

# First records of two genera and thirteen species of Tabanidae (Diptera) from Honduras

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## Abstract

This work presents information on the diversity of the Tabanidae of Honduras as a product of the examination of 386 specimens and a literature review. Thirteen species and two genera (*Bolbodimyia* and *Dasychela*) are recorded from the country for the first time. Eighty-five species distributed in 22 genera, five tribes, and three subfamilies are now known from Honduras. A key to the subfamilies, tribes, and genera of the known Honduran species is also included. All new records are mapped and illustrated to aid in the identification of the species.

## Keywords

Central America, diversity, horse flies, tabanids, taxonomy

## Introduction

Tabanidae is a family of Diptera that includes flies considered of medical and veterinary importance due to the blood sucking habits of the adults. Currently the group contains around 4,400 species worldwide (Pape et al. 2011). The Neotropical region has the highest diversity, with approximately 1,205 species and about 28% of the global fauna (Henriques et al. 2012), but many its areas continue to be unexplored.

The best known tabanid faunas in Central America are those of Costa Rica and Panama thanks in big part to the works of Fairchild (1961), Hogue and Fairchild (1974), Fairchild (1986), and Burger (2002). Currently, 146 species of tabanids are known from Costa Rica (Borkent et al. 2018) and 152 from Panama (Fairchild 1986). For Honduras, few works deal with the diversity of horseflies in the country, i.e., Bequaert (1925), Root (1925), and James (1950). Coscarón and Papavero (2009), in their catalog for the neotropics, listed 70 species of Tabanidae from Honduras. Henriques (2016) added two additional species, *Scione maculipennis* (Schiner) and *Philipotabanus ebrius* (Osten Sacken), for a total of 72 species.

Honduran species diversity is poorly known for many groups. Linares and Orozco (2017) estimated that at least half of the insects in the country are known unknowns, species already described that are not recorded. This poor understanding of the diversity makes conducting ecological and conservation studies very difficult in the country.

This work presents for the first time an overview of the tabanids of Honduras. By nature, this is vastly incomplete as there are many more habitats to sample and collections to revise. In comparison, Costa Rica with less than half the size of Honduras has more than twice the number of known species of tabanids. The aims of this article are: 1) to present the new findings regarding the species diversity in the country, 2) to integrate the records on the tabanid fauna of Honduras scattered in the literature, 3) to provide an updated list of the species, and 4) to create a key for the genera of tabanids known in the country.

## Methods

Material of Tabanidae deposited at the Insect Collection at Zamorano University (EAPZ) (Zamorano, Honduras) was examined. Fieldwork was done using H-traps (Egri et al. 2013), light traps, and an aerial net in several locations in Honduras. Specimens were studied under a Leica EZ4 stereo microscope using the keys provided by Bequaert (1931), Philip (1954), Fairchild and Philip (1960), Fairchild (1976), Wilkerson (1979), Fairchild (1983, 1986), Fairchild and Wilkerson (1986), Coscarón and González (1991), Burger (1996), Henriques (2006), Krolow et al. (2007), Burger (2009), Krolow and Henriques (2010), Turcatel et al. (2010), Carmo and Henriques (2019), and Turcatel (2019).

Distributional records were obtained from label data and from the literature.

A species distribution map was made for the new records using SimpleMappr (<https://www.simplemappr.net/>) and Microsoft Power Point v. 2112.

Photographs were taken using a Canon 100 mm lens mounted on a Canon Rebel T5i attached to a macro rail. Composite images were obtained using PICOLAY v. 2020–02–06 (<http://www.picolay.de>). Individual images were organized in plates in GIMP v. 2.10.24 (<http://www.gimp.org>).

## Results and discussion

Eighteen genera and 47 species were found in the 386 specimens examined. Thirteen species and two genera are recorded for the first time (Fig. 1).

With these new records Honduras has now a diversity of 85 species of horseflies (Table 1). This represents an increase of 15.3% compared to the previously known taxa (72 species) but it's still a low number, and many more species are expected to be discovered in the future. Two additional species, *Tabanus femoralis* Kröber from Escuela Agrícola Panamericana Zamorano, Francisco Morazan, and *Stypommisa lerida* (Fairchild) from 15 km west of La Ceiba, Atlántida, are recorded in GBIF (<https://www.gbif.org/es/occurrence/3048772282> and <https://www.gbif.org/es/occurrence/3385753663>). Since this material was not examined, it is not included in the list, but the records are probably valid.

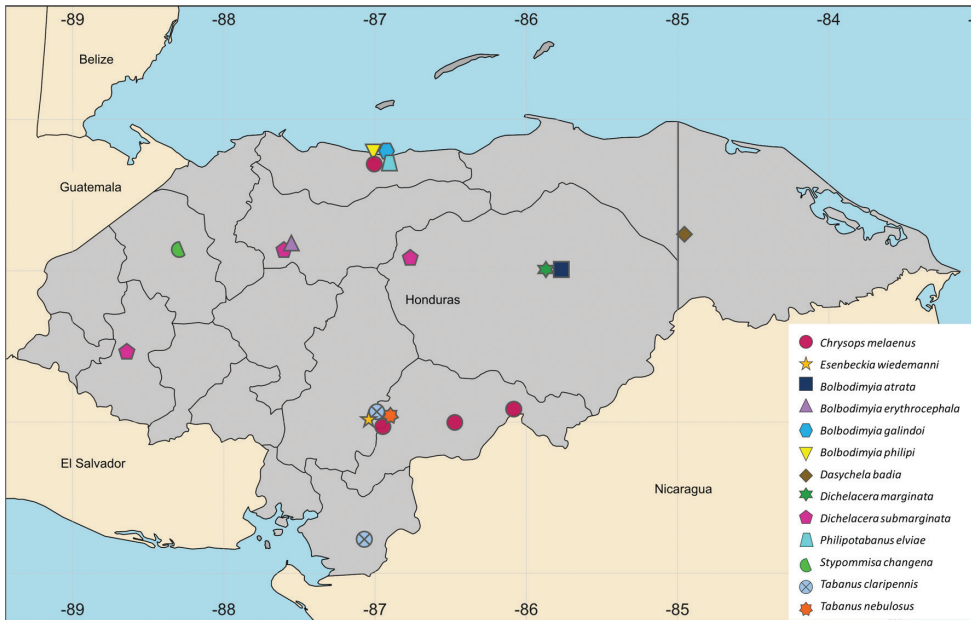
**Table 1.** Species of Tabanidae from Honduras. Distributions according to Coscarón and Papavero (2009), except were indicated.

Taxon	Distribution
<b>CHRYSOPSINAE</b>	
<b>CHRYSOPSINI</b>	
<i>Chrysops soror</i> Kröber, 1925	Guatemala, Belize, Honduras, Costa Rica, Panama, Colombia, Venezuela
<i>Chrysops auroguttatus</i> Kröber, 1930	Mexico to Colombia
<i>Chrysops latifasciatus</i> Bellardi, 1859	Mexico to Nicaragua
<i>Chrysops melaenus</i> Hine, 1925	Honduras (new record), Nicaragua, Costa Rica to Venezuela
<i>Chrysops mexicanus</i> Kröber, 1926	Mexico to Colombia
<i>Chrysops pachycnemius</i> Hine, 1905	Mexico to Honduras
<i>Chrysops scalaratus</i> Bellardi, 1859	Mexico to Panama
<i>Chrysops variegatus</i> (De Geer, 1776)	Mexico to Argentina
<i>Chrysops willistoni</i> Hine, 1925	Mexico to Honduras
<i>Silvius melanopterus</i> (Hine, 1905)	Mexico to Honduras
<b>PANGONIINAE</b>	
<b>PANGONIINI</b>	
<i>Esenbeckia illota</i> (Williston, 1901)	Mexico to Honduras
<i>Esenbeckia mejiai</i> Fairchild, 1942	Guatemala to Costa Rica
<i>Esenbeckia prasiniventris</i> (Kröber, 1929)	Guatemala to Ecuador and Trinidad, Brazil
<i>Esenbeckia translucens</i> (Macquart, 1846)	Mexico to Peru and Brazil
<i>Esenbeckia wiedemanni</i> (Bellardi, 1859)	Mexico, Honduras (new record)
<b>SCIONINI</b>	
<i>Fidena flavipennis</i> Kröber, 1931	Mexico to Venezuela
<i>Fidena rhinophora</i> (Bellardi, 1859)	Mexico to Venezuela and Peru
<i>Scione aurulans</i> (Wiedemann, 1830)	Mexico to Costa Rica
<i>Scione maculipennis</i> (Schiner, 1868)	Honduras, Costa Rica to Venezuela, Ecuador*
<b>TABANINAE</b>	
<b>DIACHLORINI</b>	
<i>Bolbodimya atrata</i> (Hine, 1904)	USA, Mexico, Honduras (new record)
<i>Bolbodimya erythrocephala</i> (Bigot, 1892)	Honduras (new record), Costa Rica, Panama, Ecuador
<i>Bolbodimya galindoi</i> Fairchild, 1964	Honduras (new record), Costa Rica to Colombia
<i>Bolbodimya philipi</i> Stone, 1954	Guatemala, El Salvador, Honduras (new record), Costa Rica, Panama, Colombia
<i>Catachlorops phaliopterus</i> Gorayeb, L. Bermúdez, E.M. Bermúdez & Villalba, 1989	Mexico, Honduras, Costa Rica

<b>Taxon</b>	<b>Distribution</b>
<i>Catachlorops fulmineus</i> (Hine, 1920)	Honduras to Panama, Colombia, Ecuador
<i>Catachlorops scurrus</i> (Fairchild, 1958)	Mexico to Panama
<i>Chlorotabanus inanis</i> (Fabricius, 1787)	Mexico to Peru and Brazil
<i>Chlorotabanus mexicanus</i> (Linnaeus, 1758)	Mexico to Ecuador, Brazil, Trinidad
<i>Dasychela badia</i> (Kröber, 1931)	Honduras (new record), Costa Rica, Panama
<i>Diachlorus ferrugatus</i> (Fabricius, 1805)	USA to Costa Rica, Bahamas Islands
<i>Dichelacera costaricana</i> (Fairchild, 1941)	Honduras, Costa Rica
<i>Dichelacera grandis</i> Philip, 1943	Guatemala, Belize, Honduras
<i>Dichelacera marginata</i> Macquart, 1847	Honduras (New record), Nicaragua to Brazil and Peru
<i>Dichelacera pulchroides</i> Fairchild & Philip, 1960	Mexico, Honduras
<i>Dichelacera regina</i> Fairchild, 1940	Honduras to Ecuador
<i>Dichelacera scapularis</i> Macquart, 1847	Mexico to Panama
<i>Dichelacera submarginata</i> Lutz, 1915	Honduras (new record), Costa Rica to Venezuela, Peru, Bolivia
<i>Lepiselaga crassipes</i> (Fabricius, 1805)	Mexico to Argentina
<i>Leucotabanus exaestuanus</i> (Linnaeus, 1758)	Mexico to Bolivia, Argentina, and Trinidad
<i>Leucotabanus nigriventris</i> Kröber, 1931	Mexico to Panama
<i>Phacotabanus longiappendiculatus</i> (Macquart, 1855)	Mexico to Panama
<i>Philipotabanus ebrius</i> (Osten Sacken, 1886)	Honduras, Costa Rica, Panama*
<i>Philipotabanus elviae</i> (Fairchild, 1943)	Honduras (new record), Costa Rica, Panama
<i>Philipotabanus kompi</i> (Fairchild, 1943)	Belize, Honduras
<i>Philipotabanus magnificus</i> (Kröber, 1934)	Honduras to Venezuela and Ecuador
<i>Philipotabanus nigrinubilus</i> (Fairchild, 1953)	Honduras, Costa Rica, Panama, Colombia, Ecuador
<i>Philipotabanus plenus</i> (Hine, 1907)	Guatemala to Colombia
<i>Rhabdotylus venenatum</i> (Osten Sacken, 1886)	Guatemala to Ecuador
<i>Selasoma tibiale</i> (Fabricius, 1805)	Mexico to Argentina
<i>Stenotabanus fulvistriatus</i> (Hine, 1912)	Mexico to Panama
<i>Stenotabanus littoreus</i> (Hine, 1907)	Mexico to Panama
<i>Stenotabanus maculifrons</i> (Hine, 1907)	Honduras, Costa Rica, Panama, Trinidad, Venezuela.
<i>Stibasoma chionostigma</i> (Osten Sacken, 1886)	Mexico to Colombia
<i>Stibasoma flaviventris</i> (Macquart, 1848)	Mexico to Brazil
<i>Stibasoma panamense</i> Curran, 1934	Honduras to Ecuador and Venezuela
<i>Stypommisa captiroptera</i> (Kröber, 1930)	Mexico to Guyana, Brazil, Paraguay
<i>Stypommisa changena</i> Fairchild, 1986	Honduras (new record), Costa Rica, Panama
<i>Stypommisa u-nigrum</i> Philip, 1977	Mexico, Guatemala, Honduras
<b>TABANINI</b>	
<i>Poeciloderas quadripunctatus</i> (Fabricius, 1805)	Mexico to Argentina
<i>Tabanus abattenus</i> Philip, 1969	Mexico, Guatemala, El Salvador, Honduras, Nicaragua
<i>Tabanus bigoti</i> Bellardi, 1859	Mexico to Colombia and Venezuela
<i>Tabanus claripennis</i> (Bigot, 1892)	Honduras (new record), West Indies, Costa Rica to Paraguay, Brazil, Argentina, and Chile
<i>Tabanus colombensis</i> Macquart, 1846	USA to Trinidad, Venezuela, Ecuador, Brazil
<i>Tabanus commixtus</i> Walker, 1860	Mexico to Venezuela, Hispaniola, Trinidad, Martinique
<i>Tabanus defilippii</i> Bellardi, 1859	Mexico to Panama
<i>Tabanus dorsifer</i> Walker, 1860	USA, Mexico, Honduras
<i>Tabanus erebus</i> Osten Sacken, 1886	Honduras, Nicaragua, Costa Rica, Panama
<i>Tabanus jilamensis</i> Hine, 1925	Honduras
<i>Tabanus morbosus</i> Stone, 1938	USA, Mexico to Panama
<i>Tabanus nebulosus</i> De Geer, 1776	Belize, Honduras (New record), Costa Rica, Trinidad, Barbados to Brazil and Argentina
<i>Tabanus occidentalis</i> Linnaeus, 1758	Mexico to Argentina, Trinidad
<i>Tabanus oculus</i> Walker, 1848	Mexico to Panama
<i>Tabanus picturatus</i> Kröber, 1931	Mexico, Belize, Honduras
<i>Tabanus polyphemus</i> Fairchild, 1958	Mexico to Colombia
<i>Tabanus pruinosis</i> Bigot, 1892	USA to Panama
<i>Tabanus pseudoculus</i> Fairchild, 1942	Guatemala to Colombia, Venezuela, Ecuador, and Trinidad

Taxon	Distribution
<i>Tabanus pungens</i> Wiedemann, 1828	USA, Neotropics (except West Indies and Chile), Trinidad
<i>Tabanus quinquepunctatus</i> Hine, 1925	Guatemala, Belize, Honduras, Costa Rica, Panama
<i>Tabanus secundus</i> Walker, 1848	Guatemala to Peru, Surinam, and Paraguay
<i>Tabanus subrubus</i> Bellardi, 1859	Mexico, Guatemala, Honduras
<i>Tabanus unipunctatus</i> (Bigot, 1892)	Mexico to Colombia
<i>Tabanus unistriatus</i> Hine, 1906	Guatemala to Ecuador
<i>Tabanus vittiger</i> ssp. <i>guatemalanus</i> Hine, 1906	USA, Bahamas, West Indies, Mexico to Surinam, French Guiana, and Brazil
<i>Tabanus xenorhynchus</i> Fairchild, 1947	Guatemala to Panama
<i>Tabanus yucatanus</i> Townsend, 1897	Mexico, Guatemala, El Salvador, Honduras, Nicaragua

\* Distribution according to Henriques (2016).



**Figure 1.** Distribution map of new records of Tabanidae from Honduras.

## New Tabanidae from Honduras

### CHRYSOPSINAE CHRYSOPSINI

#### *Chrysops melaenus* Hine, 1925

Figure 2A

**Distribution.** Previously known from Nicaragua to Venezuela (Coscarón and Papavero 2009).

**Material examined.** HONDURAS: 1♂, Atlántida, RVS Cuero y Salado, Salado Barra, 15°46'02"N, 86°59'51"W, 2 m, 25.i.2000, R. Cave, R. Cordero and J. Torres leg.; EAPZ22.445. 1♂, El Paraíso, 5.3 km N Cifuentes, 14°05'48"N, 86°06'57"W, 13.vi.1999, R. Cave and J. Torres leg.; EAPZ69.749. 1♀, El Paraíso, Danlí, Cerro

Apaguiz 14°00'27"N, 86°32'26"W, 20.ii.1988, R. Cordero leg.; EAPZ42.723. 1♀, Francisco Morazán, 32 km Tegucigalpa, El Zamorano, 14°01'N, 87°00'W, J. Cabezas leg.; EAPZ42.698.

## PANGONIINAE

### PANGONIINI

#### *Esenbeckia wiedemanni* (Bellardi, 1859)

Figure 2B, C

**Distribution.** Previously known exclusively from Mexico (Coscarón and Papavero 2009).

**Material examined.** HONDURAS: 1♂, 1♀, Francisco Morazán, Masicarán, Uyúca, 14°01'00"N, 87°05'00"W, 10–15.xi.2016, E. van den Berghe leg.; EAPZ42.764.

## TABANINAE

### DIACHLORINI

#### *Bolbodimyia atrata* (Hine, 1904)

Figure 2D

**Distribution.** Previously known from U.S.A. and Mexico (Coscarón and Papavero 2009).

**Material examined.** HONDURAS: 2♂♂, Olancho, El Murmullo, Sierra de Agalta, 15°01'00"N, 85°47'00"W, 28.vi.1997, R. Cave leg.; EAPZ69.815.

#### *Bolbodimyia erythrocephala* (Bigot, 1892)

Figure 2E

**Distribution.** Previously known from Costa Rica, Panama, Ecuador (Coscarón and Papavero 2009), and Colombia (Wolff and Miranda-Esquivel 2016).

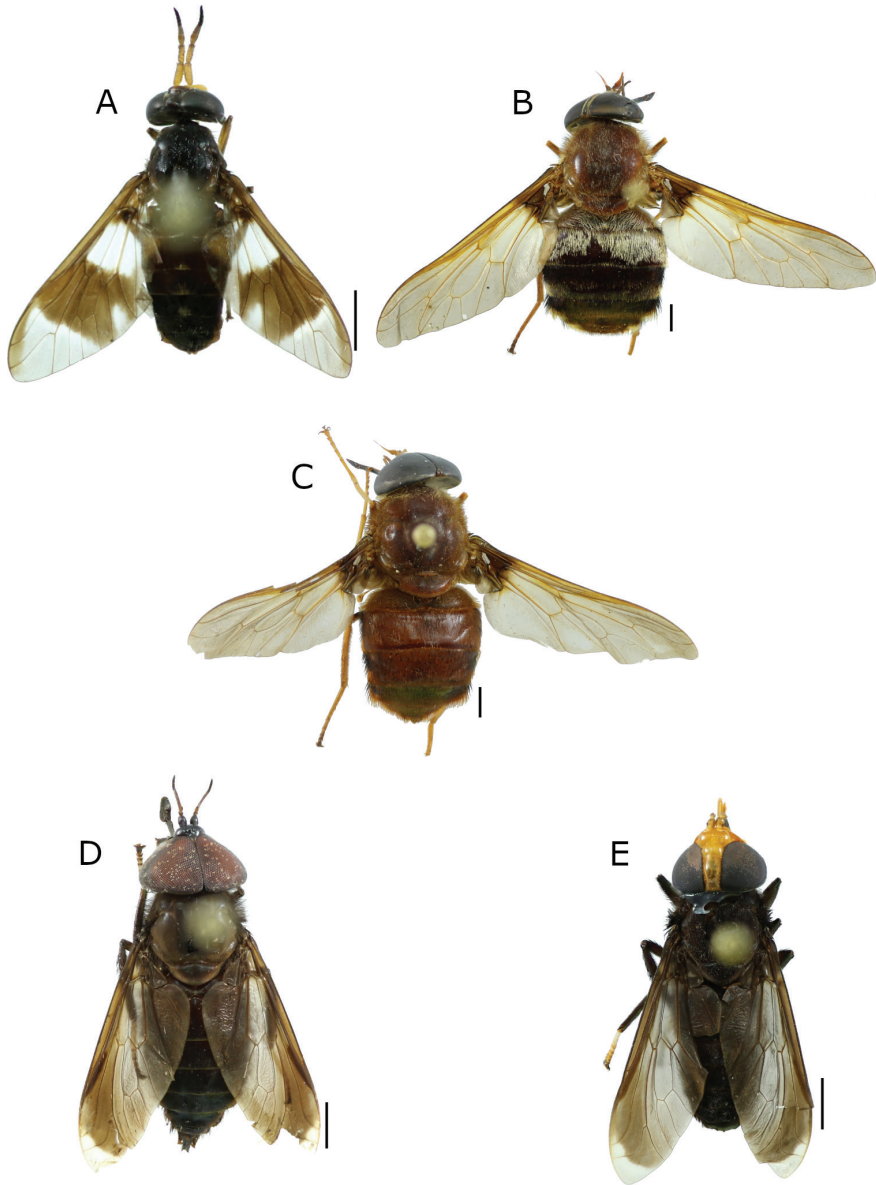
**Material examined.** HONDURAS: 1♀, Yoro, Par. Nac. Pico Pijol, 15°13'00"N, 87°33'00"W, 22–23.vi.1998, R. Cave leg.; EAPZ42.652.

#### *Bolbodimyia galindoi* Fairchild, 1964

Figure 3A, B

**Distribution.** Previously known from Costa Rica to Colombia (Coscarón and Papavero 2009).

**Material examined.** HONDURAS: 1♂, 1♀, Atlántida, Par. Nac. Pico Bonito, Rio Zacate, 15°41'35"N, 86°55'58"W, 35 m, 5.iii.2000, R. Cave, R. Cordero and J. Torres leg.; EAPZ27.180.



**Figure 2.** New records of Tabanidae from Honduras **A** *Chrysops melaenus* Hine (♀) **B, C** *Esenbeckia wiedemanni* (Bellardi) (♀, ♂) **D** *Bolbodimyia atrata* (Hine) (♂) **E** *B. erythrocephala* (Bigot) (♀). Scale bars: 2 mm.

***Bolbodimyia philipi* Stone, 1954**

Figure 3C

**Distribution.** Previously known from Guatemala, El Salvador, Costa Rica, Panama, and Colombia (Coscarón and Papavero 2009).

**Material examined.** HONDURAS: 1♂, Atlántida, Cuero y Salado, Salado Barra, 15°46'02"N, 86°59'51"W, 2 m, 25.i.2000, R. Cave, R. Cordero and J. Torres leg.; EAPZ22.452.

***Dasychela badia* (Kröber, 1931)**

Figure 3D

**Distribution.** Previously known from Costa Rica and Panama (Coscarón and Papavero 2009).

**Material examined.** HONDURAS: 23♀♀, Gracias a Dios, Ciudad Blanca, 15°14'47"N, 84°58'2"W, 250 m, 15–26.ii.2017, E. van den Berghe leg., light trap; EAPZ43.577.

***Dichelacera marginata* Macquart, 1847**

Figure 3E

**Distribution.** Previously known from Nicaragua to Brazil and Peru (Coscarón and Papavero 2009).

**Material examined.** HONDURAS: 1♀, Olancho, El Murmullo, Sierra de Agalta, 15°01'00"N, 85°47'00"W, 28.vi.1997, R. Cave leg.; EAPZ44.214.

***Dichelacera submarginata* Lutz, 1915**

Figure 4A, B

**Distribution.** Previously known from Costa Rica to Venezuela, Peru, and Bolivia (Coscarón and Papavero 2009).

**Material examined.** HONDURAS: 1♀, Olancho, La Muralla, 15°04'56"N, 86°45'24"W, 26–30.iii.2013, O. Schlein leg.; EAPZ42.549. 1♂, Lempira, Par. Nac. Celaque, 14°28'46"N, 88°38'35"W, 1400 m, 27.iv.2018, E. van den Berghe leg.; EAPZ69.831. 1♂, Yoro, Par. Nac. Pico Pijol, Linda Vista, 15°10'35"N, 87°35'10"W, 1450 m, 21.iv.1999, R. Cave and J. Torres leg.; EAPZ42.829.

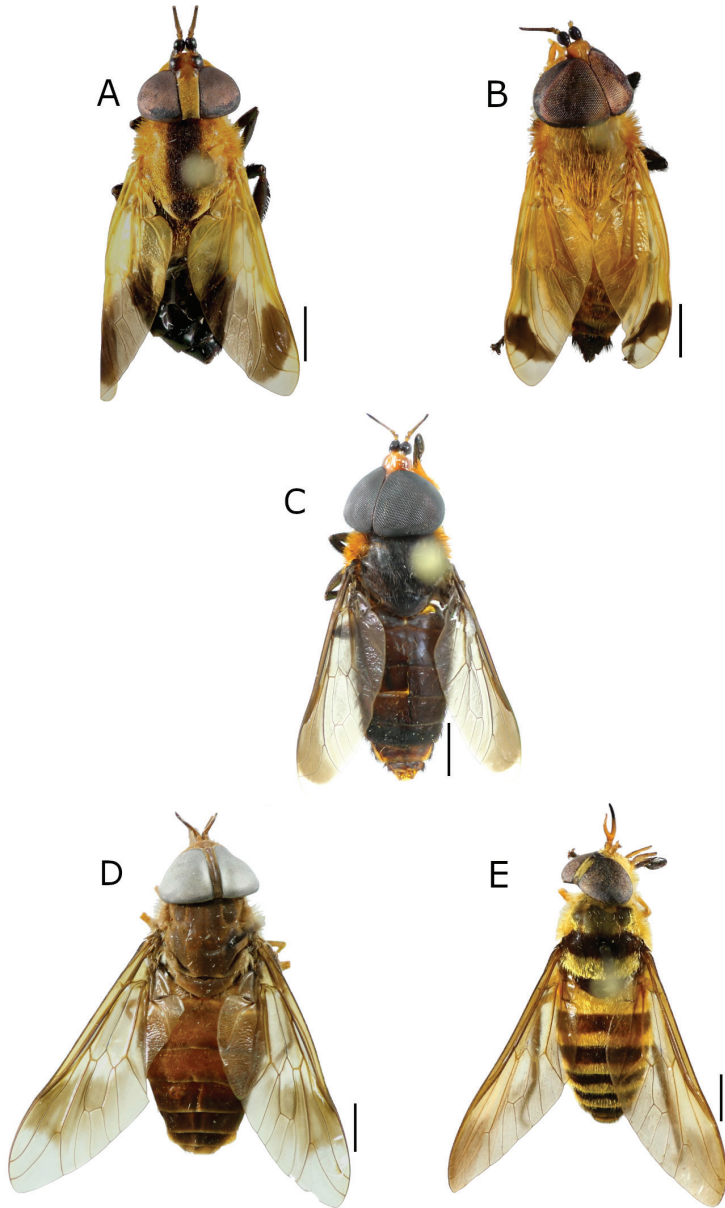
***Philipotabanus elviae* (Fairchild, 1943)**

Figure 4C

**Distribution.** Previously known from Costa Rica and Panama (Coscarón and Papavero 2009).

**Material examined.** HONDURAS: 12 ♀♀, Atlántida, Par. Nac. Pico Bonito, Rio Zacate, 15°41'35"N, 86°55'58"W, 35 m, 5.v.2000, R. Cave leg.; EAPZ29.665.



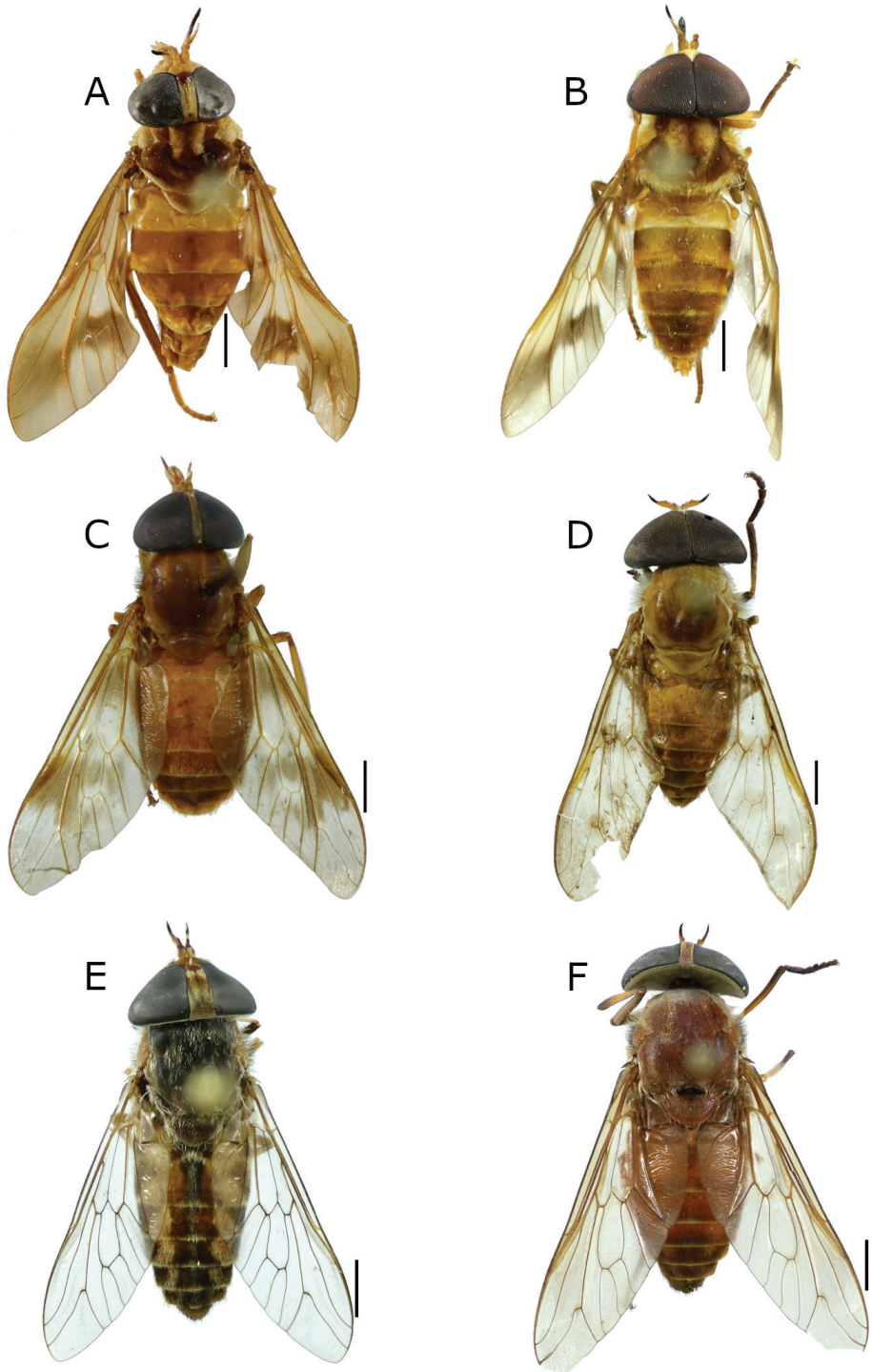


**Figure 3.** New records of Tabanidae from Honduras. **A, B** *Bolbodimyia galindoi* Fairchild (♀, ♂) **C** *B. philipi* Stone (♂) **D** *Dasychela badia* (Kröber) (♀) **E** *Dichelacera marginata* Macquart (♀). Scale bars: 2 mm.

***Stypommisa changena* Fairchild, 1986**

Figure 4D

**Distribution.** Previously known from Costa Rica and Panama (Coscarón and Papavero 2009).



**Figure 4.** New records of Tabanidae from Honduras **A, B** *Dichelacera submarginata* Lutz (♀, ♂) **C** *Philipotabanus elviae* (Fairchild) (♀) **D** *Stypommisa changena* Fairchild (♂) **E** *Tabanus claripennis* (Bigot) (♀) **F** *T. nebulosus* De Geer (♀). Scale bars: 2 mm.

**Material examined.** HONDURAS: 1 ♂, Santa Bárbara, El Volcán, Trinidad, 15°08'02"N, 88°18'01"W, 1320 m, 26.vi.2000. R. Cordero and J. Torres leg.; EAPZ35.149.

**TABANINI**

*Tabanus claripennis* (Bigot, 1892)

Figure 4E

**Distribution.** Previously known from the West Indies, Costa Rica to Paraguay, Brazil, Argentina, and Chile (Coscarón and Papavero 2009).

**Material examined.** HONDURAS: 7 ♀♀, Francisco Morazán, El Zamorano, EAP, 14°01'N, 87°00'W, 5–29.vii.2020, H-trap, R. Argueta leg.; EAPZ43.572. 1 ♂, Choluloteca, 6.7 km SE Santa Ana de Yusguare, 13°15'37"N, 87°04'40"W, 8.ix.1999, R. Cave and J. Torres leg.; EAPZ43.570.

*Tabanus nebulosus* De Geer, 1776

Figure 4F

**Distribution.** Previously known from Belize (Coscarón and Papavero 2009), Costa Rica (Fairchild 1961), Colombia, Venezuela, Trinidad, Surinam, Brazil, Bolivia, Paraguay, Barbados, and Argentina (Coscarón and Papavero 2009; Henriques 2016).

**Material examined.** HONDURAS: 2 ♀♀, Francisco Morazán, El Zamorano EAP, 14°01'N, 87°00'W, 850 m, v–vii, Estudiante EAPZ leg.; EAPZ75.022. 1 ♀, Francisco Morazán, El Zamorano EAP, 14°01'N, 87°00'W, 850 m, 31.v.2019, L. Moreno leg.; EAPZ75.023.

**Key to the subfamilies, tribes, and genera of Tabanidae from Honduras**

Modified from Fairchild (1969) and Burger (2009).

- 1 Hind tibiae without paired terminal spurs or spines; TABANINAE..... 6
- Hind tibiae with paired terminal spurs or spines, spines rarely absent or difficult to see ..... 2
- 2 Third antennal segment with 7 or 8 distinct flagellomeres; tergite 9 undivided; PANGONIINAE ..... 3
- Third antennal segment with no more than 5 distinct flagellomeres; tergite 9 divided; CHRYSOPSINAE ..... 5
- 3 Eyes bare; frons with ridge-like callus, which may be bare or tomentose; PANGONIINI..... *Esenbeckia Rondani*
- Eyes pilose; frons flat, without any sort of callus; SCIONINI ..... 4
- 4 Cell m<sub>3</sub> closed at wing margin ..... *Scione Walker*
- Cell m<sub>3</sub> open at wing margin ..... *Fidena Walker*

- 5 Wings with dark crossband (Fig. 2A), crossband absent at times; eyes in life with pattern of dots and bars ..... ***Chrysops* Meigen**
- Wings hyaline or cloudy on cross veins or elsewhere, without distinct crossband; eye pattern in life irregularly speckled..... ***Silvius* Meigen**
- 6 Basicosta without strong setae, if setae present usually less dense than those on adjoining costa; if setae on basicosta as dense as on costa, then vestiges of ocelli present; **DIACHLORINI** .....7
- Basicosta with numerous strong setae, setae equal in size and density to those on adjoining costa, if setae sparse, then without vestiges of ocelli; **TABANINI** ..... **22**
- 7 Third antennal segment with strong dorso-basal tooth or forward-pointing spine that often reaches to or beyond end of first flagellomere..... **8**
- Third antennal segment usually at most with acute dorso-basal angle..... **12**
- 8 Eyes densely pilose; antennal tooth reaching beyond apex of first flagellomere; proboscis longer than maxillary palpi; maxillary palpi slender, generally exceeding antennae; labella short, membranous; callus club shaped, much narrower than frons; wings with diffuse dark discal marking.....  
..... ***Dasychela* Enderlein**
- Eyes bare; other characters variable ..... **9**
- 9 Stout species; body sometimes hairy and beelike; foretibiae usually inflated; long hair fringes on at least hind tibiae; maxillary palpi inflated; antennae short, stout, with dorsal tooth extending beyond apex of first flagellomere; labella shiny and sclerotized ..... **10**
- Slender species; all tibiae slender; rest of characters not as above ..... **11**
- 10 Abdomen green or greenish, sparsely covered with hairs; hind tibial fringe moderate in length; all tibiae slender; wings hyaline, sometimes yellowish; not resembling bees ..... ***Rhabdotylus* Lutz**
- Abdomen not greenish, densely hirsute; hind tibial fringe long; at least foretibia inflated; wings variable, never entirely hyaline or uniformly tinted, generally with black or contrasting pattern; body often resembling bees (see Turcatel et al. 2010)..... ***Stibasoma* Schiner**
- 11 Basal callus thin, ridge-like, narrower than frons; eyes unicolored, bright green in life, rarely bicolored or with faint median line; mesoscutum unicolored or weakly striped, not transversely banded .....  
..... ***Catachlorops* Lutz**
- Basal callus as wide as frons; eyes banded or unicolorous blackish in life; mesoscutum often transversely banded ..... ***Dichelacera* Macquart**
- 12 Subcallus, and usually first antennal segment, greatly inflated and shiny; third antennal segment long and slender, with obtuse dorso-basal angle; tibiae slender or slightly incrassate; wings black or partly so, with apex sharply hyaline, apical half of vein R<sub>4</sub> bent sharply forward; maxillary palpi moderately slender, tomentose; clypeus tomentose..... ***Bolbodimyia* Bigot**
- Without above combination of characters..... **13**

- 13 Tibiae, especially first two pairs, greatly inflated; subcallus, clypeus, and gena bare; maxillary palpi shiny and flattened; wings black at base, at least to ends of cells br and bm; labella membranous ..... **14**
- Tibiae not or but slightly inflated; without above combination of characters... **15**
- 14 Large, shiny bluish-black species; wings black from base to middle of cell d..  
..... ***Selasoma* Macquart**
- Small species, mesoscutum, and often abdomen, with metallic brassy or greenish scale-like hairs; wings black from base to beyond end of cell d, with hyaline triangle in cells  $m_3$  and  $cu_1$  ..... ***Lepiselaga* Macquart**
- 15 Mesopleura shiny or pearly tomentose in contrast to rest of pleura; wings usually with dark subapical marking..... ***Diachlorus* Osten Sacken**
- Mesopleura not shiny or pearly tomentose, not contrasting with other pleural sclerites; wings without dark subapical marking ..... **16**
- 16 Basal callus absent..... ***Chlorotabanus* Lutz**
- Basal callus present, reduced at times ..... **17**
- 17 Labella sclerotized; frons narrow, generally over 5 times as long as its basal width; eyes in life unicolored, unbanded; dorsal angle on third antennal segment strong ..... ***Phaeotabanus* Lutz**
- Labella membranous; frons generally less than 4 times as long as its basal width; eyes in life usually banded; dorsal angle of third antennal segment variable.... **18**
- 18 Eyes bare, with at least 2 transverse bands in life; mostly small species with moderately broad frons often with median dark-haired patch; callus rounded or square, generally as wide as frons ..... ***Stenotabanus* Lutz**
- Eyes pilose or bare, with at most 1 dark median, generally unicolored, rarely bicolored; rest of characters not as above ..... **19**
- 19 Vertex with well-marked tubercle and/or with clear vestiges of ocelli; eyes bare; frons narrow; basal callus club-shaped or ridge-like ..... **20**
- Vertex without tubercle or clear vestiges of ocelli, slightly raised shiny or discolored tubercle rarely present; if tubercle present, then eyes pilose, or frons broad, or basal callus rounded..... **22**
- 20 Wings with extensive dark pattern not consisting of spots on cross veins; if wings apparently unmarked, then thorax prominently striped, or frons exceedingly narrow and callus thread-like..... ***Philipotabanus* Fairchild**
- Wings hyaline, tinted, or with dark pattern consisting primarily of dark spots around cross veins..... **21**
- 21 Wings hyaline or evenly tinted, with costal cell often darker, but never with apical clouds or spots on cross veins; frontal callus clavate or ridge-like; abdomen black or brown, nearly always with transverse bands at least on fourth segment, rarely otherwise; appendix on fork of vein  $R_4$  absent ..... ***Leucotabanus* Lutz**
- Wing with clouds on at least discal cross veins, often with apical infuscation, if entirely hyaline or tinted, then abdomen and thorax not as above; frontal callus variable; wings often with appendix on fork of vein  $R_4$  .....  
..... ***Stypommisa* Enderlein**

- 22 Vertex with small, rounded, sometimes indistinct, tubercle; eyes of female usually pilose, densely so on males; wings with all cross veins prominently spotted.....*Poeciloderas Lutz*
- Vertex rarely with tubercle; without above combination of characters .....  
.....*Tabanus Lutz*

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