

## Two new species of the genus *Eusterinx* Förster (Hymenoptera: Ichneumonidae: Orthocentrinae) from Mexico

## Два новых вида рода *Eusterinx* Förster (Hymenoptera: Ichneumonidae: Orthocentrinae) из Мексики

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Two species of the genus *Eusterinx* Förster from the Mexican State of Tamaulipas are described: *E. (Divinatrix) longipes* sp. nov. and *E. (Ischyrae) tenuiventris* sp. nov.

Описаны два вида рода *Eusterinx* Förster из мексиканского штата Тамаулипас: *E. (Divinatrix) longipes* sp. nov. и *E. (Ischyrae) tenuiventris* sp. nov.

**Key words:** parasitoids, ichneumonids, taxonomy, Mexico, Ichneumonidae, Orthocentrinae, *Eusterinx*, new species

**Ключевые слова:** паразитоиды, ихневмонины, таксономия, Мексика, Ichneumonidae, Orthocentrinae, *Eusterinx*, новые виды

### INTRODUCTION

The Orthocentrinae is a moderately large cosmopolitan subfamily of about 500 described species (Yu et al., 2012) that still remains one of the least studied within the family Ichneumonidae.

*Eusterinx* Förster, 1869 is a large genus distributed worldwide. Originally *Eusterinx* was described in the ichneumon wasps family Plectiscoidae (Förster, 1869), now considered to be synonymous with Orthocentrinae. According to the Catalogue of World Ichneumonidae (Yu et al., 2012), 47 species of *Eusterinx* with mainly Holarctic distribution are divided into six subgenera: *Dallatorrea* Ashmead (four species), *Divinatrix* Rossem (four species), *Eusterinx* Förster (21 species), *Holomeristus* Förster (11 species), *Ischyrae* Förster (one spe-

cies) and *Trestis* Förster (six species). Recently two more species were described in the subgenera *Ischyrae* (Sheng et al., 2013) and *Divinatrix* (Humala, 2016). However, a large number of undescribed species of the genus stored in various collections, especially from tropical regions, waiting for proper taxonomic treatment.

*Eusterinx* representatives are characterized by their high level of morphological diversity. Some species of the genus are known to be koinobiont endoparasitoids of dipteran hosts of the genera *Orfelina* Costa, 1857 and *Cerotelion* Rondani, 1856 (Keroplattidae) (Dasch, 1992). The Nearctic fauna was revised by Dasch who reported 25 species of *Eusterinx* from America north of Mexico, but only two of them – *E. inaequalis* Rossem, 1981 and *E. solida* Dasch, 1992 – were recorded from Mexico (Dasch, 1992). Later, two more species – *E. australis* Dasch, 1992 and *E. townesi* Dasch, 1992 – were found to

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occur in Mexico as a result of identifying specimens in available collections (Humala et al., 2011). In this paper two Mexican *Eusterinx* species are described and illustrated.

## MATERIAL AND METHODS

The majority of specimens were obtained by Malaise trapping or by sweeping in Gómez Farias, Tamaulipas, México, in 1998–1999, and stored at the Insect Museum of the Universidad Autónoma de Tamaulipas, Cd. Victoria, Tamaulipas, Mexico (further UAT). Holotypes of both new *Eusterinx* species described below are deposited at the UAT.

Morphological terminology mostly follows Gauld (1991), but we also use the terms “temple” for the upper part of the gena, between the eye and the occipital carina, and wing venation follows Townes (1969).

Materials were studied with Leica MZ9.5 stereomicroscopes equipped with a Leica DFC-290 digital camera and LSM module for measurements. Images were combined using the Helicon Focus Pro software (ver. 6.7).

## TAXONOMY

### Tribe HELICTINI

Genus *Eusterinx* Förster, 1869

#### *Eusterinx (Divinatrix) longipes* sp. nov. (Figs 1–4)

*Holotype*. Male; **México**, *Tamaulipas*, Municipality Hidalgo, Conrado, Castillo, bosque de pino, sweeping, 9 Sept. 1995, leg. C. Covarrubias (UAT).

*Description*. *Male*. Body length 3.3 mm.

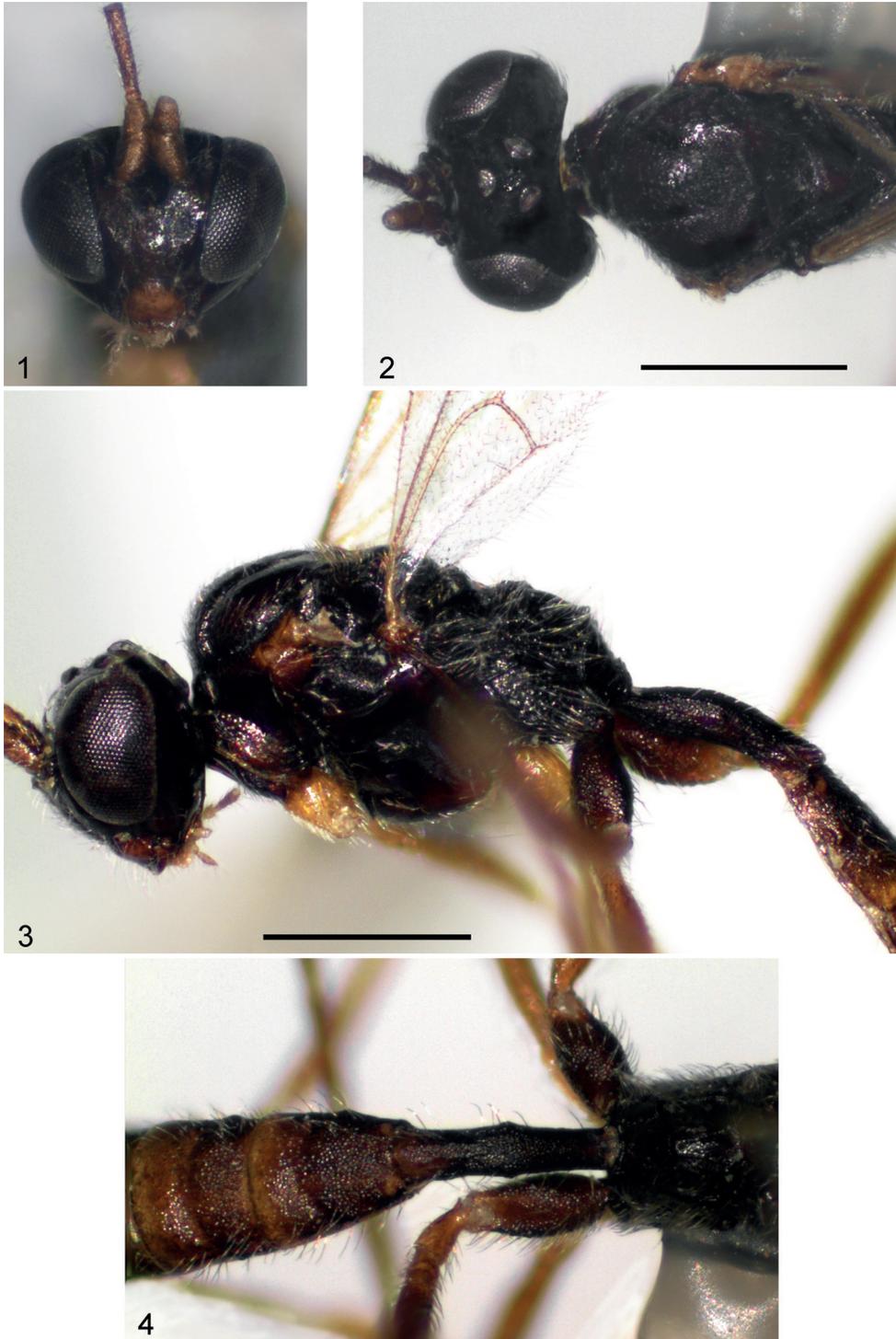
Head 1.2 times as wide as high; face at level of antennal sockets 1.3 times as wide as high, 0.5 times as wide as head; face subpolished and closely punctate. Eyes large, convex, without setae, inner orbits convergent ventrally (Fig. 1). Clypeus convex, 1.7 times as wide as high, with apical margin truncate; malar space 1.5 times as long as

basal mandibular width; subocular stripe of coriaceous sculpture somewhat developed. Mandibles bidentate, twisted inwards, upper tooth longer than lower tooth. Ocelli of moderate size, oculo-ocellar line 1.3 times as long as maximum diameter of lateral ocellus; postocellar line nearly as long as maximum diameter of lateral ocellus (Fig. 2). Occipital carina present; temple short, 0.65 times as long as eye length. Antenna with elongated flagellomeres, tips of antennae missing; first flagellomere about 4.9 times as long as apically wide, tyloids on flagellomeres 6–10 as elevated ridges.

Mesosoma 1.6 times as long as high (Fig. 3), mesoscutum subpolished; epomia present; notauli deep, extending to middle of mesoscutum, forming a U-shaped connection; epicnemial carina complete; sternaulus short but distinct. Propodeum with complete carination, apophyses not developed; area superomedia well defined, narrowed apically, 2.0 times as long as wide. Mesopleuron polished, metapleuron coriaceous. Both fore wings missing; hind wing with nervellus reclivous, not intercepted. Legs slender; hind coxa coriaceous; hind femur long and slender, 6.4 times as long as high; hind basitarsus about 0.3 times as long as hind tibia.

First metasomal segment slightly arched in profile, 3.7 times as long as posteriorly wide (Fig. 4); sternite and tergite fused, glymma absent, tergite coriaceous, dorsal longitudinal carina indistinct, protruding spiracles at anterior 0.45, apex of sternite at 0.7 of tergite length. Second tergite 1.2 times as long as posteriorly broad, with small thyridium (Fig. 4). Tergites 2 to 4 coriaceous with distinct arcuate transverse grooves, dividing tergite 2 in its apical third, tergites 3 and 4 near middle, sculpture of both parts of tergites 2 to 4 with no evident difference; remaining tergites nearly impunctate; epipleurae of tergites 2–4 separated by a crease.

Fuscous; head black dorsally; clypeus, mandible, palpi, base of antenna, tegula, hind corner of pronotum and legs, except



**Figs 1–4.** *Eusterinx (Divinatrix) longipes* **sp. nov.** (holotype, male). **1**, head, anterior view; **2**, head and mesoscutum, dorsal view; **3**, head, mesosoma and base of metasoma, lateral view; **4**, propodeum and base of metasoma, dorsal view. Scale bars: 0.5 mm.

fuscous hind coxa and to lesser degree hind femur, yellowish brown; thyridium and apical margins of tergites 1–4 light brown. Wings hyaline, veins brown.

*Female.* Unknown.

*Comparison.* This species differs well from the only previously known New World representative of the subgenus *Divinatrix* – the Holarctic *E. inaequalis* Rossem, 1987 – by the absence of longitudinal striation on tergites 1 to 4, the long malar space, and the slenderer legs and basal tergites of metasoma. The new species also resembles the Nearctic *E. (Trestis) fragilis* Dasch, 1992 possessing shallow transverse impressions on tergites 2–4, but differs by the slenderer first tergite without strong dorsal longitudinal carinae, the fuscous hind coxa and the shape of tyloids.

*Etymology.* Named from the Latin “longus” (long) and “pes” (leg) after its long and slender legs.

*Distribution.* Mexico (Tamaulipas).

***Eusterinx (Ischyra) tenuiventris***  
**sp. nov.**  
(Figs 5–9)

*Holotype.* Male; México, Tamaulipas, Gómez Farias, Alta Cima, Malaise trap, 3–10 July 1999, leg. S. Hernandez (UAT).

*Paratype.* Male; México, Tamaulipas, Gómez Farias, 12 Oct. 1998, leg. D.R. Kasparyan (UAT).

*Description. Male.* Body length 3.4 mm; fore wing length 2.5 mm.

Head 1.1 times as wide as high. Face at level of antennal sockets 1.25 times as wide as high, 0.45 times as wide as head; face subpolished and closely punctate. Eyes large, convex, without setae, inner orbits slightly convergent ventrally (Fig. 5). Clypeus convex, 1.5 times as wide as high, its apical margin convex. Malar space 1.1 times as long as basal width of mandible; subocular stripe of coriaceous sculpture somewhat developed. Mandibles rather strong, bidentate, twisted inwards, upper tooth longer than lower tooth. Maxillary palps long, reaching mid coxa. Occipital carina complete; ocelli of moderate size, postocellar line as long as

0.9 diameter of lateral ocellus; oculo-ocellar line as long as 1.1 diameter of lateral ocellus (Fig. 6). Antenna with flagellum missing; temple 0.4 times as long as eye length.

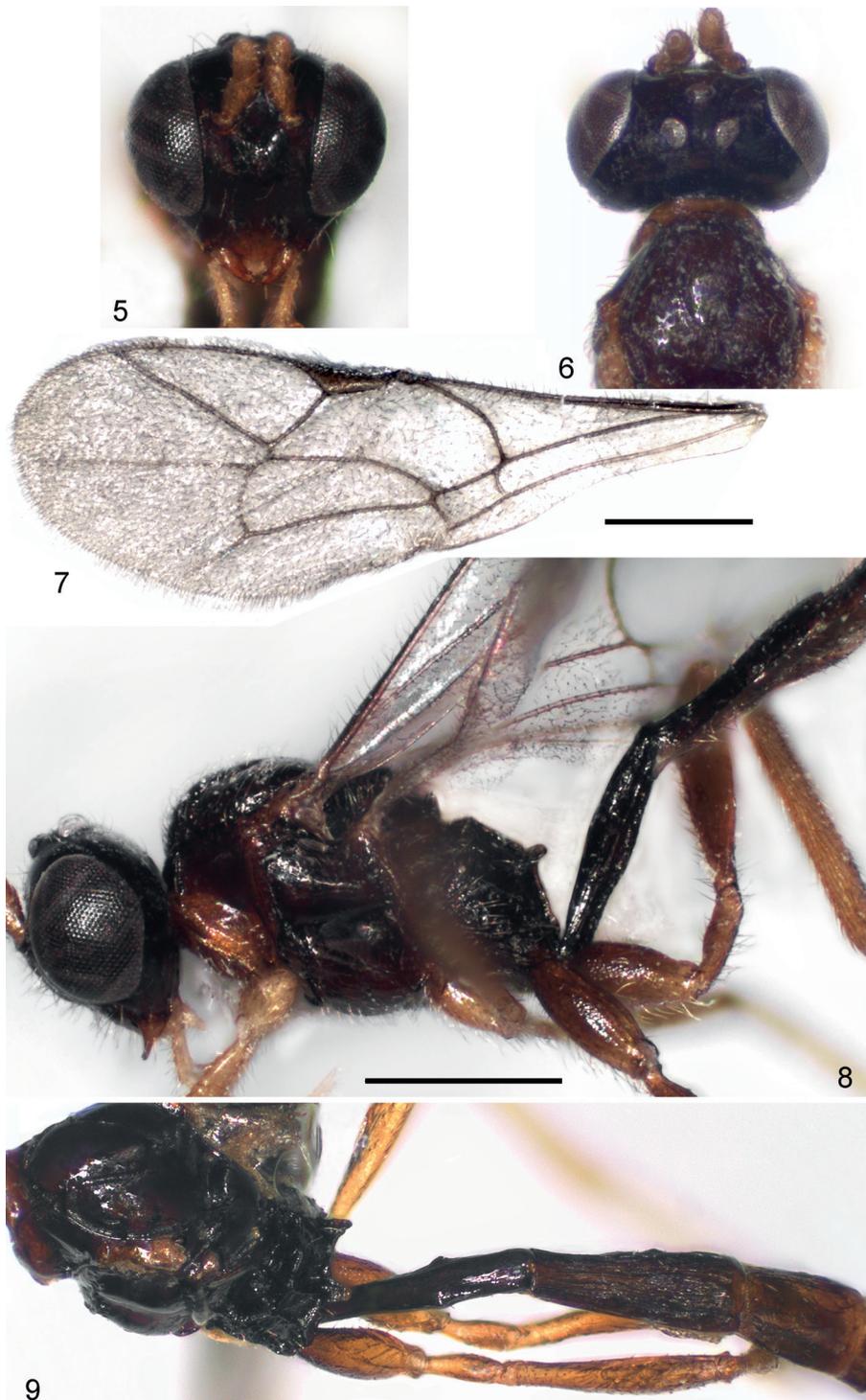
Mesosoma 1.65 as long as high. Mesoscutum polished; epomia strong; notauli deep, extending to middle of mesoscutum, forming a U-shaped connection; base of notaulus bordered by short carina laterally. Epicnemial carina complete, almost reaching upper part of mesopleuron (Fig. 8). Short sternaulus present, mesopleuron polished, metapleuron with rough reticulate sculpture. Postscutellum in profile with sharpened apex. Propodeum nearly polished with all carinae well developed, strong flattened apophyses present (Fig. 9). Area superomedia elongate, narrowed posteriorly. Fore wing without areolet; nervulus strongly postfurcal, postnervulus intercepted at upper 0.2 (Fig. 7); radius originates from apical third of stigma. Nervellus reclivous, not intercepted. Legs slender, hind coxa long, hind femur 5.0 times as long as wide, basitarsus 0.35 times as long as hind tibia.

First tergite long and slender, 4.2 times as long as wide posteriorly, almost straight in profile; protruding spiracles at anterior 0.6, apex of sternite at 0.8 of first tergite length; dorsal longitudinal carinae lacking. Second tergite long and slender, 2.2 times as long as wide posteriorly. Postpetiole, second tergite and basal half of third tergite subpolished with irregular rough longitudinal striae.

Fuscous. Apical half of clypeus, mandibles, palpi, base of antenna, propleuron and tegula yellowish. Metasoma brown, apical margins of tergites 2 and 3 yellowish. Legs reddish, hind coxa and femur light brown. Wings hyaline, veins brown.

*Female.* Unknown.

*Comparison.* The new species differs considerably from the only known New World species of the subgenus *Ischyra*, the Holarctic *Eusterinx bispinosa*, by the less size, the first segment of the metasoma almost straight in profile, the postfurcal nervulus, the reticulate sculpture of the metapleuron,



**Figs 5–9.** *Eusterinx (Ischyra) tenuiventris* sp. nov., males, holotype (5–8) and paratype (9). 5, head, anterior view; 6, head and mesoscutum, dorsal view; 7, fore wing; 8, head, mesosoma and base of metasoma, lateral view; 9, mesosoma and base of metasoma, dorsolateral view. Scale bars: 0.5 mm.

the slenderer legs and basal tergites of the metasoma with rougher longitudinal sculpture. *E. bispinosa* possesses the first metasomal segment convex in dorsal profile, nervulus interstitial, metapleuron scabrous, basal tergites wider (second tergite 0.9–1.3 times as long as wide posteriorly).

**Etymology.** Named from the Latin “tenuis” (thin, slender) and “ventris” (abdomen), after its long and slender tergites of metasoma.

**Distribution.** Mexico (Tamaulipas).

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