

A new Mexican species of *Coccophagus* Westwood of the *C. varius* species group (Hymenoptera: Chalcidoidea, Aphelinidae)

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Новый мексиканский вид хальцид рода *Coccophagus* Westwood из группы *C. varius* (Hymenoptera: Chalcidoidea, Aphelinidae)

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Abstract. A new species of aphelinids, *Coccophagus tobiasi* sp. n. from Mexico is described. It is the first species of the *C. varius* species group to be found in Mexico.

Key words. Hymenoptera, Chalcidoidea, Aphelinidae, *Coccophagus*, new species, Mexico.

Резюме. Приводится описание нового вида афелиниды *Coccophagus tobiasi* sp. n. из Мексики. Новый вид является первым для Мексики представителем из видовой группы *C. varius*.

Ключевые слова. Hymenoptera, Chalcidoidea, Aphelinidae, *Coccophagus*, новый вид, Мексика.

Introduction

The genus *Coccophagus* Westwood, 1833 includes over 200 described species and has a cosmopolitan distribution. Sixty species are recorded from the New World with 10 known from Mexico (Myartseva, Ruíz-Cancino, 2000; Noyes, 2002; Myartseva, Coronado-Blanco, 2003). Several species of *Coccophagus* play an important role in the biological control of the pests of the family Coccidae and have been introduced to many countries of the world (Clausen, 1978).

The *C. varius* species group of the genus *Coccophagus* includes species, which were placed in the genera *Prococcophagus* Silvestri, *Aneristus* Howard and *Taneostigmoidella* Girault, and later synonymized with *Coccophagus* (Hayat, 1983, 1988, 1998; Shafee et al., 1985; Viggiani, 1985). Members of the species group may be recognized by the following combination of characters: antenna with contrasting white and dark segments, scape flattened and expanded, axilla usually with more than two setae, forewing infusate. Twenty two species placed in the *C. varius* group are found in Australia (4 species), China (7), Japan (1), Sri Lanka (1), India (3), South Africa (4), Haiti (2) and Argentina (1) (De Santis, 1996; Noyes, 2002).

A few specimens of a new species of *Coccophagus* from this group were collected in Mexico in several states (Michoacan, Morelos, Nuevo León, Sinaloa and Veracruz) and were deposited in the Entomological Research Museum of Department of Entomology, California University (Riverside, USA). The first species *Coccophagus tobiasi* sp. n. from *C. varius* group was recorded in Mexico.

Abbreviations of depositories used: UAT — Entomological Museum of Autonomous University of Tamaulipas (Ciudad Victoria, Mexico); UCR — Entomological Research Museum of the Department of Entomology of California University (Riverside, USA); USNM — the United States National Museum (Washington, USA); ZISP — Zoological Institute, Russian Academy of Sciences (St. Petersburg, Russia).

***Coccophagus tobiasi* Myartseva, sp. n.** (Figs 1–7).

Diagnosis. *C. tobiasi* sp. n. is quite unlike the all other species of *C. varius* group. It is similar to the African species *C. varius* (Silvestri), but can easily be distinguished by characters of antenna (funicle and club blackish brown, without white or pale segments; first funicular segment without sensilla; scape of male blackish brown and without longitudinal ventral whitish band).

C. tobiasi sp. n. is also similar to *C. asterolecanii* (Dozier) from Haiti. It differs in the following characters: scape blackish along dorsal and ventral margins (in *C. asterolecanii* with narrow brown strip along the middle), funicle segments entirely brown (in *C. asterolecanii* whitish dorsally), middle tibiae without two brown spots (present in *C. asterolecanii*); axilla with 4 setae (3 setae in *C. asterolecanii*).

New species differs from *C. albiapicella* De Santis described from Argentina by the former having the following: unicolored brownish black antennal club, long forewing, and midtibial spur shorter than basitarsus.

Description. Female. Length of body 1.0–1.1 mm (holotype — 1.0 mm).

Colour. Head whitish yellow, occiput around foramen brown. Antennal scape whitish, with blackish dorsal and ventral margins; pedicel brownish black, dorsally whitish; funicle and club brownish black. Mesosoma whitish yellow, pronotum blackish medially, notaular lines black, axilla with fuscous median spot; female from Veracruz with mesoscutum, scutellum and axilla yellow with orange tinge. Legs whitish. Forewing infusate excluding its hyaline apical 1/10; venation infusate. Hind wing hyaline. Gaster brownish, hind margin of first-fifth terga narrowly whitish yellow; ovipositor sheaths brownish, laterally black.

Morphology. Head as wide as mesosoma, slightly wider than high and about 1.5 times as wide as long. Frontoververtex as wide as long, its width about 0.4 times head width. Ocelli in triangle with anterior angle about 60°. Eyes densely setose and about 3.0 times as long as cheeks. Mandible (Fig. 1) with two teeth, upper tooth well defined, lower tooth blunter but long; dorsal truncation at apex of mandible short and slightly concave. Antenna (Fig. 2) inserted immediately under lower margin of eyes. Scape flattened and expanded to apice, about 2.5 times as long as wide; pedicel about twice as long as wide, subequal in length to first and second funicular segments. Funicle segments with excentric articulations, subequal in width. First and second segments 1.5 times, third segment 1.4 times as long as wide. Club about 4.0 times as long as wide, longer than two preceding segments combined. First funicular segment without longitudinal sensilla, second-fifth segments with two sensillae, sixth — with one sensilla. Mesoscutum densely setose, wider than long; scutellum shorter than mesoscutum and wider than long, with 3 pairs of long setae increasing in length basally; each axilla with 4 setae, posterior one the longest (Fig. 3); each side lobe with 3 setae; propodeum with 7–8 slender setae laterally to spiracles. Forewing about 2.8 times as long as wide; submarginal and marginal veins subequal in length; postmarginal vein present; stigmal vein slightly expanded and with apex produced towards apex of wing (Fig. 4). Hind wing 5.4 times as long as wide, marginal fringe about 0.4 times as long as maximum width of wing. Midtibial spur (Fig. 5) slightly shorter than basitarsus; basitarsus slightly shorter than following 3 tarsal segments combined. First-sixth gastral terga with a few long setae laterally, seventh tergum with numerous setae arranged in 4 rows. Ovipositor (Fig. 6) slightly protruded, 1.2 times as long as middle tibia; third valvula 0.6 times as long as second valvifer.

Male. Length of body 0.7–0.9 mm.

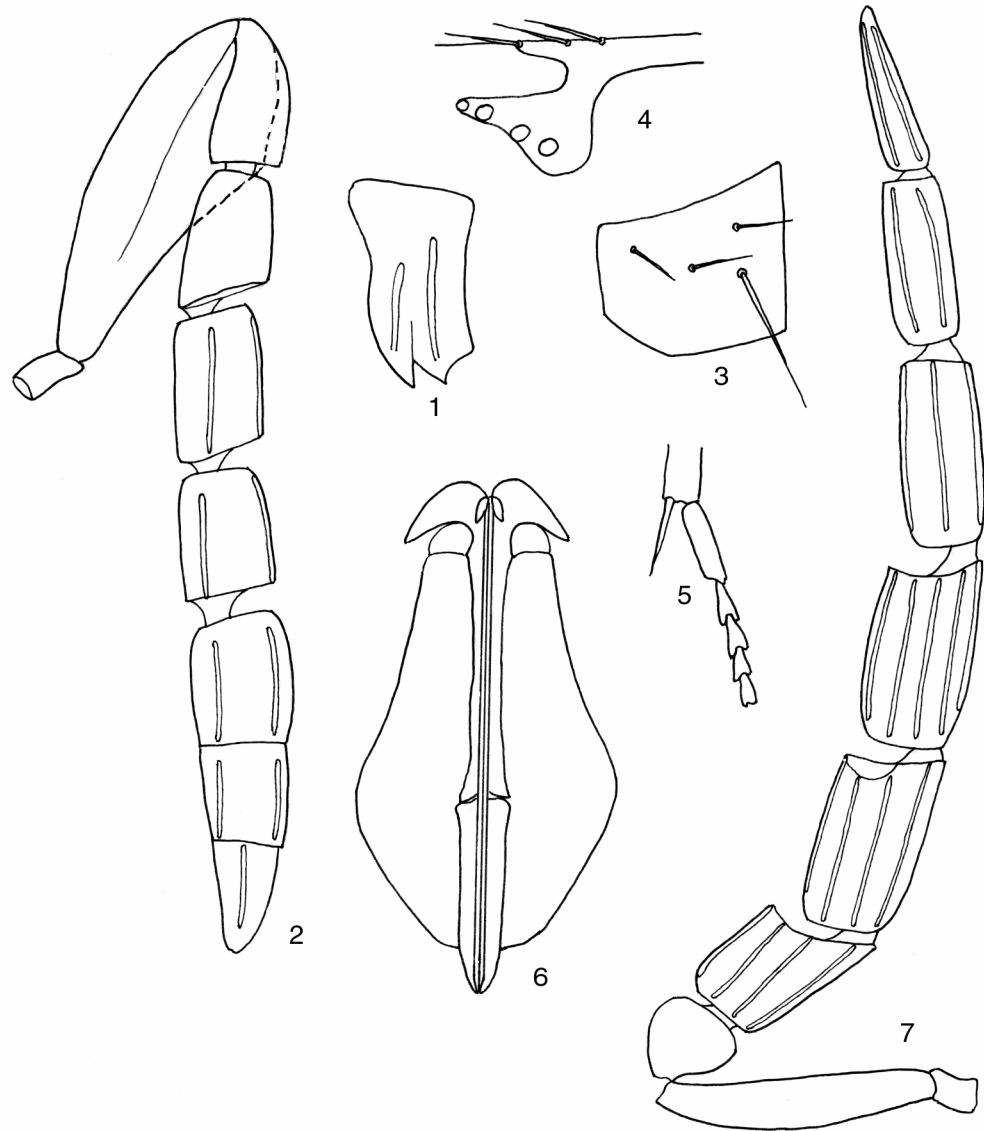
Colour. Similar to female, but more infusate. Frontoververtex yellow with orange tinge; antennal scape brownish black. Mesosoma yellow with orange tinge. Apical hyaline part of forewing indistinct. Gaster brown.

Morphology. Ocelli situated in slightly acute triangle. Eyes about twice as high as cheeks. Scape 5.0 times as long as wide; pedicel slightly wider than long; first funicular segment the shortest and 1.5 times as wide as long, second and third segments equal in length and width, each one 1.8 times as long as wide; club narrowed towards apex, about 6.0 times as long as wide and slightly longer than funicle (Fig. 7). Funicular segments with more elongate sensillae, than in club segments. Forewing 2.4 times as long as wide; marginal vein longer than submarginal vein. Hind wing 6.0 times as long as wide; marginal fringe half as long as maximum width of wing. Midtibial spur as long as basitarsus; basitarsus as long as 3 following tarsal segments combined. Sixth gastral tergum with numerous small peg-like tubercles arranged in two lines along anterior margin, and 6 long setae situated along posterior margin; seventh tergum with less numerous setae. Genitalia about 0.4 times as long as middle tibia and about 1.3 times longer than basitarsus of middle leg.

Material Examined. Holotype: ♀, México, Morelos, Amatlan, 14 km N Yautepec, “screen sweeping”, 29 X 1982 (J. Huber, A. González) (UCR No. 54602). Paratypes. México, Veracruz, 1 ♀, 1 ♂, Cañ. Rio Metlac, 3 km W Fortin, 6 VII 1981 (J. LaSalle) (UCR No. 54601, 54578); Michoacán, 1 ♀, 30 km N Lazaro Cardenas, 7 VIII 1984

(G. Gordh) (UCR No. 54600); 1 ♀, Sinaloa, 12 mi N Mazatlán, "screen sweeping", 25 X 1982 (J. Huber) (UCR No. 54603); 1 ♀, Nuevo León, 5 km W Bustamante, 13 VII 1983 (A. González) (UCR No. 54599); 1 ♂, Villa de Santiago, San Juan Bautista, 17 V 1984 (Sierra, Rodríguez) (UCR No. 54575); 1 ♂, Mun. Santiago, El Cercado, Hda Las 3 Blanquitas, 9 VII 1983 (G. Gordh) (UCR No. 54577). Holotype and 2 paratypes (1 ♀, 1 ♂) are deposited in UCR, 2 paratypes (1 ♀, 1 ♂) in USNM, 2 paratypes (1 ♀, 1 ♂) in ZISP and 1 paratype (♀) in UAT.

Etymology. New species is named in honour of Dr. Vladimir Ivanovich Tobias, expert of Hymenoptera, Professor of the Zoological Institute of the Russian Academy of Sciences (St. Petersburg, Russia) for his invaluable contributions to the scientific investigation of the family Braconidae in Russia and worldwide. Prof. V.I Tobias was the mentor of many postgraduate students, including this author during his long-term as Head of the Hymenoptera Division in the Laboratory of Insect Taxonomy at the Zoological Institute.



Figs 1–7. *Coccophagus tobiasi* sp. n. 1 — mandible; 2 — antenna of female; 3 — axilla; 4 — stigmal and postmarginal veins of forewing; 5 — midtibial spur and tarsus; 6 — ovipositor; 7 — antenna of male.

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