

Three New Species of Parasitoid Phoridae (Diptera) From the Neotropical Region

by

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ABSTRACT

One species of ant-decapitating fly, *Apocephalus* (*Apocephalus*) *meeckerjense-nae* n. sp. from Costa Rica, and two species of bee-killing flies, *Melaloncha* (*Udamochiras*) *stoneorum* n. sp. and *M.* (*Melaloncha*) *eminara* n. sp. from Bolivia, are described.

Key words: *Apocephalus*, *Melaloncha*, Phoridae, new species, Neotropical, parasitoid

INTRODUCTION

Despite recent revisionary works on parasitic Neotropical phorid flies, new species continue to be discovered regularly. Few areas of the region have been sampled, and then mostly only for brief periods of time. Much more sampling is needed in diverse localities to even approach a full inventory.

The two largest parasitic genera are *Apocephalus* (the ant-decapitating flies- 277 species) and *Melaloncha* Brues (the bee-killing flies- 167 species), both of which have been studied intensively by the author (for example, Brown 1997, 2000, 2002, 2004a,b, 2005, 2006; Brown & Kung 2006; Gonzalez & Brown 2004). Below are descriptions of further new species of each, dedicated to some of the people who have supported entomology research at the Natural History Museum of Los Angeles County (LACM).

METHODS

Specimens were collected into ethanol and chemically dried using hexamethyldisilazane (Brown 1993). Female terminalia were cleared in lactic acid (Cumming 1992). Barcoded catalog numbers are given for holotypes in square brackets. Images are posted in Morphbank (www.morphbank.com).

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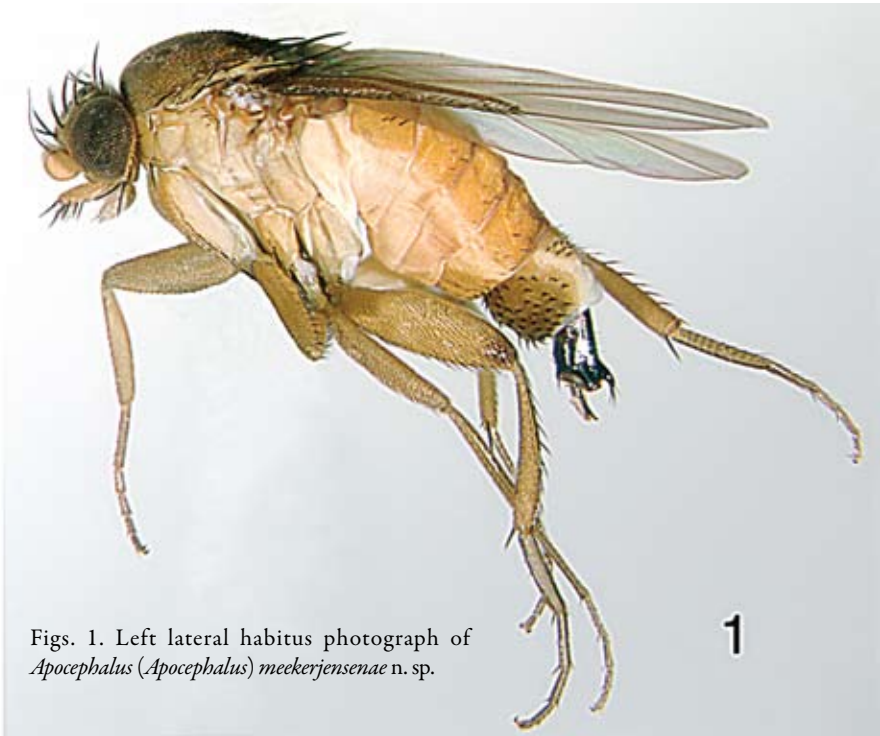
All specimens are deposited in the collection of the LACM or the Colección Boliviana de Fauna, La Paz, Bolivia (CBFC).

TAXONOMY

Apocephalus (Apocephalus) meekerjensena new species (Figs. 1, 4, 5)

Species recognition. This species can be recognized by the yellow color (Fig. 1), setulose anepisternum, oviscape shape (Figs. 4-5), and especially the thick-seta-studded sternite 6. It cannot be classified in any of the currently-recognized subgroups of the genus.

Description. Body length 2 mm. Body color yellow, except ocellar triangle and apex of hind femur darkened. Frons with 4-4-4 frontal setae; ventral interfrontal setae near midline of frons, divergent; supra-antennal setae absent. Flagellomere 1 round, arista dorsal. Palpus elongate, with large black setulae. Scutellum with small (similar in size to setulae of scutum) anterior



Figs. 1. Left lateral habitus photograph of *Apocephalus (Apocephalus) meekerjensena* n. sp.

and large posterior seta. Anepisternum setulose. Legs unmodified; tarsal claws with single tooth. Wing fully-developed; costal vein extends 0.5 wing length; vein R_{2+3} present. Halter brown. Abdominal tergites yellow, darker posteriorly. Tergite 6 relatively small; sternite 6 greatly enlarged, extending dorsally, densely covered with thick, pointed setae. Oviscape heavily sclerotized, shining black, with setose dorsoapical process.

Host. Unknown. Probably this is an ant parasitoid, as are other *Apocephalus* (*Apocephalus*) species.

Distribution. Known only from the type locality, a montane forest in Costa Rica.

Etymology. Derived from two family names of Sarah Jensen, a supporter of the LACM Entomology Section.

Holotype. ♀, COSTA RICA: San José: Zurquí de Moravia, 10.05°N, 84.02°W, v.1992, P. Hanson, Malaise trap, 1600 m [LACM ENT 013283] (LACM).

Paratypes. COSTA RICA: San José: Zurquí de Moravia, 10.05°N, 84.02°W, 1♀, v.1992, 1♀, viii.1995, 1♀, ix.1995, P. Hanson, Malaise trap, 1600 m (LACM).

***Melaloncha (Udamochiras) stoneorum* new species**

(Figs. 2, 6, 7)

Melaloncha n. sp., Brown & Smith, in press.

Species recognition. This species is easily distinguished from others of subgenus *Melaloncha (Udamochiras)* Enderlein by the narrow process on the venter of the oviscape (Fig. 7). It keys to couplet 13 in the latest key (Brown 2004), but differs from both species identified there by the presence of the ventral process. The *M. (Udamochiras)* species subsequently described by Gonzalez & Brown (2004) also lack a ventral process.

Description. Body length 2 mm. Body color mostly black with silver reflective areas (Fig. 2). Frons black, 0.34 head width, punctate along edges. Median furrow of frons present. Dorsal interfrontal setae present, 0.70 length postocellar setae, inserted ventral of level of median (ventral) ocellus. Postocular and genal setae light-colored. Flagellomere 1 yellow. Palpus whitish-yellow, with light-colored setulae, except one apical black setula. Legs yellowish-brown, except apex of hind femur darkened. Combined length of foretarsomeres



Fig. 2 Left lateral habitus photograph.
Melaloncha (Udamochiras) stoneorum n. sp.

approximately equal to tibial length. Claws of all legs small, finely bifurcate at apex. Wing with costal vein 0.49 wing length; vein R_{2+3} absent. Halter yellow. Abdominal tergites black with patches of silver. Venter of abdomen gray. Oviscape slightly curved ventrally; with long lateral setae (Fig. 6); venter of oviscape with rounded, posteriorly-directed process (Fig. 7).

Host. Unknown. The specimens were attracted to large, mixed aggregations of bees.

Distribution. Known from two sites in the Yungas area of Bolivia.

Etymology. Named for Cindy & Sheldon Stone, supporters of the LACM Entomology Section.

Holotype. ♀, BOLIVIA: La Paz: Coroico, Hotel Don Quixote, 16.19°S, 67.72°W, 5.iv.2004, B. Brown, E. Zumbado, on *Phoenix* palm flowers [LACM ENT 194308] (LACM).

Paratypes. BOLIVIA: La Paz: 40 km N Caranavi, Cumbre Alto Beni,

15.83°S, 67.56°W, 2♀, 19.iv.2004, E. Zumbado, honey spray (CBFC, LACM).

***Melaloncha (Melaloncha) eminara* new species**

(Figs. 3, 8)

Species recognition. This species is classified in the *M. ungulata* subseries (Brown & Kung 2006) based on the greatly enlarged posterior claw of the foreleg. It keys to *M. pegmata* Brown & Kung in the latest key to *M. ungulata*-group species (Brown & Kung 2006), but differs by the shape of the dorso-medial process of the trident of intersegment 7-8, which is arrowhead shaped (Fig. 8), instead of rectangular as in *M. pegmata*.

Description. Female. Body length 2.3 mm. Frons yellow, except anterior margin of ocellar triangle black; sculpturing finely reticulate with few lateral punctures. Frons 0.40 head width. Flagellomere 1 yellow. Palpus white, with short, yellow setae. Dorsal postocular setae black; genal and other postocular setae yellow. Scutum yellow (Fig. 3) with posterolateral dark brown macula. Pleuron yellow. Legs brownish-yellow. Foretibia with irregular dorsal bare area. Foretarsomeres enlarged, flattened. Venter of foretarsomere 1 with several rows of enlarged setae, plus enlarged apical seta on anterior margin; posterior margin with row of longer setae. Venter of foretarsomeres 2–3

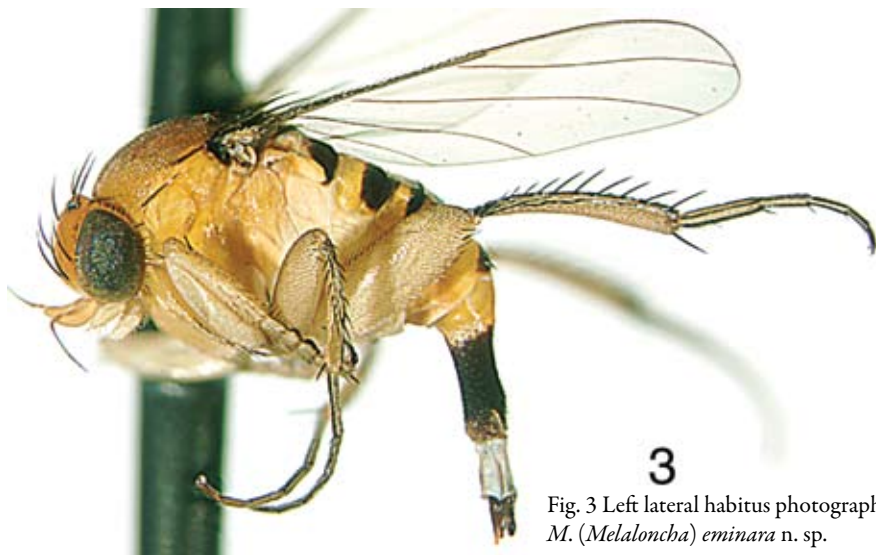
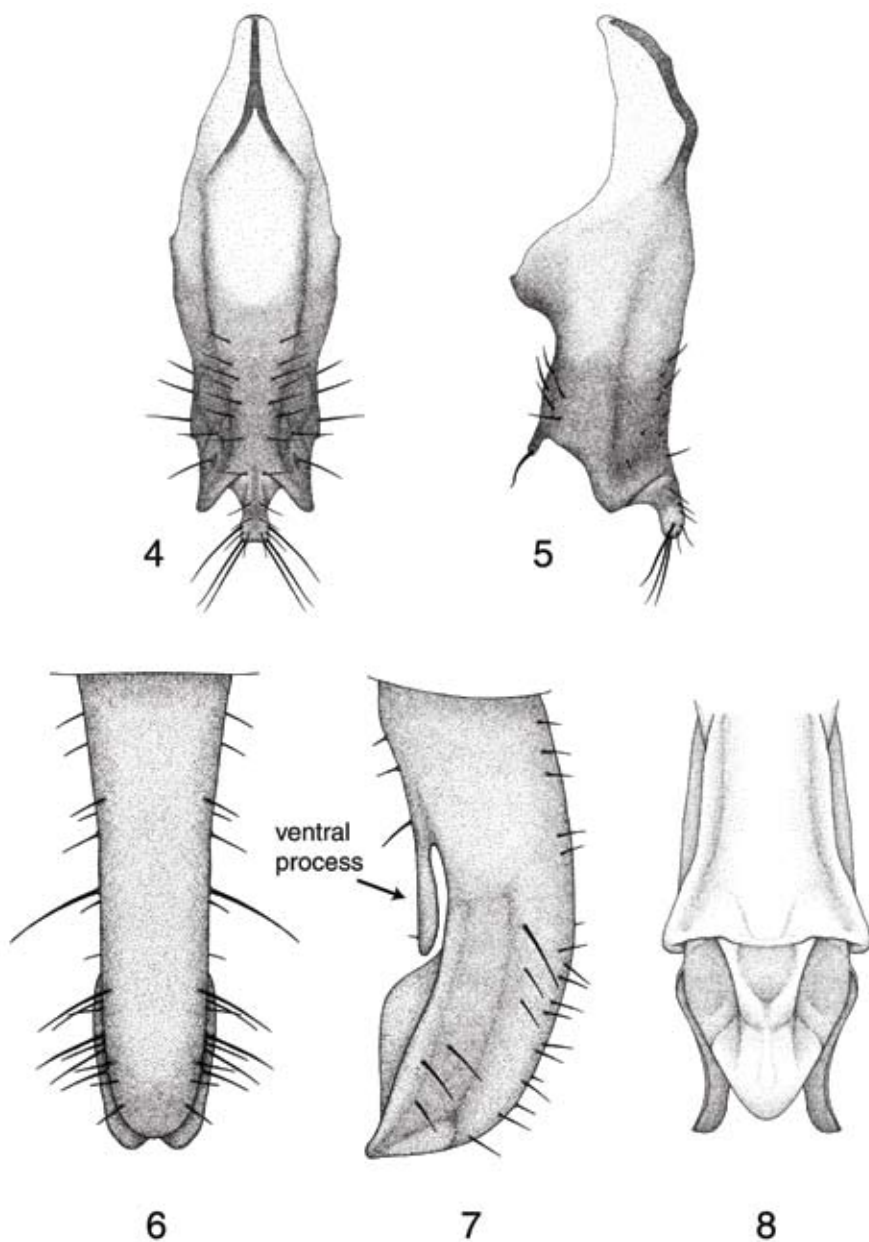


Fig. 3 Left lateral habitus photograph.
M. (Melaloncha) eminara n. sp.



Figs. 4-8. Female terminalia. 4-5. Oviscape, *Apocephalus* (*Apocephalus*) *meekerjensena* n. sp. 4, dorsal; 5, left lateral. 6-7. Oviscape, *Melaloncha* (*Udamochiras*) *stoneorum* n. sp. 6, dorsal; 7, left lateral. 8. Intersegment 7-8, *M.* (*Melaloncha*) *eminara* n. sp., dorsal.

with extremely dense areas of many spinelike setae on posterior margin (especially on tarsomere 2); apicoventral seta on anterior side enlarged. Venter of foretarsomere 4 without small, spinelike setae, but with enlarged apical seta on posterior side and enlarged seta at midlength on anterior side; setae of palisade on posterior margin 1.5 times as long than those of tarsomere 3. Dorsum of foretarsomere 5 with thick, apical seta. Posterior claw of foreleg greatly enlarged, 3.2 times length of anterior claw. Costa 0.52 wing length. Halter yellow. Abdominal tergites yellow, with posterior black band. Venter of abdomen yellow. Oviscape basally yellow, apically black. Trident of intersegment 7–8 with large, rounded, arrowhead-shaped, dorsally flattened dorsomedial process (Fig. 8); lateral arms elongate.

Distribution. Known from a single site in the Yungas area of Bolivia.

Host. Unknown. The specimens were attracted to large, mixed aggregations of bees.

Etymology. This species is dedicated to Mary Ann and Ralph Flies, on behalf of Diane Naegele, a supporter of the LACM Entomology Section. The word “eminar” is an arbitrary combination of letters based on “M and R”, the first initials of their names.

Holotype. ♀, BOLIVIA: La Paz: Coroico, Hotel Don Quixote, 16.19°S, 67.72°W, 6.iv.2004, B. Brown, E. Zumbado, on *Phoenix* palm flowers [LACM ENT 194509] (LACM).

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