Four new species of Lymeon Förster and Latosculum Townes (Hymenoptera: Ichneumonidae, Cryptinae) from Honduras and Mexico

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Abstract. Two new species of Lymeon Förster and two new species of Latosculum Townes (Cryptinae: Cryptini, Lymeonina) are described and illustrated: Lymeon tobiasi sp. n. and L. yanegai sp. n. from Honduras, Latosculum ruizi sp. n. and L. townesi sp. n. from Mexico. A key for identification of the species of Latosculum is given.

Key words. Hymenoptera, Ichneumonidae, Lymeon, Latosculum, taxonomy, new species, Honduras, Mexico.

Резюме. Описываются и иллюстрируются два новых вида рода Lymeon Förster (L. tobiasi sp. n. и L. yanegai sp. н.) из Гондураса и два новых вида рода Latosculum Townes (L. ruizi sp. n. и L. townesi sp. n.) из Мексики (Cryptinae: Cryptini, Lymeonina). Дается определительная таблица всех видов рода Latosculum.


Introduction

The new species of ichneumonids described below belong to the tribe Cryptini of subfamily Cryptinae, the largest and most noticeable group of Ichneumonidae in Central America. Members of the tribe Cryptini comprise almost 30% of the approximately 900 species of ichneumonids recorded from Mexico (Ruíz et al., 2002; Kasparyan et al., 2003). The Neotropical fauna of Cryptini was studied mainly in the XIX century (Brullé, 1846; Cresson, 1865, 1873; Cameron, 1885; Taschenberg, 1876). The next most important contribution to the study of Cryptini was made by Dr. H. Townes. He published a revision of Nearctic Cryptini (Townes, Townes, 1962), a catalog and reclassification of Neotropical Ichneumonidae with keys to subfamilies and genera (Townes, Townes, 1966), and a catalog of the world genera of the cryptins (Townes, 1970). The genera Lymeon and Latosculum belong to the Neotropical subtribe Lymeonina (17 genera). Except for the species described by Szépligeti (1916) and Townes (1970) no new neotropical species of Lymeonina have been described in the XX or XXI centuries.
This paper is based on specimens borrowed from the American Entomological Institute, Gainesville, Florida, USA (curator Dr. D. Wahl) (AEIG), Entomological Research Collection of the University of California, Riverside, USA (curators Dr. S. Triapitsyn and Dr. D. Yanega) (UCRC), Insects Museum of the Universidad Autónoma de Tamaulipas, Cd. Victoria, Mexico (curator Dr. E. Ruiz Cancino) (UAT). The types and comparative materials of cryptine wasps were also studied in the Academy of Natural Sciences of Philadelphia, Pennsylvania, USA (curator D. Azuma), U.S. National Museum of Natural History, Smithsonian Institution, Washington, USA (curators Dr. R. Carlson and Dr. D. Furth), Department of Entomology, the Natural History Museum, London, U.K. (curators Dr. M. Fitton and Dr. I. Gauld). I am especially grateful to the curators of these collections. I am especially grateful to División de Estudios de Postgrado e Investigación, UAM Agronomía y Ciencias, Universidad Autónoma de Tamaulipas for financial support for my visits to the Museums.

**Genus Lymeon Förster, 1869**

*Description. Female.* Fore wing length 6.5 mm. Antenna with 25 flagellar segments; flagellar segments 1 and 2 subequal and combined 1.76 times as long as maximum diameter of eye; segments 1–8 with long setae (Fig. 2) (with only 3–4 such setae on segments 7 and 8); segments 5–9 moderately broadened; segment 7 about twice as long as wide and about 1.5 times as wide as segment 1 at the middle; segments 11–20 subcylindrical, almost not flattened ventrally, slightly wider then apical segments. Face mat, finely rugose-punctate medially, and very finely granulate laterally, with very fine and rather dense setiferous punctures. Frons with median longitudinal carina and with more or less transverse rugae deviating from this carina and from anterior ocellus; orbits of frons very finely granulate, without rugae; the frons just above antennal sockets with a pair of superficial subpolished concavities. Head strongly narrowed behind eyes (dorsal view). Temple broadened to mandible (lateral view), in profile its maximum length about twice its minimum length at level of dorsal 0.25 of eye. Occipital carina not sinuate before its connection with hypostomal carina; oral carina moderately high and long, about 0.6 times as long as malar space. Malar space 0.9 times as long as basal length of mandible. Epomia distinct. Notauli long, with dense transverse rugae. Mesoscutum mat, and along with mesosternum and mesopleuron just above sterna, covered with dense and moderately fine punctures; most of mesopleuron covered with coarse longitudinal rugae, without noticeable punctures; speculum large and polished. Scutellum with strong and high lateral carina at basal 0.65. Metapleurone with longitudinal stria, its dorsal anterior corner punctate, without striae. Groove between metanotum and propodeum rather narrow, shallow and polished. Propodeum scabrous, with irregular rugae but predominantly granulate basal the transverse carina. Apophyses conical, 0.6 times as long as wide at base. Areolet small, about half as long as 2nd recurrent vein above the bulla (Fig. 3); nervulus shortly anterfurcal; nervellus intercepted at posterior 0.33; brachiella present, reaching about 0.75 the distance to wing margin. Hind femur 5.6 times as long as wide. Proportion of the segments 1–5 of hind tarsus 5.2 : 2.2 : 1.4 : 0.4 : 1.8. Hind trochanter, hind femur (especially ventrally at basal half), and hind tibia with separate long setae, the latter sometimes longer than basal width of femur. Tergum 2 very wide at posterior margin, 3.0 times as wide as anterior margin and about 1.2 times as wide as long; its surface mat, granulate with very scarce setiferous punctures; hairs very short; sculpture of following terga rather similar to tergum 2 but finer. Tip of dorsal valve of ovipositor behind nodus rather slender, about 1.2 times as long as segment 2 of hind tarsus and about 5.0 times as long as its height on nodus. Ovipositor sheath 0.65 times as long as hind tibia.

Antenna black, with flagellar segments 5–10 and apical 0.3 of segment 4 white, except ventrally; scape whitish yellow ventrally, pedicel with white dorsal spot. Head white, with large black median longitudinal band on frons from antennal sockets to anterior ocellus; ocellar area, vertex (except for white on orbits), hind margin of temple at dorsal 0.3, and occiput at dorsal 0.4 black. Mesosoma reddish with white marks and metasoma black with white bands (Fig. 1). Mesoscu-
Figs 1–8. Lymeon tobiasi sp. n. (1–3) and L. yanegai sp. n. (4–8). 1 — colour pattern of the body with hind leg; 2 — flagellar segments 1 and 2; 3, 4 — areolet with 2nd recurrent vein; 5 — propodeum and metasomal segment 1, lateral view; 6 — metasomal segment 1, dorsal view; 7 — segment 2 of hind tarsus; 8 — ovipositor.
turn with a pair of weak submedian yellow stripes; scutellum dorsally yellow, with black hind margin; metanotum reddish with postscutellum black; propodeum slightly fuscous (reddish brown) basally; extreme base of petiole yellowish. Fore and mid coxa white with brown marks (Fig. 1); fore and mid trochanters brownish with white marks on trochanter 1; fore and mid femora very pale brown anteriorly, brown dorsoposteriorly and white posteroventrally; fore and mid tibiae dirty pale brown with more pale basal spot at mid tibia; fore and mid tarsi completely brownish. Hind leg coloration as on Fig. 1; hind coxa on posterior (inner) side pale rufous with large median fuscous spot. Fore wing hyaline, very weakly infuscate at apex. Pterostigma blackish brown.

Male unknown.


Etymology. The species is named in honour of Professor Vladimir I. Tobias, my friend and first teacher in systematics.

*Lymeon yanegai* Kasparyan, sp. n. (Figs 4–8).

**Diagnosis.** *L. yanegai* sp. n. can easily be distinguished from all known species by entirely pale reddish body with head mainly yellow, and by two small median teeth on ventral margin of clypeus.

**Description.** Female. Fore wing length 7.0 mm. Antenna with 26 flagellar segments; flagellar segments 1 and 2 subequal and combined about 1.45 times as long as maximum diameter of eye; segments 4–9 weakly broadened; segment 7 about 1.3 times as long as wide and about 1.5 times as wide as segment 1 at the middle; segments 10 and following are subcylindrical, almost not flattened ventrally; apical segments as wide as previous ones. Face mat, finely rugose-pectenate on the middle, and very finely granulate laterally, with very fine and rather dense setiferous punctures. Clypeus on ventral margin with two small median teeth. Frons with median longitudinal carina and more or less densely and coarsely punctate along this carina; orbits of frons very finely granulate, without rugae, just above antennal sockets with a pair of superificial subpolished concavities. Head strongly narrowed behind eyes (dorsal view). Temple broadened to mandibles, in profile their maximum length about twice its height on nodus (Fig. 7, 8). Ovipositor as long as hind tibia; ovipositor sheath 0.65 times as long as hind tibia. Ventral valve of ovipositor behind the nodus moderately stout, about as long as segment 2 of hind tarsus and about 5.0 times as long as its height on nodus (Figs 4–8). Ovipositor as long as hind tibia; ovipositor sheath 0.65 times as long as hind tibia.

Antenna black with flagellar segments 4–9 light yellow; scape pale brownish yellow, brown dorsally, pedicel dark brown. Head light yellow; broad median longitudinal band on frons, ocellar area (except black spot between ocelli), vertex (except for orbits), and dorsal half of occiput brownish red. Mesosoma and metasoma dorsally light brownish red; mesopleuron yellowish red; propodeum, broad band on anterior margin of pronotum, hind corner of pronotum, tegulae, line on sub-regular ridge, apex of mesepimeron, propomum, proppectus, mesosternum, metapleuron (its dorsal part yellowish red), apophyses and sterna 1–4 light yellow to whitish yellow. Fore and mid legs yellowish red with femora more reddish and tarsal segments 3–5 brown (segment 3 paler basally). Hind coxa, trochanter and femur brownish red, hind tibia and basal half of basitarsus yellowish red; apical half of basitarsus, tarsal segment 2 entirely and base of segment 3 light yellow, apical part of tarsus brown. Wings hyaline, but slightly infuscate; pterostigma dirty yellow with brownish anterior margin.

Male unknown.


Etymology. The species is named in honour of Dr. Doug Yanega, in appreciation of his collection of the two new species of *Lymeon*.

Remarks. This is the first record of this large neotropical genus occurring in the Honduras.
Genus *Latosculum* Townes, 1966


This Neotropical genus had only one described species, *L. minor* (Szépligeti), from Bolivia. Two new species, described below, are from Mexico.

**Key to species of *Latosculum***

1. Mesosoma black with white spots and bands (Figs 9, 10). Mesopleuron shiny, speculum polished. — Propodeum behind basal transverse carina with sharp transverse wrinkles .............. *L. ruizi* sp. n.
   - Mesosoma reddish with a few white marks. Mesopleuron mat ................................................................. 2
2. Metasoma black with base of petiole and hind margin of tergum 2 reddish. — Head mainly reddish. Legs red with fore and mid tibiae and all tarsi white, except for black basitarsus of mid and hind tarsi. Hind femur dorsally and hind tibia black, tibia whitish at base .............. *L. minor* (Szépligeti)
   - Metasoma entirely reddish or tergum 2–7 brownish on hind margin. — Fore wing with two brownish spots surrounding nervulus and areolet. Head with anterior orbits and ventral part of temple light yellow, otherwise reddish and blackish. Mesosoma, metasoma and legs reddish with light yellow marks on pronotum, on anterior part of tegula, subtegular ridge, apophyses, on mid and hind tarsi .............. ................................................................. *L. townesi* sp. n.

*Latosculum ruizi* Kasparyan, sp. n. (Figs 9–12).

**Diagnosis.** *L. ruizi* sp. n. is immediately recognizable by its black and white coloration of the mesosoma (Figs 9, 10) and by transversely striated propodeum. The last character is typical for South American genus *Polyphrix* Townes, but in members of *Polyphrix* the clypeus is small and convex, epomia absent, notauli very faint, mesoscutum polished and without punctures, apophyses absent, postnervellus intercepted at its dorsal 0.22, etc.

**Description.** Female. Fore wing length 6.5–10.0 mm, 0.7–0.8 times length of body. Antenna with 29–32 flagellar segments; flagellar segments 1 and 2 combined 1.4–1.6 times as long as maximum diameter of eye; segments 6–9 slightly compressed; segment 7 about 1.4 times as wide as segment 1 at the middle. Malar space half as long as basal width of mandible. Frons smooth and polished, with median longitudinal carina. Temple about 0.4 times as long as eye in profile, not broadened ventrally. Occipital carina subparallel to hind margin of eye, straight before connection with hypostomal carina; oral carina almost as high as occipital carina. Epomia present, not strong; pronotum dorsolaterally smooth with rather sparse setiferous punctures. Notauli distinct, extending to posterior 0.6 of mesoscutum. Mesocutum more or less smooth, mat, with rather dense and moderately fine punctures, punctures finer and sparser on anterior part of lateral lobes. Mesopleuron shiny, with rather dense punctures and longitudinal rugae; speculum polished; mesosternum smooth with fine punctures. Metapleuron with horizontal wrinkles and with punctures between wrinkles. Propodeum before basal transverse carina more or less smooth, with some sparse thin wrinkles and punctures; strong parallel transverse striae covering propodeum beyond the basal carina (Figs 9, 10). Apophyses distinct, 0.6–0.8 times as long as their basal width. Areolet large, about as long as 2nd recurrent vein above the bulla, receiving 2nd recurrent vein near middle (Fig. 11); 2nd recurrent vein forming almost right angle with parallel vein. Nervulus interstitial or slightly postfurcal. Nervellus intercepted about at its posterior third. Brachia almost reaching margin of hind wing. Hind femur about 6.0 times as long as wide. Proportion of the segments 1–5 of hind tarsus 8.0 : 4.0 : 2.3 : 0.8 : 2.0. Spiracle of metasomal segment 1 situated in posterior 0.45; dorsolateral carina of tergum 1 present only at extreme base, ventrolateral carina entirely absent. Tergum 1 between spiracles subpolished, postpetiole finely granulate with fine scarce setiferous punctures. Tergum 2 (as well as following terga) mat with dense hairs; its thyridium subcircular, wider than long. Ovipositor as in Fig. 12; tip of dorsal valve of ovipositor behind nodus moderately stout, about as long as segment 2 of hind tarsus. Ovipositor sheath 0.8 times as long as hind tibia.

Body black and white with legs mainly reddish. Antenna black, flagellar segments 5–10 white, their ventral sides brownish. Head anteriorly white, with mandible, clypeal foveae, clypeal suture distad of clypeal foveae, malar space partly (just behind mandible), broad median longitudinal band on frons extending to vertex black; mandible often with small sub-basal yellow spot; palpi whitish or sometimes labial palpus brown. Vertex black except for orbits. Temple white on orbits (at anterior half) and black posteriorly, black coloration extends to oral carina. Mesosoma and metasoma marked with black and yellowish white (Figs 9, 10); prepectus, anterior corner of mesopleuron and oblique band from its anterior corner to mesopleural pit always black, rest of mesopleuron sometimes paler than in Fig. 9. Two basal whitish yellow spots of pro-
Figs 9–14. *Latosculum ruizi* sp. n. (9–12) and *L. townesi* sp. n. (13, 14). 9 — colour pattern of the mesosoma, coxae and base of metasoma, lateral view; 10 — propodeum, dorsal view; 11, 13 — areolet with 2nd recurrent vein; 12, 14 — ovipositor and segment 2 of hind tarsus. Arrows show the angle between parallel vein and 2nd recurrent vein.
podeum sometimes confluent. All terga with white apical band, except for tergum 8; sternum white, sternum 2 with elongate lateral dark spot (spot pale medially), sternum 3–5 (6) with subquadrate basolateral blackish spot. Legs pale reddish; fore coxa white or sometimes light reddish proximally; fore and mid tarsi with segments 2–5 brownish (two apical segments dark brown). Hind tibia at extreme apex and hind spurs brown; hind tarsus white with basal 0.2–0.4 of basitarsus, segment 3 in apical half and segments 4 and 5 entirely blackish. Wings hyaline. Pterostigma yellowish.

**Male.** Fore wing length 5.5–9.8 mm. Antenna with 28–33 flagellar segments. Similar to female, but mandible (except for teeth), clypeal foveae and suture, and malar space entirely yellow; flagellar segments 9–20 white; usually 4 flagellar segments ([16]7–20 (21–22)] with a linear tyloidy. Mesosoma smoother than in female, lateral lobes of mesoscutum anteriorly, ventrally half of mesopleuron and anterior part of metapleuron almost polished; apophyses reduced to small tubercles. Parameres white with brown apical margin and small brown ventral spot at base.


**Etymology.** The species is named in honour of Dr. Enrique Ruiz Cancino in recognition of his contribution to study of Ichneumonidae of Mexico and for creation the ichneumonid collection in the Insect Museum of the University of Tamaulipas.

**Latosclum townesi** Kasparyan, sp. n. (Figs 13, 14).

**Diagnosis.** The new species can easily be recognized by its entirely light brownish red body.

**Description.** **Female.** Fore wing length 7.0–11.0 mm (7.3 mm in holotype). Antenna in holotype with 23 flagellar segments; flagellar segments 1 and 2 combined 1.75–1.85 times as long as maximum diameter of eye; segments 6–9 cylindrical; segment 7 about 1.2 times as wide as segment 1 at the middle. Malar space half as long as basal width of mandible. Frons mat, granulate or finely scabrous, with transverse wrinkles above antennal sockets, and with short longitudinal carina just before anterior ocellus. Temples about 0.25 times as long as eye at profile, very weakly broadened downward. Occipital carina subparallel to hind margin of eye, weakly sinuate before connection with hypostomal carina; oral carina as rather high lobe. Epomia weak, sometimes obscured by adjacent wrinkles, or absent. Pronotum dorsolaterally mat, alutaceous, with rather dense fine setiferous punctures. Notauli distinct, extending to posterior 0.6 of mesoscutum. Mesoscutum mat, finely granulate, with rather dense and rather fine punctures. Mesopleuron mat, with dense fine longitudinal striae and dense fine punctures between striae. Speculum mat, hirsute. Mesosternum mat with dense fine punctures. Metapleuron with more or less horizontal wrinkles (in holotype), or scabrous. Propodeum mat, before basal transverse carina more or less smooth with microsculpture and with fine and moderately dense punctures, behind basal carina and lateral apophyses with strong transverse rugae; sometimes strong parallel striae present between basal transverse carina and apophyses. Spiracles of propodeum large, twice as long as wide. Apophyses about 1.5 times as long as their basal width, rather narrow, slightly depressed. Areeolae large, 0.8–1.0 times as long as 2nd recurrent vein above the bulla, receiving 2nd recurrent vein distinctly distad middle (Fig. 13). Nervulus interstitial or slightly anterfurcal (in holotype). Postnervulus intercepted at its posterior 0.47. Nervellus intercepted at posterior 0.25. Brachiella almost reaching hind wing margin. Hind femur about 8.0 times as long as wide. Proportion of the segments 1–5 of hind tarsus 8 : 3.6 : 2 : 0.8 : 1.8. Metasomal segment 1 with spiracles situated at posterior 0.42; dorsolateral carina absent, ventraltransverse carina present, finer or obliterated at basal half of sternum. Tergum 1 granulate with fine scarce setiferous punctures. Tergum 2 (as well as following terga) mat with dense hairs; its thyridium subcircular, slightly elongate. Ovipositor as in Fig. 14; tip of dorsal valve of ovipositor behind nodus rather short, about half as long as hind tarsomere 2. Ovipositor sheath about half as long as hind tibia.

Body mainly brownish red with a few yellow and white marks. Antenna black, flagellar segments 5–10 entirely whitish yellow. Scape brownish red; pedicel blackish, white dorsally. Head anteriorly white with face at median one-third, clypeal foveae and suture, malar space partly or entirely (in holotype) brownish red; mandible blackish, basal half whitish with ventral and dorsal margins fuscous. Frons brownish red or blackish, with widely yellow orbits. Vertex and dorsal half of temple entirely blackish (in holotype) or reddish brown; ventral half of temple and malar space sometimes entirely light yellow or (in holotype) mainly blackish with orbital whitish yellow spot. Occiput black (in holotype) or reddish brown. Mesosoma brownish red, with light yellow as follows: broad band on anterior margin of pronotum (except for its ventral corner), small spot on pronotum just below of notaulus base, spot on anterior 0.4 of tegula, spots on subtergular ridge, on apex of mesepimeron, and on apophyses. Metasoma brownish red; terga 2–7 (in holotype) with brown band at posterior 0.25–0.4; tergum 8 almost entirely brown, but partly reddish dorsally and with small white apical spot; sometimes apical brown bands on terga 2–7 reduced to small dorsoapical brownish spot. Sterna yellowish with a pair of brown lateral spots on
sterna 2–4 (5) (similar to L. ruizi sp. n.: Fig. 9). All coxae and femora brownish red, somewhat darker on hind legs. Fore and mid trochanters pale yellow, trochantellus brownish yellow; hind trochanter and trochantellus brownish. Fore and mid tibiae brownish yellow; fore tarsus light brownish with segments 2 and 3 yellowish in basal 0.4–0.7; mid tarsus with segments 1, 4 and 5 brown, and segments 2 and 3 whitish yellow. Hind tibia blackish, paler (dirty reddish) in basal 0.3, or (in holotype) reddish brown with basal 0.25 yellowish brown. Hind tarsus whitish with basal 0.5–0.7 of segment 1 blackish, and segment 5 entirely brown. Fore wing with distinct two light brownish spots surrounded posterior half of basal vein with nervulus, and areolet with 2nd recurrent vein (Fig. 13). Pterostigma yelllowish brown.

Male. Similar to female, but flagellar segments 12–19 light yellow; pedicel dorsally reddish and without distinct white spot; flagellar segments 17–19 with linear tyloids on each; apophyses reduced to small tubercles.

Material. Holotype: ♂, Mexico, Oaxaca, Metate, 85.5 km SW of Tuxtepec, 900 m, 16 X 1962 (H. and M. Townes) (AEIG). Paratypes. Mexico, Oaxaca: Metate, 85.5 km SW of Tuxtepec, 900 m, 21 X 1962 (H. and M. Townes), 1 ♀ (AEIG); Vista Hermosa, 96.5 km SW of Tuxtepec, 1450 m, 20 & 21 X 1962 (H. and M. Townes), 2 ♀, 1 ♂ (AEIG).

Etymology. The species is named in honour of the late Dr. Henry Townes.

References