

Two new species of *Centrodora* (Hymenoptera: Chalcidoidea: Aphelinidae), a new genus for Mexico

Два новых вида нового для Мексики рода *Centrodora* (Hymenoptera: Chalcidoidea: Aphelinidae)

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Two new species of the genus *Centrodora* Förster, 1878 are described from the state of Tamaulipas in Mexico: *C. tropicalis* sp. nov. and *C. zacateis* sp. nov. This is the first record of the genus *Centrodora* from Mexico.

Два вида рода *Centrodora* Förster, 1878 описаны из штата Тамаулипас в Мексике: *C. tropicalis* sp. nov. и *C. zacateis* sp. nov. Это первая находка рода *Centrodora* из Мексики.

Key words: Aphelinidae, *Centrodora*, Mexico, Tamaulipas, new species

Ключевые слова: Aphelinidae, *Centrodora*, Мексика, Тамаулипас, новые виды

INTRODUCTION

The genus *Centrodora* Förster, 1878 belongs to the family Aphelinidae. The aphelinid fauna of Mexico has been reviewed in some recently published papers (Myartseva & Ruíz-Cancino, 2000, 2001; Myartseva, 2006, 2008; Myartseva & Coronado-Blanco, 2007; Myartseva & Evans, 2008; Myartseva et al., 2004, 2008, 2010).

Several species of Aphelinidae have been used most successfully in classical biological control of insect pests, compared with any other family of parasitoids from Chalcidoidea. Most of Aphelinidae parasitize nymphal stages of Aleyrodoidea, Coccoidea and Aphidoidea (Homoptera) (Woolley, 1997). At least 30 species of Aphelinidae are known to attack the eggs of other insects (Polaszek, 1991). Egg parasitism is known also in the genus *Centrodora*. This is most polyphagous genus of Aphelinidae attacking, besides eggs of insects, nymphs of Homoptera and pupae of Diptera and Hymenoptera (Polaszek, 1991).

Centrodora contains about 50 species worldwide (Noyes, 2003; Hayat, 2010) and is almost cosmopolitan. Five species are known to occur in the Nearctic Region and seven in Central and South America. The genus has not been previously recorded from Mexico.

MATERIAL AND METHODS

Two species of *Centrodora* were collected in the state of Tamaulipas of Mexico using Malaise trap and sweeping with net. Both species were identified as new for science. Holotypes of both new species are deposited in the University of California, Riverside (USA, California).

RESULTS

The genus *Centrodora* is recorded from Mexico for the first time. Two species of this genus are described as new for the Mexican fauna bringing the total number of genera and species of Aphelinidae recorded from the country to 12 and 180 respectively. Nothing is known about hosts of two Mexican species.

Order **HYMENOPTERA**Superfamily **CHALCIDOIDEA**Family **APHELINIDAE*****Centrodora* Förster, 1878**

Species of *Centrodora* differ mainly in the relative dimensions of antennal segments, relative length and width of the fore wing, length of marginal fringe, presence or absence or extend of basal closure of the linea calva, number of setae on the mid lobe of the mesoscutum, and length of the exerted part compared to length of gaster. In addition, significant differences are observed in the relative length of ovipositor (second valvifer and third valvula combined) and mid tibia, and the second valvifer and third valvula (Hayat, 2010).

***Centrodora tropicalis* sp. nov.**

(Fig. 1)

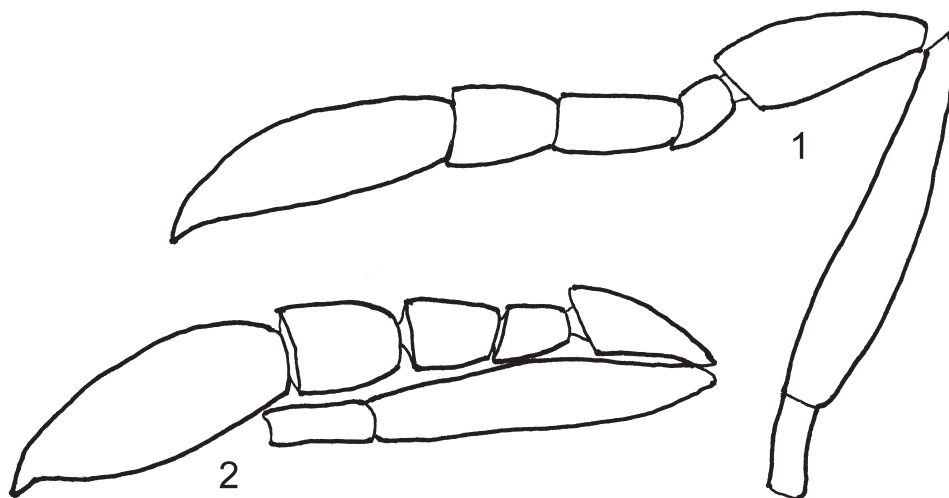
Holotype. Female; **Mexico**, *Tamaulipas*, 30 km S Cd. Victoria, Tropico de Cancer, matorral, Malaise trap; Nov. 2000; coll. D.R. Kasparyan.

Comparison. *Centrodora tropicalis* is similar to *C. merceti* Mercet, 1930 (Ferrière, 1965). Both these species belong to the *C. amoena* species group (Hayat, 2010) by having antennal club with apex pointed and curved ventrally, and yellow coloration of the body, and can be distinguished by following characters: *C. merceti* has fore wing hyaline, mid lobe of mesoscutum with six setae, pedicel about as long as first and second segments of funicle combined, second segment of funicle about as long as third segment, club slightly more than twice as long as preceding segment of funicle; *C. tropicalis* has fore wing infusate below basal part of marginal vein, mid lobe of mesoscutum with ten setae, pedicel longer than first and second segments of funicle combined, second segment of funicle distinctly longer than third segment, and club 3.0 times as long as preceding segment of funicle. The new species also differs from widely distributed in Central and South America *C. tomaspidis*

Howard, 1914 by third funicular segment distinctly shorter than first and second segments combined (in *C. tomaspidis* this segment equal to first and second segments combined), and fore wing infusate (hyaline in *C. tomaspidis*), and linea calva distinct and complete (indistinct and incomplete in *C. tomaspidis*).

Description. *Female* (holotype). Mandible with two teeth and short truncation. Eye slightly longer than cheek. Antennae (Fig. 1) inserted below the level of lower margin of eyes, closer to margin of mouth. Antennal radicle twice as long as wide; scape about 6.0 times as long as wide; pedicel long, about 2.7 times as long as wide, slightly longer than two basal funicular segments combined; first funicular segment asymmetrical, about 1.8 times as long as wide, its ventral margin longer than dorsal margin; second segment is the longest one, about twice as long as wide, its ventral margin shorter than dorsal margin; third segment slightly shorter and wider, about 1.5 times as long as wide, its ventral margin as long as dorsal margin; club 3.5 times as long as wide and slightly longer than funicle, with apex pointed and curved ventrally. Mid lobe of mesoscutum with ten long setae situated symmetrically (2+2+2+4), side lobe with two setae, axilla with one seta. Anterior pair of scutellar setae shorter than posterior pair of setae (10:14). Sculpture of head, mid lobe of mesoscutum, scutellum and propodeum very shallow, fine, hardly visible with magnification 400×. Fore wing long, 3.0 times as long as wide; marginal fringe about 0.3 times width of fore wing; linea calva complete, not closed posteriorly. Submarginal vein with three setae, marginal vein with five long setae along anterior margin. Tarsal formula 5-5-5. Mid leg with tibial spur slightly shorter than basitarsus. Ovipositor with base originating at the level of first tergite and strongly exerted, about 2.3 times as long as mid tibia; third valvula about 0.4 times as long as second valvifer.

Head, mesosoma and metasoma yellow-orange. Antennae and legs yellowish. Fore



Figs 1–2. *Centrodora*, female, holotypes. 1, *C. tropicalis* sp. nov.; 2, *C. zacateis* sp. nov. Antenna, lateral view (1–2).

wings infusate below basal part of marginal vein to posterior margin of wing.

Male. Unknown.

Distribution. Mexico (Tamaulipas).

***Centrodora zacateis* sp. nov.**

Holotype. Female; **Mexico**, *Tamaulipas*, Cd. Victoria, UAT, redeo en zacate; 14 June 1999; coll. L.S. Monrreal-Hernández.

Comparison. *Centrodora zacateis* belongs to *C. amoena* species group and is compared here with *C. merceti* Mercet, 1930 and *C. tomaspidis* Howard, 1914. The new species differs from *C. merceti* by its mid lobe of mesoscutum with ten setae (with six setae in *C. merceti*), third segment of funicle distinctly longer than second segment (about as long as second segment in *C. merceti*), and club about 3.0 times as long as preceding segment of funicle (slightly longer than twice, in *C. merceti*). It also differs from *C. tomaspidis* by its third funicular segment distinctly shorter than first and second segments combined (equal in *C. tomaspidis*), and linea calva distinct and complete (indistinct and incomplete in *C. tomaspidis*).

Description. Female. Mandible with two teeth and truncation. Eye about 1.7 times as long as cheek. Antennae (Fig. 2) inserted

immediately below the level of lower margin of eyes. Antennal radicle about 3.0 times as long as wide; scape about 4.6 times as long as wide; pedicel twice as long as wide and about as long as two basal funicular segments combined; first segment of funicle 1.4 times as long as wide, its ventral margin slightly longer than dorsal margin; second segment slightly longer and wider, 1.7 times as long as wide, its ventral margin slightly shorter than dorsal margin; third segment slightly longer and wider than second segment, 1.2 times as long as wide; club about 2.8 times as long as wide, longer than funicle, its apex pointed and curved ventrally. Mid lobe of mesoscutum with ten long setae, side lobe with two setae, axilla with one seta. Anterior and posterior pairs of scutellar setae subequal in length. Fore wing 3.0 times as long as wide; marginal fringe about 0.2 times width of wing; linea calva complete and not closed posteriorly. Submarginal vein with three setae, marginal vein with five long setae along anterior margin. Tarsal formula 5-5-5. Ovipositor with base originating at the level of first tergite and slightly exserted, about 2.6 times as long as mid tibia; third valvula about 0.3 times as long as second valvifer.

Head, mesosoma and metasoma yellow-orange. Legs yellow with fore tarsi and apical tarsomeres of mid and hind legs slightly infuscate. Antennae yellow-orange with pedicel infuscate. Fore wings hyaline.

Male. Unknown.

Distribution. Mexico (Tamaulipas).

Key to species of *Centrodora* occurring in Mexico (females)

1. Antennal scape 6.0 times as long as wide. Second funicular segment longer than third segment. Fore wings infuscate. Ovipositor strongly exerted *C. tropicalis* sp. nov.
- Antennal scape 4.6 times as long as wide. Second funicular segment shorter than third segment. Fore wings hyaline. Ovipositor slightly exerted *C. zacateis* sp. nov.

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