

A New Species of *Eurytenes* Foerster (Hymenoptera, Braconidae, Opiinae) from Mexico

Author(s): José Isaac Figueroa , José Antonio Sanchez-García , Ana Mabel Martínez and Samuel Pineda

Source: Journal of the Kansas Entomological Society, 86(2):117-121. 2013.

Published By: Kansas Entomological Society

DOI: <http://dx.doi.org/10.2317/JKES120823.1>

URL: <http://www.bioone.org/doi/full/10.2317/JKES120823.1>

BioOne (www.bioone.org) is a nonprofit, online aggregation of core research in the biological, ecological, and environmental sciences. BioOne provides a sustainable online platform for over 170 journals and books published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Web site, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/page/terms_of_use.

Usage of BioOne content is strictly limited to personal, educational, and non-commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

A New Species of *Eurytenes* Foerster (Hymenoptera, Braconidae, Opiinae) from Mexico

JOSÉ ISAAC FIGUEROA,^{1,3} JOSÉ ANTONIO SANCHEZ-GARCÍA,² ANA MABEL MARTÍNEZ,¹
AND SAMUEL PINEDA¹

ABSTRACT: *E. dolichocerus* Figueroa and Sanchez, new species of *Eurytenes* from Mexico is described and illustrated. A key to identify the described species of *Eurytenes* s. str. of the New World is included.

KEY WORDS: Braconid wasps, Neotropical region, parasitoid, taxonomy

The opiine wasp genus *Eurytenes* was erected by Foerster (1862), with the type species *Opius abnormis* (Wesmael). The studies of Foerster (1862), Szépligeti (1904), Gahan (1915), Fischer (1966, 1972, 1998), Wharton (1988, 2006), van Achterberg (2004), Chen and Weng (2005), Wu and Chen (2005), and Walker and Wharton (2011) contributed to the taxonomy of this genus. According to Walker and Wharton (2011) *Eurytenes* contains the subgenera *Eurytenes* sensu strict (s. str.), *Xynobius* Foerster 1862, *Jucundopius* Fischer 1984, *Stigmatopoea* Fischer 1986, *Xynobiotenes* Fischer 1998, *Oetzalotenes* Fischer 1998, and *Opiotenes* Fischer 1998. At present about 26 *Eurytenes* species have been described (Fischer, 1998; Fischer and Koponen, 1999; Chen and Weng, 2005; Wu and Chen, 2005; Walker and Wharton, 2011). Eight of them, *E. abnormis* (Wesmael), *E. basinervis* Wu and Chen, *E. cratospilum* Chen and Weng, *E. dichromus* Walker and Wharton, *E. microsomus* Walker and Wharton, *E. orientalis* Fischer, *E. ormenus* Walker and Wharton, and *E. pachycephalus* Walker and Wharton, belong to the subgenus *Eurytenes* s. str. (Walker and Wharton, 2011). This species group can be recognized by the attachment of the radial cross-vein (r) to the extreme base of the stigma and by the long and narrow pterostigma, weakly widened towards its apex (Wu and Chen, 2005; Walker and Wharton, 2011). In the New World, *Eurytenes* s. str. is represented by the Holarctic species *E. abnormis*, and four recently described species from central Texas and central Mexico (Walker and Wharton, 2011). In this paper we describe a new species from Mexico, which is the third species of *Eurytenes* recorded in Mexico.

Material and Methods

Description of the new species is based on seven specimens (six females, one male). Measurement data are given in millimeters or ratios. The terminology used in the description follows Sharkey and Wharton (1997) except for the use of precoxal sulcus instead of sternaulus (Wharton, 2006). Photographs were taken

¹ Instituto de Investigaciones Agropecuarias y Forestales, Universidad Michoacana de San Nicolás de Hidalgo, Km. 9.5 carretera Morelia-Zinapécuaro, Tarímbaro, Michoacán, 58880, México.

² CIIDIR-IPN-Unidad Oaxaca, Área de Control biológico, Hornos #1003, Santa Cruz Xoxocotlán, Oaxaca, C.P. 71230, México.

³ Corresponding author.

with a Zeiss Stemi 2000-C stereoscope equipped with a Canon G9 digital camera. The illustrations were prepared using Adobe Illustrator 10.0.3. Type material was deposited in the following collections: CIIDIR-IPN (Unidad Oaxaca, Santa Cruz Xoxocotlán, Oaxaca, México), IIAF (Instituto de Investigaciones Agropecuarias y Forestales, Universidad Michoacana de San Nicolás de Hidalgo, México), USNM (Smithsonian National Museum of Natural History, Washington, D.C., USA), and TAMU (Texas A&M University, Texas, USA).

Systematics

Eurytenes dolichocerus Figueroa and Sanchez, new species

(Fig. 1a–e)

FEMALE: Length of body: 2.50–2.90 mm; length of fore wing: 3.25–3.50 mm. *Color:* head, mesosoma, petiole and almost all ovipositor sheath black; eyes silver; mandible apex, lower margin of torulus and propleura reddish-brown; parastigma, pterostigma, antennal flagellum, medial area of femur, tibia and tarsomeres of hind leg, and lateral areas of tergites dark brown; veins clear brown; basal area of mandible, medial area of clypeus, tegula and ovipositor honey yellow; scape, pedicel, palps, fore and middle legs, coxa, trochanter, trochantellus, basal and apical area of hind femur, basal 0.1 of ovipositor sheath and rest of metasoma pale yellow. Sometimes first flagellomere yellowish-brown to dark brown.

Head: Length of antenna: 4.65–4.75 mm, 33–36 flagellomeres, first flagellomere 4.75–5.00 times longer than wide, first flagellomere 1.12–1.18 times longer than second; second flagellomere 3.75–4.25 times longer than wide, fifteenth flagellomere 2.25–3.00 times longer than wide, fifth from last flagellomere 2.57–2.85 times longer than wide. Face 1.36–1.55 times wider than high. Clypeus nearly semi-circular in shape, with ventral margin truncate to very slightly concave; 2.00–2.55 times wider than high; 1.33–1.91 times wider than distance between clypeus and eye. Mandible expanded basally, with distinct basal tooth or swelling (fig. 1a). Gena relatively narrow, eye width 1.67–2.08 times wider than gena in lateral view. Occipital carina extending about 0.70–0.80X distance from eye to nearest lateral ocellus.

Mesosoma: mesosoma 1.12–1.17 times wider than high; pronotum smooth, sometimes transverse pronotal sulcus varying from smooth to finely rugose; precoxal sulcus narrowly crenulate, not extending close to anterior margin of mesopleuron, and inclined at a 35 degree angle (fig. 1d); notauli narrow and crenulate over anterior 0.40 of mesoscutal disc (fig. 1b); with relatively sparse cluster of short setae at finely rugulose base of anterior declivity and 4–5 widely spaced setae extending posteriorly; propodeum with median carina over anterior 0.3, bifurcating at this point to form an inverted v-shaped transverse carina; lateral propodeal areas anteriorly on either side of median carina smooth; posterior areas of inverted v-shaped transverse carina punctate-rugose. *Wings:* forewing 1.12–1.23 times longer than body; r-m tubular and weakly pigmented; m-cu postfurcal, entering base of second submarginal cell, 3 M distinctly pigmented over most of length; (RS+M)b absent (fig. 1e); m-cu of hind wing absent. *Legs:* hind femur 5.50–6.50 times longer than maximum width, tibia 7.50–9.50 times longer than width, basitarsus 5.40–7.40 times longer than width.

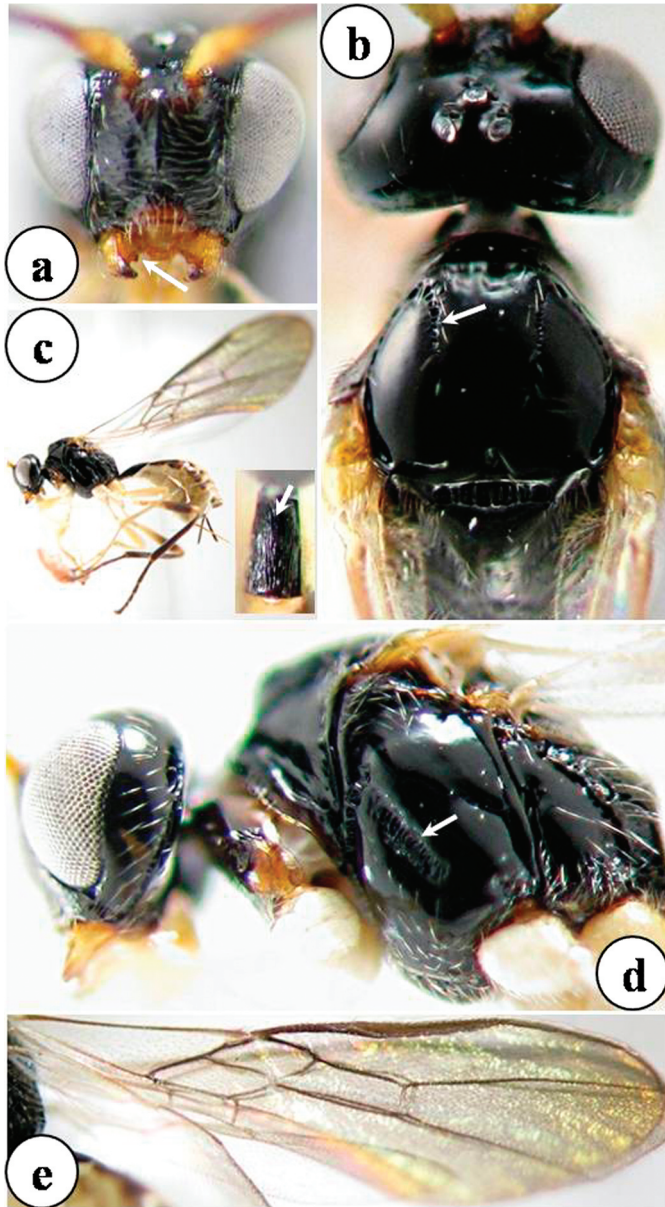


Fig. 1. *Eurytenes dolichocerus* n. sp. female: a. anterior view of head, arrow indicates mandible expanded with distinct basal tooth; b. dorsal view of mesosoma and head, arrow indicates notauli impressed over anterior 0.40 of mesoscutal disc; c. female habitus, arrow indicates dorsal view of petiole showing fine striae; d. lateral view of mesopleuron and head, arrow indicates precoxal sulcus; e. forewing.

Metasoma: Petiole 2.80–2.85 times longer than apical width, finely striate (fig. 1c); ovipositor length 0.42 mm, about 0.53 times length of mesosoma, straight; ovipositor sheath about 0.42–0.44 times length of mesosoma.

MALE: Similar to female, length of body 3.45 mm; forewing length 3.80 mm; first antennal flagellomere 1.25 times longer than second; length of second flagellomere 5.00 times its width; petiole 2.50 times longer than apical width; antennae broken.

TYPES: Holotype, female. MEXICO, Michoacán, Ciudad Hidalgo, Los Azufres, 19°45'449"N, 100°41'305"W, 2592 m, 15-XII-2008, L. Flores and I. Figueroa, yellow pan trap. Allotype male. MEXICO, Michoacán, same data than holotype, 24-V-2008. Paratypes: MEXICO, Michoacán: 1 female, same data than allotype; 1 female, same locality than holotype, 19°45'439"N, 100°41'296"W, 14-VI-2008, 2562 m, L. Flores and I. Figueroa; 1 female, same locality than holotype, 19°45'474"N, 100°41'336"W, 2607 m, 17-I-2011, A. Mejia R.; 2 female, same locality than holotype, 19°45'474"N, 100°41'336"W, 2607 m, 3-XII-2011, A. Mejia R. Holotype and allotype deposited in IIAF, paratypes deposited in IIAF, CIIDIR-IPN, USNM, and TAMU.

ETYMOLOGY: The name *dolichocerus* is derived from Greek: “dolikhos”, long; and “cer”, horn. The name refers to the elongate antennae of the species.

DISTRIBUTION: MEXICO (Michoacán).

DIAGNOSIS: Distinguished from other *Eurytenes* species by the following combination of characters: *E. dolichocerus* has a mandible expanded basally and with distinct basal tooth, 33–36 flagelomere, hind femur dark brown medially with apical and basal area pale yellow, and petiole black.

This species is most similar to *E. ormenus* Walker and Wharton, and runs to the couplet containing this species in the key to New World species of *Eurytenes* in Walker and Wharton (2011: 27–28). The six species are distinguished by the following modified key:

1. Hind femur almost entirely dark brown or at least medial area; petiole entirely dark brown to black, more than twice longer than apical width 2
 - Hind femur yellow, sometimes slightly infuscated distally; petiole variable . . . 3
2. Hind femur almost entirely dark brown; antenna with 27–29 flagellomeres; mandible not obviously expanded basally and without distinct basal tooth; body length 1.90–2.20 mm *E. ormenus*
 - Hind femur with medial area dark brown; antenna with 33–36 flagellomeres; mandible expanded basally and with distinct basal tooth; body length 2.50–2.90 mm. ***E. dolichocerus*, sp. n.**
3. Gena broad; petiole uniformly dark brown to black. *E. pachycephalus*
 - Gena narrow; petiole partly to entirely yellow 4
4. Petiole yellow; clypeus somewhat chevron shaped *E. abnormis*
 - Petiole mostly dark brown to black dorsally, yellow laterally; clypeus truncate or nearly so ventrally, broader and more nearly semi-circular. 5
5. Antenna with 31–35 flagellomeres; clypeus obviously infuscate dorsally. *E. dichromus*
 - Antenna with 29–31 flagellomeres; clypeus barely infuscate dorsally. *E. microsomus*

Acknowledgments

We thank Secretaría de Investigación y Posgrado del Instituto Politécnico Nacional and Coordinación de la Investigación Científica de la Universidad Michoacana de San Nicolás de Hidalgo for their financial support. We also thank Jesus Romero Napoles (Colegio de Postgraduados) for his support in the MS. The first two authors are grateful to the SNI-CONACYT for supporting with the grant 41093 and 31918-N.

Literature Cited

- Achterberg, C. van. 2004. New Indo-Australian sub-genera and species of the genera *Xynobius* Foerster and *Ademoneuron* Fischer (Hymenoptera: Braconidae: Opiinae). *Zoologische Mededelingen Leiden* 78:313–329.
- Chen, J., and R. Weng. 2005. Systematic studies on Opiinae of China (Hymenoptera: Braconidae). *Fujian Science and Technology Publishing House, Fujian*, 269 pp.
- Fischer, M. 1966. Revision der indo-australischen Opiinae. Dr. W. Junk, The Haag. 165 pp.
- Fischer, M. 1972. Hymenoptera: Braconidae (Opiinae I). *Das Tierreich* 91:1–620.
- Fischer, M. 1998. Neue taxonomische Untersuchungen über Madenwespen der Alten Welt mit besonderer Berücksichtigung der Gattungen *Eurytenes* Foerster, *Aulonotus* Ashmead, *Biosteres* Foerster und der Untergattung *Gastrosema* Fischer. *Linzer biologische Beiträge* 30(1):21–51. [In German, with English summary]
- Fischer, M., and M. Kopenen. 1999. A survey of Opiinae (Hymenoptera, Braconidae) of Finland, part 2 *Entomologica Fennica*, 10:129–160.
- Foerster, A. 1862. Synopsis der Familien und Gattungen der Braconen. *Verhandlungen des naturhistorischen Vereines der preussischen Rheinlande und Westphalens* 19:225–288.
- Gahan, A. B. 1915. A revision of the North American ichneumon-flies of the subfamily Opiinae. *Proceedings of the United States National Museum* 49:63–95.
- Sharkey, M. J., and R. A. Wharton. 1997. Morphology and Terminology. In R. A. Wharton, P. M. Marsh, and M. J. Sharkey (Eds.). *Manual of the new world genera of the family Braconidae (Hymenoptera)*. International Society of Hymenopterists. Special Publication No. 1. pp. 20–37.
- Szépligeti, G. V. 1904. Hymenoptera. Fam. Braconidae. *Genera Insectorum* 22:1–253.
- Walker, A. R., and R. A. Wharton. 2011. A review of New World *Eurytenes* s. str. (Hymenoptera, Braconidae, Opiinae). *Journal of Hymenoptera Research* 20:23–46.
- Wharton, R. A. 1988. Classification of the braconid subfamily Opiinae (Hymenoptera). *The Canadian Entomologist* 120:333–360.
- Wharton, R. A. 2006. The species of *Sternaulopius* Fischer (Hymenoptera: Braconidae, Opiinae) and the braconid sternaulus. *Journal of Hymenoptera Research*, 15:317–347.
- Wu, Q., and X. Chen. 2005. Four new species of the genus *Eurytenes* Foerster (Hymenoptera: Braconidae: Opiinae) from China. *Entomologica Fennica* 16:225–232.