

## A revised check list of the Tabanidae (Diptera) of Costa Rica

by

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**ABSTRACT:** Previous lists of Costa Rican Tabanidae are updated and revised to include 90 species in 22 genera. The taxonomic status of species questionably reported earlier is clarified and reference is made to new publications on the regional species in addition to records of new material.

Since FAIRCHILD's first list (1) of Costa Rican Tabanidae, a considerable amount of material has accumulated, indicating the existence of new species, new records for the country and expanded distributions. The majority of this was collected in conjunction with a study of the mammalian ectoparasites and their hosts in Costa Rica conducted from 1962 to 1965 by Fred S. Truxal and Charles A. McLaughlin, out of the Natural History Museum of Los Angeles County and supported by the U. S. Army Medical Research and Development Command (DA-MD-49-193-62-G54, G94). There have also been significant contributions of specimens and records from other sources (C. B. Philip, R. Zeledón, and see repository list below), mostly sent to Fairchild for identification.

In addition to the species included here, a number of others of still uncertain status have been seen or reported in the literature. Awaiting description is a subspecies of *Chrysops varians*, possibly the form reported as *C. laeta* Fab. by KRÖBER (7) and included with a query by FAIRCHILD (1: 25); two species of *Esenbeckia*; the species reported by HINE (5) and FAIRCHILD (1: 31) as *Tabanus trivittatus* Fab.; probable new species each of *Stypommisa* and *Philipo-*

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*tabanus*; and a new *Catachlorops*, unfortunately represented by a single damaged specimen.

Most of the species listed with a query in FAIRCHILD (1) have since been recognized and placed either as valid species or synonyms in the present list. Three species have been deleted, as follows: *Tabanus costaricensis* Kröber, 1931. As shown elsewhere by FAIRCHILD (2), this was based on a mislabelled European species. *Tabanus fenestra* Will., 1887. HINE (6) reported this West Indian species from Costa Rica, and it was so catalogued by Kröber. Through the courtesy of Dr. Charles Triplehorn, one of us (GBF) recently examined this specimen and another from the Dominican Republic. The specimen is labelled simply Costa Rica, and is certainly the same as the Dominican specimen. However, few cases are known of conspecificity between Antillean and Continental species of Tabanidae, and we feel this record had best be disregarded until fresh, undoubted Costa Rican specimens show up. *Esenbeckia filipalpis* Will., 1885. This case is similar to *T. fenestra*; the specimen reported by HINE (6) is similar and probably conspecific with *filipalpis*, but the printed label reads simply Costa Rica. The species is known otherwise only from southern South America, and we feel that fresh confirmation of its unlikely occurrence in Costa Rica is needed before admitting it to the fauna.

We have made an attempt to indicate in brackets the present location of specimens on which the records in this list are based. The institutions are coded as follows: [BMNH] British Museum (Natural History); [CAS] California Academy of Sciences, San Francisco; [FSCA] Florida State Collection of Arthropods, Gainesville; [LACM] Natural History Museum of Los Angeles County; [LLP] collection of L. L. Pechuman, Cornell University; [MCZ] Museum of Comparative Zoology, Harvard University; [MNHP] Muséum National d'Histoire Naturelle, Paris; [OSU] Ohio State University; [USNM] National Museum of Natural History, Washington, D. C.; [W] Institute of Zoology, Polish Academy of Sciences, Warsaw; [ZB] Zoologische Sammlung des Bayerischen Staates, Munich; [ZM] Zoologisches Museum der Humboldt Universität, Berlin. In some cases, however, especially where specimens were returned to individuals, their present location is not known, or the series was divided between the collector and the determiner, generally Fairchild. The localities given in the earlier check list (1) are not repeated here, but species included in that list are marked by an asterisk (\*). The taxonomic arrangement follows that of FAIRCHILD (4). His keys and diagnoses of 1969 (3) may be consulted to determine genera and subgenera.

Subfamily PANGONIINAE

Tribe PANGONIINI

Genus *Esenbeckia* Rondani

Subgenus *Esenbeckia* Rondani

\* *Esenbeckia illota osornoi* Fairchild, 1942.

PUNTARENAS. 1 ♀ : Osa Peninsula, Rincón, March 1966 (R. McDiarmid) [LACM]; 1 ♀ : 15 February 1971 (J. Donahue & C. Hogue) [LACM].

\* *Esenbeckia prasiniventris* (Macquart, 1845).

ALAJUELA. 1 ♀ : San Josecito, 11 February 1966 (R. Zeledón).

Subgenus *Ricardoia* Enderlein\* *Esenbeckia minor* Kröber, 1931.

No specific locality. 2 ♂, 1 ♀ : 1922 (P. Serre) [MNHP].

ALAJUELA. 2 ♀ : San Josecito, December 1963, November 1966 (R. Zeledón).

Listed by Fairchild (1961: 24) as doubtfully a form of *fuscipennis*.

*Esenbeckia* sp.

No specific locality. 2 ♀ : 1920, 1922 (P. Serre) [MNHP].

ALAJUELA. 1 ♀ : San Josecito, 2 November 1966 (R. Zeledón).

## Tribe SCIONINI

Genus *Fidena* WalkerSubgenus *Fidena* Walker\* *Fidena bicolor* Kröber, 1931.

PUNTARENAS. 4 ♀ : Boca de Barranca, July 1962 (F. Truxal)

[LACM]. 1 ♀ : Río Coto Brus, "Gromaco Foundation", Finca Gromaco, 1 km NW Coto Brus, 23 August 1962 (R. Casebeer)

[LACM]. 1 ♀ : Golfito, 7 August 1957 (A. Menke) [LACM].

*Fidena eriomeroides* (Lutz, 1909).

CARTAGO. 1 ♀ : vicinity of Moravia de Chirripó, 1 August 1965 (H. Real) [CAS].

PUNTARENAS. 3 ♀ : Golfito, 21 July 1957 (F. Truxal & A. Menke)

[LACM]. 1 ♀ : 2 miles E Golfito, July 1967 (Flint & Ortiz) [USNM].

*Fidena flavipennis* Kröber, 1931.

\* = *Fidena isthmiae* Fairchild, 1941 of Fairchild, 1961: 24.

CARTAGO. 1 ♂, 1 ♀ : Turrialba, July 1965 (H. Real) [CAS].

HEREDIA. 1 ♀ : vicinity of Puerto Viejo, July 1967 (D. Paulson) [FSCA].

LIMON. 1 ♀ : Finca La Lola, 29 September 1962 (R. Casebeer) [LACM].

PUNTARENAS. 2 ♀ : Palmar [Norte, Sur?], September 1952, 1953 (F. & D. Allen).

*Fidena howardi* Fairchild, 1941.

No specific locality. 1 ♀ : 1922 (P. Serre) [MNHP].

*Fidena rbinophora* (Bellardi, 1859).

GUANACASTE. 1 ♀ : Arenal, 8 April 1963 (R. Casebeer) [LACM].

\* *Fidena schildi* (Hine, 1925).

No new records.

### Genus *Scione* Walker

*Scione costaricana* Szilády, 1926.

\* = *Scione claripennis* Ricardo, 1900 of Fairchild, 1961: 25.

CARTAGO. 3 ♀ : vicinity of Chitaría, 10 km E Turrialba, 5 March; 12, 18 February 1965 (R. Dressler).

PUNTARENAS. 1 ♀ : Río Coto Brus, Finca Zeledón, 19 August 1958 (R. Hartmann). [Río?] Pedregoso, [?near San Isidro de El General], no date (D. Rounds) [USNM]. 1 ♀ : Esquinas, near Golfito, 1948 (P. & D. Allen).

SAN JOSE. 2 ♀ : Finca La Hondura, on Río Claro, 40 km NE San José, 6 September 1962 (R. Casebeer) [LACM, GBF].

\* *Scione maculipennis* (Schiner, 1868).

\* = *Scione aurea* Szilády, 1926 of Fairchild, 1961: 25.

ALAJUELA. 1 ♀ : Los Chiles, Río Frío, 24 May 1964 (F. Truxal) [LACM].

CARTAGO. 13 ♀ : La Suiza, no date (Schild) [USNM]. 1 ♀ : Moravia de Chirripó, 4 March 1966 (R. Zeledón).

GUANACASTE. 1 ♀ : El Coco, Playas del Coco, 3 April 1963 (R. Casebeer) [LACM].

LIMON. Finca La Lola, 22-23 July 1963 (C. Hogue) [LACM].

PUNTARENAS. 1 ♀ : San Vito de Java, 2 February 1968 (G Fairchild); 1 ♀ : 28 June 1967 (R. McDiarmid) [LACM].

SAN JOSE. 1 ♀ : Finca La Hondura, on Río Claro, 40 km NE San José, 29-30 June 1964 (C. Hogue) [LACM]; 1 ♀ : 30 March 1967 (R. McDiarmid) [LACM]; 7 ♀ : 6 September 1966 (R. Casebeer) [LACM]. 1 ♀ : 14 km N Quepos, 14 January 1963 (R. Casebeer) [LACM].

*Scione rufescens* Ricardo, 1900.

GUANACASTE. 6 ♀ : Pozo Azul de Abangares, 1902 (C. Underwood) [BMNH]; 1 ♀ : no date (M. Carriker) [OSU].

Subfamily CHRYSOPSINAE  
 Tribe CHRYSOPSINI  
 Genus *Silvius* Meigen  
 Subgenus *Assipala* Philip

\* *Silvius tanycerus* (Osten Sacken, 1886).

\* *Assipala tanycerus* of Fairchild, 1961.

ALAJUELA. 8 ♀: Higuito, San Mateo, no date (J. Hine) [OSU].

PUNTARENAS. 6 ♀: Osa Peninsula, 1.8 miles W Rincón, January-February 1971 (J. Donahue & C. Hogue) [LACM].

Genus *Chrysops* Meigen

\* *Chrysops auroguttatus* Kröber, 1930.

LIMON. 1 ♀: Pandora, 1 May 1964 (F. Truxal) [LACM]. 1 ♀: Puerto Limón, 1-9 June 1964 (P. Buxton) [BMNH].

\* *Chrysops calogaster* Schiner, 1868.

No new records.

*Chrysops chiriquensis* Fairchild, 1939.

CARTAGO. 1 ♀: Moravia de Chirripó, 4 March 1966 (R. Zeledón).

\* *Chrysops melaenus* Hine, 1925.

No specific locality. 1 ♂: 1920 (P. Serre) [MNHP].

ALAJUELA. 1 ♀: 2.5 miles W La Fortuna de San Carlos, 18 February 1964 (H. Evans) [MCZ]. 1 ♀: 5 miles N Ciudad Quesada, 2 February 1964 (H. Evans) [MCZ].

CARTAGO. 1 ♀: La Suiza, no date nor collector [USNM]. 1 ♀: Turrialba, 2-8 June 1967 (J. Robertson) [LACM]; 2 ♀: July 1965 (H. Real) [CAS]. 6 ♀: vicinity of Chitaría, 10 km E Turrialba, 22 February 1965 (R. Dressler). 1 ♀: Cachí, no date (Rogers) [BMNH]; Note: determined as *latefasciata* by Osten Sacken, *incisa* by Austen (GBF).

PUNTARENAS. 5 ♀: Golfito-Corredor, 9 February 1968 (G. Fairchild). 1 ♀: Gelfito, 28 April 1965 (R. Dressler); 4 ♀: 11-15 July 1957 (A. Menke) [LACM]. 1 ♀: Esparta, 7 June 1943 (T. Aitken). 1 ♀: Osa Peninsula, Rincón, March 1966 (R. McDiarmid) [LACM]. 1 ♀ Osa Peninsula, 1.8 miles W Rincón, 3 March 1971 (J. Donahue & C. Hogue) [LACM].

SAN JOSE. 1 ♀: San Isidro de El General, 12 August 1963 (C. Hogue) [LACM]. 1 ♂, 3 ♀: [Río?] Pedregoso [? near San Isidro de El General], no date nor collector [USNM].

*Chrysops mexicanus* Kröber, 1925.

PUNTARENAS. 5 ♀ : Golfito, 11-30 July 1957 (A. Menke) [LACM].

\* *Chrysops scalaratus* Bellardi, 1859.

GUANACASTE. 4 ♀ : 12 miles SW Cañas, 27 February 1964 (H. Evans) [MCZ].

\* *Chrysops variegatus* (DeGeer, 1776).

No specific locality nor date. 2 ♀ : [USNM].

ALAJUELA. 3 ♀ : 5 miles SW Santa Clara de San Carlos, 19 February 1964 (H. Evans) [MCZ].

CARTAGO. 3 ♀ : Turrialba, grounds of Instituto Interamericano de Ciencias Agrícolas, 1 December 1962 (C. Hogue & W. Powder) [LACM].

GUANACASTE. 1 ♀ : Liberia, 26 July 1962 (F. Truxal) [LACM].

PUNTARENAS. 3 ♀ : Golfito-Corredor, 9 February 1968 (G. Fairchild). 1 ♂ : Parrita, 8-9 September 1964 (D. Marqua) [LACM].

Subfamily TABANINAE

Tribe DIACHLORINI

Genus *Stenotabanus* Lutz

Subgenus *Stenotabanus* Lutz

\* *Stenotabanus fulvistriatus* (Hine, 1912).

PUNTARENAS. 2 ♀ : near Villa Neily, 5-11 August 1963 (C. Hogue) [LACM]. 3 ♀ : Río Grande de Térraba, N of Palmar Sur, 7 July 1965 (no collector) [CAS].

SAN JOSE. 3 ♀ : San Isidro de El General, 13-16 July 1963 (C. Hogue) [LACM]. 1 ♂, 3 ♀ : San Rafael de Puriscal, 14 July 1969 (Valley) [LLP].

*Stenotabanus incipiens* (Walker, 1860).

\* = *Stenotabanus maculifrons* (Hine, 1907) of Fairchild, 1961: 29.

No specific locality nor date. 1 ♂ : [USNM].

PUNTARENAS. 1 ♀ : near Villa Neily, 5-11 August 1963 (C. Hogue) [LACM]. 10 ♀ : 4 miles W Villa Neily, 3 July 1965 [CAS].

SAN JOSE. 1 ♀ : vicinity of San Isidro de El General, 24-25 June 1964 (C. Hogue) [LACM].

*Stenotabanus obscurus* Kröber, 1929.

PUNTARENAS. 1 ♀ : Palmar [Norte, Sur?], no date (P. & D. Allen).

Subgenus *Brachytabanus* Fairchild

*Stenotabanus longipennis* Kröber, 1929.

\* = (?) *Stenotabanus* sp. of Fairchild, 1961: 29.

PUNTARENAS. 1 ♂: Palmar [Norte, Sur?], no date (P. & D. Allen).

Genus *Himantostylus* Lutz

*Himantostylus intermedius* Lutz, 1913.

PUNTARENAS. 1 ♀: 4 miles W Villa Neily, 3 July 1963 (H. Real) [CAS].

Genus *Diachlorus* Osten Sacken

\* *Diachlorus jobbinsi* Fairchild, 1942.

No new records.

*Diachlorus ferrugatus* (Fabricius, 1805).

GUANACASTE. 3 ♀: Tilarán, 24 March 1966 (R. Dressler); 1 ♀: 25 February 1964 (H. Evans) [MCZ].

Genus *Hemichrysops* Kröber

*Hemichrysops fascipennis* Kröber, 1930.

\* = *Hemichrysops vecordis* Fairchild, 1956 of Fairchild 1961: 29.

No new records.

Genus *Bolbodimyia* Bigot

*Bolbodimyia erythrocephala* (Bigot, 1892).

CARTAGO. 2 ♀: Moravia de Chirripó, 4 March 1966 (R. Zeledón).

\* *Bolbodimyia philipi* Stone, 1954.

CARTAGO. 1 ♀: Turrialba, July 1965 (H. Real) [CAS].

Determined by C. B. Philip.

Genus *Chlorotabanus* Lutz

\* *Chlorotabanus inanis* (Fabricius, 1787).

PUNTARENAS. 5 ♂, 7 ♀: Osa Peninsula, 1.8 miles W Rincón, February-March 1971, at 15 watt fluorescent black light in evening (J. Donahue & C. Hogue) [LACM].

\* *Chlorotabanus mexicanus* (Linnaeus, 1767).

LIMON. 31 ♀ : Tortuguero, 23 August 1964 (D. Kelso) [FSCA, part].

PUNTARENAS. 1 ♀ : Osa Peninsula, 1.8 miles W Rincón, 15 February 1971 (J. Donahue &amp; C. Hogue) [LACM].

Genus *Phaeotabanus* Lutz\* *Phaeotabanus atopus* (Fairchild, 1953).

No new records.

\* *Phaeotabanus longiappendiculatus* (Macquart, 1855).

PUNTARENAS. 1 ♂ : Boca de Barranca, 27 July 1962 (F. Truxal)

[LACM]. 1 ♀ : Esquinas, near Golfito, no date (P. &amp; D. Allen).

Genus *Dichelacera* Macquart  
Subgenus *Dichelacera* Macquart*Dichelacera crocata* Fairchild, 1953.

PUNTARENAS. 3 ♀ : 8 km ENE Palmar Norte, 16 July 1968 (C. Myers).

\* *Dichelacera dorotheae* Fairchild & Philip, 1960.

No new records.

\* *Dichelacera fasciata* Walker, 1850.

HEREDIA. 1 ♀ : Sarapiquí, 1000 ft, 1-9 June 1954 (P. Buxton) [BMNH]. 1 ♀ : vicinity of Puerto Viejo, June 1967 (D. Paulson) [FSCA].

PUNTARENAS. 1 ♀ : 15 km NE Potrero Grande, September-October 1964 (R. McDiarmid) [LACM]. 1 ♀ : Río Coto Brus, "Gromaco Foundation", Finca Gromaco, 1 km NW Coto Brus, 23 August 1962 (R. Casebeer) [LACM]. 1 ♀ : Golfito-Corredor, 9 February 1968 (G. Fairchild). 1 ♀ : 8 km ENE Palmar Norte, 16 July 1967 (C. Myers). 5 ♀ : Osa Peninsula, Rincón 10-15 August 1968 (F. Truxal) [LACM]; 6 ♀ : 26 June-4 July 1963 (C. Hogue) [LACM]; 1 ♀ : 2 August 1967 (R. McDiarmid) [LACM]. 1 ♂, 13 ♀ : Golfito, 8 July-22 August 1957 (F. Truxal &amp; A. Menke) [LACM]. 14 ♀ : Osa Peninsula, Osa Productos Forestales, Camp Seattle, 7 miles S Rincón, 13 August 1962 (F. Truxal) [LACM]. 2 ♀ : near Villa Neily, 5-11 August 1963 (C. Hogue) [LACM].

SAN JOSE. 1 ♀ : Río Claro, 20 August 1968 (R. Dressler).

\* *Dichelacera melanosoma* Hine, 1920.

PUNTARENAS. 1 ♀ : Osa Peninsula, Rincón, 10-15 August 1968 (F. Truxal) [LACM].



\* *Dichelacera princessa* Fairchild & Philip, 1960.

CARTAGO. 2 ♀: Turrialba, no date nor collector [USNM].

PUNTARENAS. 16 ♂, 1 ♀: Osa Peninsula, Rincón, 26 June-4 July 1963 (C. Hogue) [LACM]; 1 ♀: March 1966 (R. McDiarmid) [LACM]. 1 ♀: 1.8 miles W Rincón, March-April 1971 (C. Hogue) [LACM]. 2 ♀: near Villa Neily, 5-11 August 1963 (C. Hogue) [LACM]. 6 ♀: Villa Neily, July 1963 (no collector) [CAS].

\* *Dichelacera regina* Fairchild, 1940.

No new records.

*Dichelacera rex* Fairchild, 1951.

HEREDIA. 1 ♀: vicinity of Puerto Viejo, June 1967 (D. Paulson) [FSCA].

\* *Dichelacera scapularis* Macquart, 1847.

CARTAGO. 1 ♀: Turrialba, no date nor collector [USNM]; 3 ♀: July 1965 (no collector) [CAS].

\* *Dichelacera submarginata* Lutz, 1915.

No new records.

Subgenus *Nothocanthocera* Fairchild*Dichelacera costaricana* (Fairchild, 1941).\* = *Acanthocera costaricana* [sic] of Fairchild, 1961: 26.

No new records.

Genus *Catachlorops* Lutz  
Subgenus *Psalidia* Enderlein*Catachlorops fulmineus* (Hine, 1920).

CARTAGO. 1 ♀: Turrialba, 2000 ft, 1-9 June 1954 (P. Buxton) [BMNH].

HEREDIA. 1 ♀: Río Puerto Viejo, 26 June 1967 (R. McDiarmid) [LACM].

*Catachlorops fulmineus* var. *ocellatus* Enderlein, 1925.\* = *Dichelacera fulminea* form *ocellata* of Fairchild, 1961: 27.

HEREDIA. 3 ♀: vicinity of Puerto Viejo, July 1967 (D. Paulson) [FSCA].

LIMON. 1 ♀: Tortuguero, August 1964 (Kelso) [FSCA].

1 ♀: Guápiles, August 1923 (no collector) [FSCA].

- PUNTARENAS. 7 ♀: Golfito, 23 July-18 August 1957 (F. Truxal & A. Menke) [LACM]; 1 ♀: August 1957 (A. Menke) [FSCA].  
 1 ♀: near Villa Neily, 5-11 August 1963 (C. Hogue) [LACM].  
 2 ♀: Osa Peninsula, Rincón, August 1967 (F. Truxal) [LACM].  
 1 ♀: 1.8 miles W Rincón, 18 February 1971 (C. Hogue) [LACM].

*Catachlorops umbratus* (Hine, 1920).

\* = *Dichelacera umbratus* of Fairchild, 1961: 27.

- PUNTARENAS. 1 ♀: Osa Peninsula, 1.8 miles W Rincón, 14 February 1971 (J. Donahue & C. Hogue) [LACM]; a teneral specimen.

Genus *Dasychela* Enderlein  
 Subgenus *Dasychela* Enderlein

*Dasychela badia* (Kröber, 1931).

\* = *Stypochela badia* of Fairchild, 1961: 28.

No new records.

Genus *Stibasoma* Schiner  
 Subgenus *Stibasoma* Schiner

*Stibasoma apicimacula* Fairchild, 1940.

- HEREDIA. 1 ♀: Puerto Viejo, 4 August 1965 (A. Baske) [CAS].  
 Determined by C. B. Philip.

\* *Stibasoma chionostigma* (Osten Sacken, 1886).

- LIMON. 1 ♀: Guápiles, June 1965 (Noonan) [LLP].

\* *Stibasoma fulvohirtum* (Wiedmann, 1828).

No new records.

\* *Stibasoma panamensis* Curran, 1934.

No new records.

Subgenus *Rhabdotylus* Lutz

\* *Stibasoma venenata* (Osten Sacken, 1826).

- No specific locality nor date. 2 ♀: (H. Schmidt) [W].

Genus *Philipotabanus* Fairchild  
 Subgenus *Philipotabanus* Fairchild

*Philipotabanus ebrinus* (Osten Sacken, 1886).

\* = *Hemichrysops ebrinus* of Fairchild, 1961: 29.

- No specific locality. 1 ♀: 1884 (de Lafon) [MNHP].

- ALAJUELA. 1 ♀ : Los Chiles, Río Frío, 24 May 1964 (F. Truxal) [LACM].
- HEREDIA. 2 ♀ : Río Las Vueltas, 2100 m, 31 March 1966 (R. Duellman).
- PUNTARENAS. 1 ♀ : San Vito de Java, 26 April 1965 (R. Dressler); 1 ♂ : 12-16 May 1967 (J. Robertson) [LACM]. 1 ♀ : 7.5 km S San Vito de Java, 20 March 1965 (R. Dressler). 1 ♂, 7 ♀ : Monteverde, 13-17 May 1964 (F. Truxal) [LACM].

*Philipotabanus elviae* Fairchild, 1943.

- No specific locality nor date. 2 ♀ : (de Lafon) [MNHP].
- CARTAGO. 1 ♀ : Turrialba, no date nor collector [LLP].
- PUNTARENAS. 33 ♀ : Osa Peninsula, 1.8 miles W Rincón, February-March 1971 (J. Donahue & C. Hogue) [LACM]. 27 ♀ : Rincón, March 1966 (R. McDiarmid) [LACM].
- SAN JOSE. 1 ♀ : 11 km N Puerto Quepos, 14 January 1963 (R. Casebeer) [LACM].

*Philipotabanus magnificus* (Kröber, 1934).

\* = *Hemichrysoys magnificus* of Fairchild, 1961: 30.

- ALAJUELA. 6 ♀ : La Fortuna de San Carlos, May 1964 (F. Truxal) [LACM]. 5 ♀ : San Ramón, 2000 ft, 1-9 June 1954 (P. Buxton) [BMNH].
- CARTAGO. 2 ♀ : Moravia de Chirripó, 7-10 July 1964 (R. McDiarmid) [LACM]. 2 ♀ : Chitaría, no date nor collector [USNM].
- HEREDIA. 2 ♀ : Sarapiquí, 1000 ft, 1-9 June 1954 (P. Buxton) [BMNH]. 2 ♀ : vicinity Puerto Viejo, June 1967 (D. Paulson) [FSCA].
- PUNTARENAS. 2 ♀ : Osa Peninsula, Rincón, August 1967 (F. Truxal) [LACM]; 1 ♀ : 26 June-4 July 1963 (C. Hogue) [LACM]. 12 ♀ : 1.8 miles W Rincón, March 1971 (J. Donahue & C. Hogue) [LACM]. 37 ♀ : Osa Productos Forestales, Camp Seattle, 7 miles S Rincón, 16-20 August 1962 (F. Truxal) [LACM]. 1 ♀ : 8 km ENE Palmar Norte, 18 July 1968 (R. Dressler). 10 ♀ : Golfito, July-August 1957 (F. Truxal & A. Menke) [LACM]. 1 ♀ : 11 km E Esparta, 19 June 1963 (C. Hogue) [LACM]. 1 ♀ : near Villa Neily, 5-11 August 1963 (C. Hogue) [LACM].
- SAN JOSE. 2 ♀ : La Palma de Puriscal, 14 July 1963 (Valley) [LLP].

This is a strongly anthropophilic species, often taken biting near the floor indoors or near the ground in the forest during rain.

*Philipotabanus medius* (Kröber, 1934).

\* = *Hemichrysops medius* of Fairchild, 1961: 30.

CARTAGO. 1 ♀: Tapantí, 9 May 1960 (Salas).

*Philipotabanus pallidetinctus* (Kröber, 1930).

\* = *Hemichrysops pallidetinctus* of Fairchild, 1961: 30.

ALAJUELA. 1 ♀: San Josecito, 1963 (R. Zeledón).

PUNTARENAS. 1 ♂, 1 ♀: Golfito, Esquinas, no date (P. & D. Allen). 1 ♀: Golfito, 18 July 1957 (F. Truxal & A. Menke)

[LACM]. 2 ♀: Villa Neily, 5-11 August 1963 (C. Hogue)

[LACM]. 1 ♀: Osa Peninsula, Osa Productos Forestales, Camp Seattle, 7 miles S Rincón, 13 August 1962 (F. Truxal) [LACM].

Subgenus *Mimotabanus* Fairchild*Philipotabanus plenus* (Hine, 1907).

\* = *Stenotabanus plenus* of Fairchild, 1961: 29.

PUNTARENAS. 1 ♀: Osa Peninsula, 1.8 miles W Rincón, 30 January 1971 (J. Donahue & C. Hogue) [LACM].

Genus *Stypommisa* Enderlein*Stypommisa captiroptera* (Kröber, 1930).

\* = *Stenotabanus xenium* Fairchild, 1946 of Fairchild, 1961: 29.

LIMON. 2 ♀: Finca La Lola, July 1963 (C. Hogue) [LACM].

1 ♀: Guápiles, 18 June 1965 (Noonan) [LLP].

*Stypommisa lerida* (Fairchild, 1942).

\* = *Stenotabanus lerida* of Fairchild, 1961: 29.

CARTAGO. 10 ♀: Moravia de Chirripó, 7-10 July 1964 (R. McDiarmid) [LACM, GBF].

*Stypommisa pequeniensis* (Fairchild, 1942).

\* = *Stenotabanus pequeniensis* of Fairchild, 1961: 29.

PUNTARENAS. 1 ♀: Monteverde, May 1964 (C. Hogue) [LACM].

Genus *Leucotabanus* Lutz

\* *Leucotabanus exaestuans* (Linnaeus, 1767).

GUANACASTE. 1 ♀: Liberia, 26 July 1962 (F. Truxal) [LACM].

\* *Leucotabanus flavinotum* (Kröber, 1934).

No new records.

Genus *Lepiselaga* Macquart  
Subgenus *Lepiselaga* Macquart

\* *Lepiselaga crassipes* (Fabricius, 1805).

GUANACASTE. 3 ♀ : 12 miles SW Cañas, 27 February 1964 (H. Evans) [MCZ].

PUNTARENAS. 9 ♀ : Osa Peninsula, 1.8 miles W Rincón, February-March 1971 (J. Donahue & C. Hogue) [LACM, GBF]. 2 ♀ : Villa Neily, 5-11 August 1963 (C. Hogue) [LACM]. 13 ♀ : Osa Peninsula, Rincón, March 1966 (R. McDiarmid) [LACM]. 3 ♀ : Palmar [Norte, Sur?], February-March 1951 (P. & D. Allen).

A painfully biting species.

Tribe TABANINI

Genus *Poeciloderas* Lutz

\* *Poeciloderas quadripunctatus* (Fabricius, 1805).

\*= *Poeciloderas platyventris* Kröber, 1931 of Fairchild, 1961: 33.

No specific locality, date nor collector. 1 ♀ : [USNM].

CARTAGO. 1 ♀ : Turrialba, December 1962 (R. Casebeer) [LACM].

GUANACASTE. 7 ♀ : El Coco [Playas del Coco], 3 April 1963 (R. Casebeer) [LACM].

PUNTARENAS. 2 ♀ : Las Cruces, S of San Vito de Java, 23 August 1968 (R. Dressler). 1 ♀ : 7.5 km S San Vito de Java, 10 February 1965 (R. Dressler). 1 ♀ : San Vito de Java, July 1964 (Wilson) [FSCA]. 2 ♀ : Osa Peninsula, Rincón, 1966 (R. McDiarmid) [LACM].

SAN JOSE. 3 ♀ : San Isidro de El General, July-August 1965 (H. Real) [CAS]; 1 ♀ : July 1963 (C. Hogue) [LACM]. 1 ♂, 2 ♀ : San José, June 1963, 1964, September 1962 (C. Hogue & R. Casebeer) [LACM].

Genus *Tabanus* Linnaeus

\* *Tabanus albocirculus* Hine, 1907.

CARTAGO. 1 ♀ : Turrialba, July 1965 (H. Real) [CAS]. Determined by C. B. Philip.

LIMON. 1 ♀ : Puerto Limón, 1-9 June 1954 (P. Buxton) [BMNH].

PUNTARENAS. 1 ♀ : Golfito, 1948 (P. & D. Allen) [MCZ].  
2 ♀ : Osa Peninsula, 1.8 miles W Rincón, March-April 1971 (J. Donahue & C. Hogue) [LACM].

\* *Tabanus bigoti* Bellardi, 1859.

\*= *Tabanus appetiatus* Kröber, 1934 of Fairchild, 1961: 31.

CARTAGO. 1 ♀: Turrialba, 2000 ft, 1-9 June 1954 (P. Buxton) [BMNH].

LIMON. 5 ♀: Puerto Limón, 1-9 June 1954 (P. Buxton) [BMNH].

*Tabanus colombensis* Macquart, 1846.

No specific locality. 1 ♂, 2 ♀: 1920 (P. Serre) [MNHP].

ALAJUELA. 1 ♀: Higuito, San Mateo, no date (P. Schild) [OSU].

GUANACASTE. 1 ♂: 12 miles SW Cañas, 27 February 1964 (H. Evans) [MCZ].

\* *Tabanus defilippii* Bellardi, 1859.

PUNTARENAS. 1 ♀: Osa Peninsula, Rincón, March 1966. (R. McDiarmid) [LACM]. 5 ♀: Osa Peninsula, 1.8 miles W Rincón, January-March 1971 (J. Donahue & C. Hogue) [LACM].

*Tabanus dorsiger* var. *dorsovittatus* Macquart, 1855.

\* = *Tabanus lineola* var. *carneus* Bellardi 1859 of Fairchild, 1961: 30. No specific locality, date nor collector. 1 ♂, 9 ♀: [USNM].

ALAJUELA. 2 ♀: La Fortuna de San Carlos, 18 February 1964 (H. Evans) [MCZ]. 2 ♀: San Josecito-on cattle, no date (R. Zeledón).

CARTAGO. 1 ♂, 16 ♀: Turrialba, July 1965 [CAS].

GUANACASTE. 1 ♀: Liberia (biting man), no date (R. Zeledón); 3 ♂: 26 July 1962 (F. Truxal) [FSCA]. 7 ♀: Estación Experimental Agrícola Enrique Jiménez Núñez, Taboga, Cañas, February-March 1966 (R. McDiarmid) [LACM].

LIMON. 4 ♀: Estación Experimental Agrícola Los Diamantes, Guápiles, April 1964 (F. Truxal) [LACM]. 1 ♀: Finca La Lola, September 1962 (R. Casebeer) [LACM]. 3 ♀: Tortuguero, August 1964 (Kelso), UV light.

PUNTARENAS. 1 ♀: Monteverde, 24 February 1966 (R. McDiarmid) [LACM]. 1 ♂: Parrita, September 1964 (D. Marqua) [LACM]. 4 ♀: Golfito, 1948 (P. & D. Allen) [MCZ]. 1 ♀: Coto, Finca 47, August 1957 (A. Menke) [FSCA].

SAN JOSE. 1 ♂: San José, November 1960 (R. Zeledón).

*Tabanus dorsiger* var. *modestus* Wiedemann, 1828.

\* = *Tabanus lineola* var. *plangens* Walker, 1854 of Fairchild, 1961: 31. ?PROVINCE. 1 ♀: San Michel [?San Miguel], 280 m, 5 June 1954 (no collector).

*Tabanus dorsiger* var. *stenocephalus* Hine, 1906.

\* = *Tabanus lineola* var. *stenocephalus* of Fairchild, 1961: 31.

No specific locality. 1 ♂: 1920 (P. Serre) [MNHP]. No specific locality, date nor collector. 1 ♀: [USNM].

CARTAGO. 1 ♀ : Turrialba, April 1949 (Neel); 8 ♀ : July 1965 (H. Real) [CAS].

LIMON. 1 ♀ : Estación Experimental Agrícola Los Diamantes, Guápiles, April 1964 (F. Truxal) [LACM].

PUNTARENAS. 1 ♀ : Osa Peninsula, Rincón, March 1966 (R. McDiarmid) [LACM]. 1 ♂ : Golfito, 9 August 1957 (A. Menke) [LACM]; 2 ♀ : 1948 (P. & D. Allen) [MCZ]. 1 ♀ : Coto, Finca 47, 1957 (A. Menke) [LACM]. 1 ♀ : Parrita, September 1964 (D. Marqua) [LACM]. 1 ♀ : Palmar [Norte, Sur?], no date (P. & D. Allen).

\* *Tabanus erebus* Osten Sacken, 1886.

CARTAGO. 1 ♀ : Moravia de Chirripó, July 1965 (no collector) [CAS].

PUNTARENAS. 3 ♀ : San Vito de Java, 14, 18 August 1967 (R. McDiarmid) [LACM].

*Tabanus polyphemus* Fairchild, 1958.

\* = (?) *Tabanus fumomarginatus* Hine, 1929 of Fairchild, 1961: 32, nec Hine, 1929 (misidentification).

No new records.

*Tabanus quinquepunctatus* Hine, 1925.

\* = (?) *Tabanus griseopleuris* Kröber, 1931 of Fairchild, 1961: 31.

No new records.

\* *Tabanus lacajænsis* Kröber, 1931.

= *Tabanus umbraticolus* Fairchild, 1943.

No specific locality nor date. 2 ♀ : (H. Schmidt) [W].

ALAJUELA. 1 ♀ : 6 miles W Atenas, 14 August 1964 (R. McDiarmid) [LACM].

PUNTARENAS. 2 ♀ 15 km NE Potrero Grande, September-October 1964 (R. McDiarmid) [LACM]. 9 ♀ : Monteverde, Río Guacimal, July 1964 (C. Hogue) [LACM].

\* *Tabanus pungens* Wiedemann, 1828.

No specific locality, date nor collector. 1 ♀ : [USNM].

PUNTARENAS. 1 ♂ : Parrita, September 1964 (D. Marqua) [LACM].

*Tabanus macquarti* Schiner, 1868.

\* = *Tabanus ratus* Kröber, 1934 of Fairchild, 1961: 31.

No new records.

*Tabanus thiemeana surifer* Fairchild, 1964.

HEREDIA. 2 ♀ : Sarapiquí, 1920 (P. Serre) [MNHP].

PUNTARENAS. 1 ♀ : Osa Peninsula, Rincón, 10-15 August 1968 (F. Truxal) [LACM]. 3 ♀ : Osa Peninsula, 1.8 miles W Rincón, March-April 1971 (C. Hogue) [LACM].

*Tabanus truquii* Bellardi, 1859.

GUANACASTE. 1 ♀ : Estación Experimental Agrícola Enrique Jiménez Núñez, Taboga, Cañas, February-March 1966 (R. McDiarmid) [LACM].

PUNTARENAS. 1 ♀ : Parrita, September 1964 (D. Marqua) [LACM].

SAN JOSE. 2 ♀ : San Isidro de El General, January 1966 (R. Zeledón).

\* *Tabanus nebulosus* DeGeer, 1776.

GUANACASTE. 1 ♀ : 7 miles SW Cañas, September 1966 (D. Paulson) [FSCA].

PUNTARENAS. 2 ♀ : Palmar, February-March 1951 (P. & D. Allen).

\* *Tabanus oculus* Walker, 1848.

PUNTARENAS. 1 ♀ : Parrita, September 1964 (D. Marqua) [LACM].

*Tabanus praeteritus* Fairchild, 1947.

PUNTARENAS. 1 ♀ : Golfito, 11 July 1957 (A. Menke) [LACM].

1 ♂ : Parrita, September 1964 (D. Marqua) [LACM].

\* *Tabanus pruinosus* Bigot, 1892.

\*=(?)*Hybostraba albovillosa* Kröber, 1931 of Fairchild, 1961: 33.  
No specific locality nor date. 1 ♂ : (H. Schmidt) [SP, TYPE].

\* *Tabanus punctipleura* Hine, 1920.

No specific locality nor date. 1 ♂ : (P. Serre) [MNHP].

LIMON. 1 ♀ : Tortuguero, August 1964 (D. Kelso) [FSCA].

*Tabanus unipunctatus* (Bigot, 1892).

No specific locality nor date. 1 ♀ : (Hoffman) [ZM].

CARTAGO. 3 ♀ : Turrialba, 2 August 1961 (G. Fairchild).

LIMON. 1 ♀ : Suretka, no date nor collector [LLP].

PUNTARENAS. 7 ♀ : Golfito, July-August 1957 (F. Truxal & A. Menke) [LACM, GBF]. 1 ♀ : 10 miles E Palmar, 14 August 1960 (Harrison). 2 ♀ : 8 km ENE Palmar Norte, July 1967 (C. Myers).

?PROVINCE. 1 ♀ : Carrillo, no date nor collector.

Literature record: Kröber, 1929 (misidentified as *fumomarginatus* Hine). 1 ♀ : La Emilia, September 1927 (Rehn).

\* *Tabanus unistriatus* Hine, 1906.



- CARTAGO. 1 ♂: Turrialba, no date nor collector [USNM]. 2 ♀: Turrialba-Cartago, July 1965 (no collector) [CAS].  
 LIMON. 1 ♀: Finca La Lola, July 1963 (C. Hogue) [LACM].  
 5 ♀: Puerto Limón, 1-9 June 1954 (P. Buxton) [BMNH].  
 PUNTARENAS. 1 ♀: Osa Peninsula, no date (D. Pool) [FSCA].  
 1 ♀: Osa Peninsula, Rincón, June-July 1963 (C. Hogue) [LACM].  
 6 ♀: Osa Peninsula, 1.8 miles W Rincón, March-April 1971 (C. Hogue) [LACM]. 1 ♀: Osa Peninsula, 5 km W Rincón, 1971 (D. Pool). 2 ♀: Villa Neily, July 1965 (no collector) [CAS]. 3 ♀: near Villa Neily, August 1963 (C. Hogue) [LACM].  
 SAN JOSE. 1 ♀: San Isidro de El General, 20 May 1943 (T. Aitken).

*Tabanus yucatanus* Townsend, 1897.

- GUANACASTE. 2 ♂: Bahía Culebra, 3 March 1959 (E. Dawson) [LACM].

\* *Tabanus xenorhynchus* Fairchild, 1947.

No new records.

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