO

Cadarca tobiasi Kasparyan et Ruíz, 2004

Holotype: female, Mexico, Tamaulipas, Gómez Farías, Alta Cima (UAT).

New material. 1 female; **Mexico, Oaxaca**, Santiago Comaltepec, 308 m, 17.62755°N, 96.29652°W, tropical rainforest, yellow pan trap, 15–17 June 2007, H. Clebsch (UNAM).

Diapetimorpha carpocapsae (Ashmead, 1896)

?*Cryptus*, holotype: female, Mexico, ex *Carpocapsa saltitans* (USNM; examined); Kasparyan & Ruíz Cancino, 2005: 210, 215.

New material. 4 females; **Mexico, Jalisco**, Chamela Biological Station, “camino Calandria”, 19.50485°N, 105.03786°W, 45 m, dry forest, yellow pan traps, 18–20 Nov. 2009, A. Zaldívar-Riverón (UNAM, UAT, ZIN).

Remarks. The type specimen has body short and robust. Four females from Jalisco are similar to this specimen in main structural peculiarities and coloration, but differ in having body slender.

Diapetimorpha macula (Cameron, 1886)

Hemiteles, holotype: female, Mexico, Presidio (BMNH); Kasparyan & Ruíz Cancino, 2005: 206, 210, 224.

New material. **Mexico, Jalisco**, Chamela Biological Station: 2 females, “camino Calandria”, 19.50485°N, 105.03786°W, 45 m, dry forest, yellow pan trap, 18–20 Nov. 2009, A. Zaldívar-Riverón (UNAM); 1 female, same locality, but 20 Feb. 2010, A. Zaldívar-Riverón (UNAM); 1 female, environs of same station, but 19.4987°N, 105.03851°W, 20 Feb. 2010, A. Zaldívar-Riverón (UNAM).

Diplochimas fulvithorax

Kasparyan et Ruíz Cancino, 2005

Holotype: female, Mexico, Yucatán (UAT).

New material. 1 female; **Mexico, Oaxaca**, Santiago Comaltepec, 17.62755°N, 96.29652°W, 308 m, tropical rainforest, yellow pan trap, 15–17 June 2007, H. Clebsch (UNAM).

Latosculum townesi Kasparyan, 2004

Holotype: female, Mexico, Oaxaca, Metate (AEI).

New material. **Mexico, Oaxaca**, Santiago Comaltepec, 17.62755°N, 96.29652°W, 308 m, tropi-

cal rainforest, yellow pan trap, 15–17 June 2007, H. Clebsch, 1 female, 1 male (UNAM); same locality, but 413 m, 17.62809°N, 96.29642°W, H. Clebsch, 1 female (ZIN).

Lymeon ingenuus (Cresson, 1873)

Hemiteles, holotype: female, Mexico, Orizaba (ANSP); Kasparyan & Ruíz Cancino, 2008a: 76, 102, 363.

New material. 1 female; **Mexico**, Veracruz, Los Tuxtlas Biological Station, 18.3505°N, 95.03459°W, “Malaise trap 2”, Sept. 2007, B. Ruiz (UNAM).

Lymeon tantillus (Cresson, 1873)

Hemiteles, holotype: female, Mexico, Cordoba (ANSP); Kasparyan & Ruíz Cancino, 2008a: 81, 83, 121, 364.

New material. 1 female; **Mexico**, Veracruz, Los Tuxtlas Biological Station, 18.3507°N, 95.03487°W, “Malaise trap fragments”, Sept. 2007, B. Ruiz (UNAM).

Xenarthron pectoralis

Kasparyan et Ruíz, 2005

Holotype: female, Mexico, Tamaulipas, Gomez Farias (UAT).

New material. 2 females; **Mexico**, Jalisco, Chamela Biological Station, “camino Calandria”, 19.50485°N, 105.03786°W, 45 m, dry forest, yellow pan trap, 18–20 Nov. 2009, A. Zaldívar-Riverón (UNAM, ZIN).

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