

# ADDITIONS TO THE TABANIDAE (DIPTERA) OF TRINIDAD, B. W. I.<sup>1</sup>

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## ABSTRACT

The previous total of 34 species known from Trinidad has now been raised to 45. *Fidena trinidadensis*, *Acanthocera bequaerti*, and *Sibasoma flaviventre pulla*

are described as new. *Chrysops incisa*, *Tabanus johannesii*, and *T. trivittatus* have been deleted from the island's faunal list. Several misidentifications by earlier authors are corrected.

Early in 1940 Dr. Joseph Bequaert (1940) published a list of the Tabanidae known from Trinidad in which he included 23 species. In June of the same year (1940a), he included a revised list of 24 species in his revision of the Antillean Tabanidae. Some years later (1944), he revised his previous lists and added a number of species to bring the total to 31 species. Finally, Dr. E. McC. Callan (1952), added three more species to the fauna, based on determinations made by Drs. Alan Stone and G. B. Fairchild, bringing the total to 34 species.

Over the past 5 years the junior author and Dr. W. G. Downs have been able to make considerable collections of Tabanidae in various parts of Trinidad, including collections from the forest canopy. This material has included most of the species reported previously by Bequaert and Callan, as well as a number of additional species. It is planned eventually to treat the whole fauna in detail; the present note is merely to put on record the additions to the fauna and to straighten out some nomenclatural problems clarified by type comparisons made in recent years by Drs. C. B. Philip and G. B. Fairchild.

For the sake of completeness, the present list includes all species recorded from Trinidad.

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Where it has been found necessary to change a name used previously, the name given in Bequaert's 1944 list is also given. Additional locality records are inserted under the appropriate species; where no localities are given, we have seen no material other than that mentioned by Bequaert. The suprageneric arrangement follows Mackerras' recent (1954) revision. An asterisk (\*) indicates a new island record.

## Subfamily PANGONIINAE

### Tribe PANGONINI

#### Genus *Esenbeckia* Rondani

#### 1. *Esenbeckia prasiniventris* Macquart

Ten females, eight males, from Maraval, Port-of-Spain, Tabaquite, Mt. Tamana, and Rio Claro, during the months of February, March, July, August, October, and November. Males hovering along forest traces, females in houses and attacking man in forest and cocoa areas.

### Tribe SCIONINI

#### Genus *Fidena* Walker

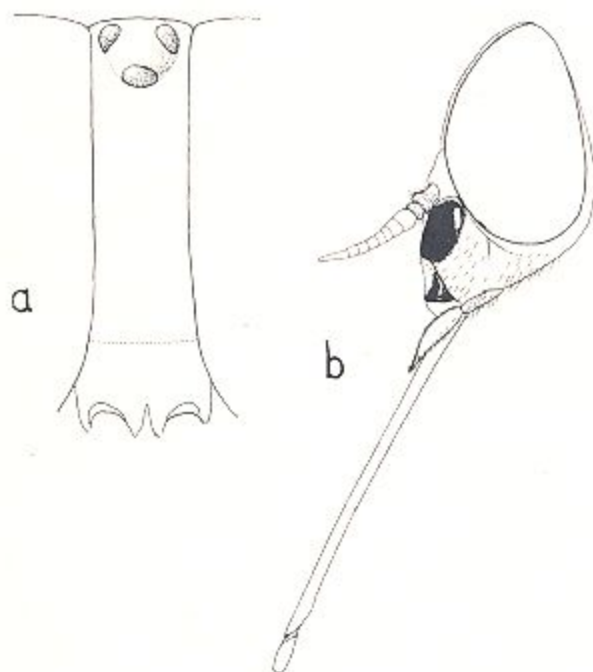
#### 2. *Fidena trinidadensis*, new species

##### FIGURE 1

This is the species reported by Callan (1952) as *Fidena* sp. near *niveibarba* Kröber. Further study has convinced us that this species had best be described as new.

A small brownish species with yellowish beard, pale brown legs, uniformly tinted wings and a white-haired band on second abdominal tergite.

*Female.* Length 14 mm., of wing 13 mm. Frons about three times as high as basal width, brown-pollinose and sparsely short black-haired. Eyes densely short pilose. Subcallus brown, brown-pollinose. Face produced, the fronto-clypeus bare and shiny dorsally but with sides and a median patch beneath antennae grey-pollinose, both areas beset with sparse, long, dark hairs. Beard yellowish-white. Antennae with first two segments brown, pollinose, sparsely dark-haired, the third orange, slender, evenly tapered, the terminal annulus about twice as long as the penultimate. Palpi brown, lanceolate, the outer surface largely bare, edges black-haired. Proboscis brown, slender, longer than thorax.



TEXT FIG. 1.—*Fidena trinidadensis* n. sp. a. frons and b. side view of head of holotype.

Mesonotum cinnamon-brown, sparsely black-haired, unstriped, the scutellum slightly paler. Hairs on each side of scutellum mixed black and dull yellowish. Pleura with dense dull yellowish-white hairs, sternum and coxae black-haired. Upper squama fringed with long silvery-white hairs. Halteres brown with yellowish-white knob. Wings with costal cell yellowish, remainder of wing rather evenly pale brownish-fumose, slightly more intense around ends of basal cells. No appendix on fork of third vein. First posterior cell closed and petiolate. Legs slender, yellowish-brown, the tibiae slightly paler. Femora dark-haired, tibiae black-haired on outside, reddish-yellow-haired on inside; no hind tibial fringe.

Abdomen plump and rounded, blackish in ground color, the first and second segments

whitish-pruinose, remainder dark. First tergite with silvery-white hairs at sides, black in middle; second with white hairs the width of tergite at sides, but reduced to a narrow hind-marginal band dorsally; third and fourth tergites wholly black-haired; fifth to seventh with white hairs laterally. Beneath the second segment is whitish-pruinose, with a broad silver-haired hind-marginal band, the remainder darker, mainly dark-haired or with sparse silvery tufts laterally on tergites three and four and narrow pale-haired hind margins on fifth to seventh sternites.

Holotype female, La Horquette Valley, Carenage, Trinidad, B.W.I., 30 June 1955, G. Lewis coll.; 1 ♀ paratype, same data; 1 ♀ paratype, Caura River, Trinidad, 9 July 1949, biting man, E. McC. Callan coll.; 2 ♀, Caura Valley, Trinidad, 24 June 1945, biting man, T. S. Jones coll. Holotype in MCZ, paratypes in Imperial College of Tropical Agriculture and authors' collections.

The species resembles in color and structure *F. winthemi* (Wied.), differing in a somewhat broader frons, less extensively shiny fronto-clypeus, and in having the pleura whitish haired. *F. niveibarba* Krob. appears to differ in a more cylindrical antenna with short terminal annulus, and in having some white hairs on the hind margins of all tergites. *F. nigricans* Lutz has a wholly black abdomen, more produced face, and snow-white beard.

#### Subfamily CHRYSOPINAE

#### Tribe CHRYSOPINI

#### Genus *Chrysops* Meigen

#### 3. *Chrysops variegata* DeGeer

Three hundred eighty-seven females, principally attacking man but also oxen; a few from cars and dry ice-baited traps. Eyes light green with yellow highlights and discrete purple patches. Two females, Caroni Swamp, 2 Aug. 1956, Downs coll., and North Manzanilla, 13 Sept. 1957, Aitken coll., are unusually dark, with blackish frontal callus, brown scutellum, and very narrow yellow thoracic stripes. They seem to agree with Kröber's (1925) brief diagnosis of his var. *venezuelensis*.

#### 4. *Chrysops tristis* Fabricius

Not taken by us. One female in MCZ, Harvard University, collected by N. A. Weber, det. by J. Bequaert.

#### 5. *Chrysops auroguttata* Kröber

Listed by Bequaert in 1940, but omitted in 1944. Fairchild examined the types of both this and the following species in the British Museum (1956) and concluded that they were distinct species, as did Bequaert (1944). The cotype of *auroguttata* collected by Balfour in Trinidad and mentioned by Kröber in his original description

(1930) and by Bequaert (1940) was seen by Fairchild and agrees with the type from Colombia. The other specimens listed under *auroguttata* by Bequaert (1940) are *pallidifemorata* Kröber, so that the occurrence of *auroguttata* in Trinidad rests on the single cotype (=paratype).

#### 6. *Chrysops pallidifemorata* Kröber

We have seen, in addition to the specimens discussed by Bequaert and mentioned above, a considerable series of this species from Caroni Swamp, 18 Oct. 1956.

Fourteen females, from Caroni Swamp and adjacent Success Village and Cacandee Settlement. All attacking man, except one taken in a car; May, July, August, and October.

#### 7. *Chrysops bulbicornis* Lutz

Fourteen females, from Curepe, Arena Forest, Sangre Grande, Vega de Oropouche, Melajo and Rio Grande Forests, Manzanilla Beach, and Rio Claro; throughout the year.

#### 8. *Chrysops laeta* var. *sublaeta* Philip\*

*C. laeta* auct. nec Fabricius.

Two females, Arena Forest, 3 February and 1 April 1954, W. G. Downs coll. (one at light trap).

#### 9. *Chrysops formosa* Kröber\*

Not taken by us. One female from Arouca in MCZ, Harvard University, collected by E. McC. Callan, 10 March 1944, determined by J. Bequaert.

### Subfamily TABANINAE

#### Tribe DIACHLORINI

#### Genus *Diachlorus* Osten Sacken

#### 10. *Diachlorus scutellatus* Macquart

Twenty-eight females, mainly from Rio Grande Forest tree station (canopy), also Vega de Oropouche, Sangre Grande, Long Stretch, and Cumuto; throughout the year. Eyes green, with irregular concentric purple rings from frons to gena, one on periphery.

#### 11. *Diachlorus curvipes* (Fabricius)

Thirty-six females, from Rio Grande Forest, Vega de Oropouche, and Rio Claro; throughout the year. Eyes green, with irregular reddish-purple ring from frons to gena, also one on periphery and irregular inner patch on frontogenal margin.

#### 12. *Diachlorus bicinctus* (Fabricius)\*

One female from Archer cocoa estate, Rio Claro—Mayaro Road, 32¼ mile post, 6 August 1958, 10:15 a.m., attacking man, Aitken coll.

#### Genus *Lepiselaga* Macquart

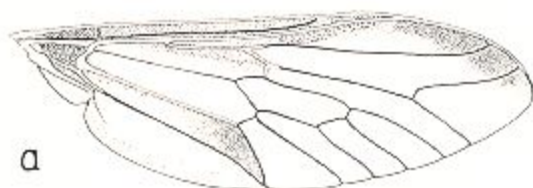
#### 13. *Lepiselaga crassipes* (Fabricius)

Not collected by us. One female from Point Fortin (R. C. Shannon) recorded by Bequaert (1944).

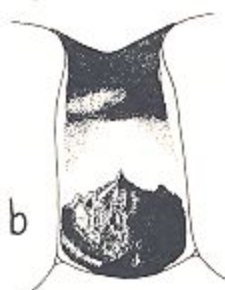
#### Genus *Selasoma* Macquart

#### 14. *Selasoma tibiale* (Wiedemann)

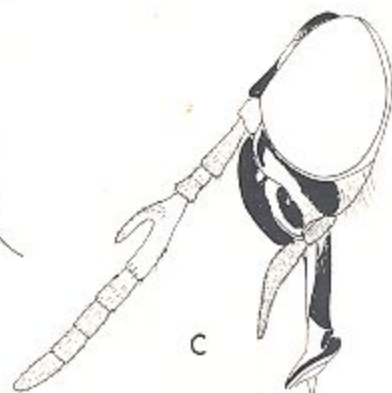
Not seen by us. One female in British Museum recorded by Bequaert (1940).



a



b



c

TEXT FIG. 2.—*Acanthocera bequaerti* n. sp. a. wing of paratype. b. frons of holotype. c. head in side view of holotype.

#### Genus *Dichelacera* Macquart

#### 15. *Dichelacera ochracea* Hine

Twenty-one females and two males, April to September, from Port-of-Spain, Maraval, Diego Martin, Arena Forest, Cumaca, and Vega de Oropouche. Frequently taken at dusk or at light. Eyes green, somewhat darker above.

#### Genus *Acanthocera* Macquart

#### 16. *Acanthocera bequaerti*, new species

Figure 2

*A. marginalis* Wlk. Bequaert 1944.

*Female*. Length 12 mm., of wing 10.9 mm. Eyes bare, the pattern of green bands on a dark bluish ground similar to *marginalis*. Frons about 1.5 times as high as basal width, nearly parallel-sided, light grey-pollinose. Basal callus wider than high, irregular, formed of a transverse bar and central broad ridge. Tubercle at vertex a

large wrinkled and protuberant callus, without ocelli, filling width of frons. Frontoclypeus greatly inflated, bare and shiny, black. Genae also largely bare and shiny, but with a narrow pollinose strip next the eyes and a small pollinose patch on the sides of frontoclypeus next the tentorial pits. First antennal segment slender, cylindrical, slightly swollen at apex, dull yellowish, about twice as long as the slightly darker second segment, both thinly pollinose and sparsely black-haired. Third segment over twice length of first two, the basal plate much shorter than style. Basal plate yellowish-brown, the dorsal spine slender, obtuse, not reaching first annulus of style, the latter black. Palpi blackish, black-haired, slightly inflated basally, but with slender tip. Proboscis black, the theca shiny sclerotized, the labella small, pollinose, with a shiny strip at base.

Mesonotum black, subshiny, with a pair of slender subdorsal golden-yellow lines not reaching posterior border. Antealar tubercles and scutellum densely golden haired. Pleura black, thinly greyish pruinose or subshiny, with a small diagonal patch of golden hairs before the wing bases. Coxae and femora black or dark brown, subshiny, sparsely short black-haired, the hind coxae prominently white-pruinose laterally. Tibiae black, the fore pair whitish at extreme base the mid and hind pair about one-fifth basally white; fore and mid tibiae shortly white-haired, the hind pair black-haired except on the white portion. All basitarsi white, their extreme tips dusky, the remaining tarsal segments brown. Wing yellowish tinged, especially costal cell and basal two-thirds of anal cell. A dark patch more or less fills apices of marginal and first and second submarginal cells beyond apex of stigma, but leaves most of marginal cell hyaline or yellowish. There is also some darkening of first basal cell toward its apex, and the apical third of anal cell is quite strongly blackish.

Abdomen black, subshiny, the first tergite whitish-pruinose and with a narrow bright yellow-haired hind margin. Second segment narrowed behind, whitish-pruinose, but with a black-velvety pollinose transverse band widened in the middle immediately before the narrow golden-haired hind-marginal band. This black-velvety area is beset with erect yellow hairs, only visible when viewed from in front. Third segment widened behind, black-pollinose and with a narrow golden-haired hind margin, widest in the middle, obsolete laterally. There are also scattered golden hairs over most of the tergite. Fourth tergite further widened behind, black, subshiny, with scattered golden hairs; fifth and succeeding segments becoming narrower, black, subshiny and with scattered golden hairs. Beneath the first tergite is whitish pruinose, the remainder black and subshiny, the second and third with narrow white and white-haired hind margins.

Holotype female, Rio Grande Forest, Sangre Grande, Trinidad. 9 October 1956, biting man, Aitken coll. Paratypes, 31 females from the following localities in Trinidad: Rio Grande Forest (2) March 1956, Feb. 1957; Charuma Forest, Tabaquite (7) Aug. 1954, March, June, July 1955; St. Patrick Estate, Arima Valley (3) June, July 1953; Vega de Oropouche, Sangre Grande (1) June 1957; Melajo Forest, Sangre Grande (1) May 1955; Biche Road (1) June 1954; Cumaca (7) May, June 1954; Cunaripo R. C. School (1) May 1957, all Aitken and/or W. G. Downs coll. N. Side Morne Bleu, 2500 ft. (1) 23 June 1935, N. A. Weber coll., Sangre Grande (1) July 1945, Callan coll. Guaico (1) 1 Jan. 1940, Adamson coll., Talparo (3) 26 July 1945, Callan coll. Cumaca (1) 30 July 1944 Kirby coll., Cumuto (1) 7-1-41 Rozeboom coll., compared with type of *marginalis* Walker by C. B. Philip and found not in agreement.

Holotype in Museum of Comparative Zoology, Cambridge, Mass. Paratypes in authors' collections and in Imperial College of Tropical Agriculture, St. Augustine, Trinidad.

The paratypes vary from 8.5 to 10 mm. in wing length. Some have the abdomen brownish and rarely the mid tibiae as much as one-third white basally.

This species is exceedingly close to *A. marginalis* Walker, of which *A. formosa* Kröb. is a synonym. It differs in having a slightly broader and more parallel-sided frons, in lacking yellow-pollinose patches on sides of thorax before anterior spiracle, in having largely black tibiae, and in having the costal border of the wing blackish only at extreme base and beyond stigma, the costal cell being clear yellow. The whole wing is also strongly yellow tinged and the dark in apex of anal cell more extensive than in *marginalis*.

True *marginalis* has been well figured by Lutz (1915, pl. 19, fig. 4), though many specimens are blacker than shown in his figure. It appears to be confined to the mainland. The species described and figured by Kröber (1928, fig. 5) as *marginalis* is entirely different, having a very much narrower frons and more extensively yellow-haired thorax and abdomen. Fairchild (1939) confused the species, treating true *marginalis* as *formosa* Kröb. and the present species as *marginalis*.

#### Genus *Stibasoma* Schiner

##### 17. *Stibasoma fulvohirtum* (Wiedemann)

One hundred ninety-four females, throughout the year. Mainly from Rio Grande Forest tree station, but also Vega de Oropouche, Fishing Pond, Long Stretch, Charuma Forest, and Rio Claro. Essentially a forest canopy species. There is considerable color variation in this species, the pile of the mesonotum ranging from reddish-yellow to uniformly black. Eyes uniformly green with reddish highlights.

18. *Stibasoma mallophoroides* (Walker)*Stibasoma dyridophorum* Knab, Bequaert 1940.

Fairchild has seen the types of both species and confirmed (1956) the synonymy. The specimen from Balandra on which Bequaert (1944) apparently based his record of *mallophoroides* belongs to the species discussed below. We have seen a very considerable series of true *mallophoroides*, which proves to be quite variable in color. Eyes black. Ninety-three females, all from Rio Grande Forest tree station, from 25 feet to 95 feet above ground, throughout the year.

19. *Stibasoma flaviventre pulla*, new subspecies  
*S. sulfurotaeniata* Kröber var., Callan 1952.

Comparison of a considerable series of specimens from Trinidad with material from Panama and elsewhere has convinced us that *S. sulfurotaeniata* is a synonym of *flaviventre*, and not applicable to specimens from Trinidad. The Trinidad form is structurally indistinguishable from *flaviventre*, but averages smaller, wing length 13-16 mm. compared to 16-19 mm. for a series of 15 specimens from Mexico, Honduras, and Panama. In color, the Trinidad form is darker, the abdomen dorsally varying from wholly black-haired with only the seventh tergite with a fringe of yellow hairs, to specimens with complete yellow hind-marginal fringes on tergites 2 to 7. In the latter case the fringe on the second tergite is always broader and more prominent than the others. Most specimens have the yellow fringe on the second and seventh tergites, while the remaining tergites have the fringe reduced to a patch in the middle and at the sides or absent. The dark hairs of the abdomen are usually black, occasionally with a more or less reddish tinge, but never the bright coppery-red usual in *flaviventre*. We have seen also the types of *flaviventre* Macquart, from Rio Negro, and of *dives* Walker, from the Amazon, as well as another Amazon specimen and one from Georgetown, B.G., all in the British Museum. These agree with our Central American specimens, except that the Georgetown specimen has the dark hairs of the abdomen black. We believe the Trinidad population to represent a true geographical subspecies, differing as above as well as being more variable. The specimen selected as holotype represents approximately the median in our series. The eyes in life are bicolored, dark green above, light green below.

Holotype female, Rio Grande Forest, Sangre Grande, Trinidad, B.W.L., 25 June 1957, taken attracted to man at 95 feet in forest canopy. T. H. G. Aitken coll. To be deposited in Museum of Comparative Zoology.

Paratypes, 36 females from the following localities, all in Trinidad: St. Augustine, 12 Dec. 1948, D. G. Austin coll. (1); Balandra, April 1923 (1); St. John Estate, Vega de Oro-

pouche Road, 7 Aug. 1958, Aitken coll. (1); same locality as holotype, all but one taken at human bait at platforms 75 to 95 feet above ground level in the forest canopy May 1956 (1), Feb. 1957 (1), Apr. 1957, (1), June 1957 (6), July 1957, (1), Aug. 1957 (1), Oct. 1957 (1), Nov. 1957 (1), Dec. 1957 (1), Jan. 1958 (1), Feb. 1958 (5), Mar. 1958 (1), Apr. 1958 (3), June 1958 (6), Jan. 1959 (1), Feb. 1959 (1), April 1959 (1). In coll. of authors.

Genus *Chlorotabanus* Lutz20. *Chlorotabanus (Chlorotabanus) mexicanus* (Linné)

One hundred fifty females, from Mandillon Road (Sangre Grande), Vega de Oropouche, Rio Grande Forest, Archer Estate (Rio Claro), and Macqueripe Bay. Throughout the year. From oxen at dusk. Eyes dark reddish-brown.

21. *Chlorotabanus (Chlorotabanus) inanis* (Fabricius)

One hundred fifteen females, from Rio Grande Forest, Vega de Oropouche, and Archer Estate (Rio Claro). Throughout the year except March-April, July-August, and December. From oxen at dusk. Eyes dark reddish-brown.

22. *Chlorotabanus (Cryptotylus) unicolor* (Wiedemann)

Two hundred sixty-four females, from Rio Grande Forest, Vega de Oropouche and Archer Estate (Rio Claro). Throughout year, except March-April, July-August, and December. From oxen at dusk, save three females taken from oxen at midday. Eyes dark brownish-black.

23. *Chlorotabanus (Cryptotylus) chloroticus* Philip and Fairchild*Ommalia viridis* Enderlein, Bequaert 1940.*Tabanus luteoflavus* Bellardi, Bequaert 1940.*T. (Cryptotylus) limonus* Townsend, Bequaert 1944.

Seventy-nine females, from Port-of-Spain, Arima, Sangre Grande, and Vega de Oropouche, in May-July and September. From oxen at dusk.

Genus *Phaeotabanus* Lutz24. *Phaeotabanus fervens* (Linné)*P. semiflavus* Kröber, Bequaert 1944.

Four females, from Rio Grande Forest (1 March 1957), Plum Mitán (18 March 1957), Vega de Oropouche (17 April 1957), and Caratal Forest, Biche (4 February 1959), Aitken coll. All taken attacking man save the last which was on vegetation.

25. *Phaeotabanus prasiniventris* Kröber\*

Our two specimens differ in some respects from Kröber's rather brief description, having their palpi dark haired, the legs darker, and lacking

pale fringes on the tergites. One female, Vega de Oropouche (Sangre Grande) 28 March 1956, off donkey, W. G. Downs coll. A second female attacking man at 3:30 p. m., 7 August, 1957, from La Seiva Jctn., Sangre Grande, T. H. G. Aitken coll. The eye is green in life, unbanded.

26. *Phaeotabanus obscuripilis* Kröber\*

Three females taken off oxen at Vega de Oropouche 4, 29 May and 20 July 1958, Aitken coll. Eyes bright green.

Genus *Stenotabanus* Lutz

27. *Stenotabanus (Stenotabanus) maculifrons* (Hine)

*Tabanus (Stenotabanus) maculifrons* Hine, Bequaert 1944.

Two females, Valencia Old Road, Sangre Grande, 20 March 1957, attacking man, Aitken coll.

28. *Stenotabanus (Aegialomyia) tobagensis* Fairchild

Three females from Pigeon Point Beach, Tobago, 17 July 1955, ex man (including holotype); 1 female, Pigeon Point, Tobago, 30 July 1957, biting man on beach, Aitken coll.; and 1 female attacking man on beach, Maracas Bay, Trinidad, 18 May 1957, Aitken coll.

Genus *Leucotabanus* Lutz

29. *Leucotabanus exaestuans* (Linné)

*Tabanus (Leucotabanus) leucaspis* Wiedemann, Bequaert 1944.

Trinidad examples appear more yellowish than most continental specimens, due to admixture of brassy or reddish hairs on disk of mesonotum.

One hundred sixty-five females, throughout year from forested areas; principally taken attacking man, but also attacking oxen.

Tribe TABANINI

Genus *Tabanus* Linné

The species of *Tabanus* listed below have been placed by various authors in a number of nominal subgenera whose limits remain very poorly defined, and concerning several of which there are still unresolved nomenclatural conflicts. We feel it best therefore to refrain from placing these species in restricted subgenera. *Poeciloderas quadripunctata* (Fab.) has generally been placed with the Holarctic genus *Hybomitra*, but both nomenclatural and zoological considerations make it seem best to retain *Poeciloderas* Lutz for it and its close Neotropical relatives.

30. *Tabanus sorbillans* Wiedemann

One hundred seventy-six females, throughout the year from Port-of-Spain, Arima, Las Lomas No. 3, Valencia, Long Stretch, Sangre Grande,

Valencia Old Road, Vega de Oropouche, Rio Grande Forest, Charuma Forest, Rio Claro, Siparia, and Princes Town. Principally from oxen, but man also. Eyes reddish-purple, with two horizontal green bands, the red area between narrower, or at most equal, to width of one green band at frontal origin (see *T. pseudoculus*).

The male is, in general, similar to the female, but has the abdomen with a narrow middorsal pale stripe not broken into triangles. The antennae are more slender than in the female, the palpi oval, porrect, long brownish haired. The eyes have the large facets well differentiated and demarcated from the small facets, occupying somewhat over half the eye area, but with small facets reaching the vertex in a narrower border behind. There is a small tubercle at vertex, sunk between the eyes. The head is distinctly wider than thorax. We have a single male, Chaguaramas, U. S. Naval Station, 10 Sept. 1957, taken in a light trap, Aitken coll.

31. *Tabanus xipe* Kröber

Two hundred forty-one females, throughout year from Rio Grande Forest, Vega de Oropouche, Sangre Grande, Valencia, Arima, Arena Forest, Tabaquite, Cat's Hill Reserve, and Rio Claro. Mainly from oxen, but also from man. Eyes light green with three horizontal reddish-purple bands connected laterally by marginal band.

32. *Tabanus pseudoculus* Fairchild\*

Fifteen females, from Rio Grande Forest, Vega de Oropouche and Rio Claro-Mayaro Road, January, February, May, September, and October. Aitken coll. Mainly from oxen, and all but one at dusk (one taken at 12:30 p.m.). One female, Caura Valley, 19 May 1944, a.m. Adamson coll. ICTA 4121. Eyes reddish-purple with two narrow horizontal green bands, the red area between being much broader than green band at frontal border. (see *T. sorbillans*)

33. *Tabanus claripennis* (Bigot)

*T. hookeri* Knab, Bequaert 1944.

Eleven females, one male; from U. S. Naval Station (Chaguaramas, male in light trap), Maraval, Sangre Grande, and Vega de Oropouche; March, May, June, August, and October. Mainly from oxen. Eyes reddish-purple with three green stripes, the dorsal two confluent.

34. *Tabanus pungens* Wiedemann

*T. angustivitta* Kröber, Bequaert 1944; *desertus* Walker.

A single female (R. C. Shannon, coll.) reported from Nariva Swamp by Bequaert (1944). A second specimen from the same locality was called *johannesesi* Fairchild by Bequaert (1944); examination of this specimen by the senior author indicates it to be only a small, dark specimen of *pungens*. Hence *johannesesi* can be struck from

the Trinidad list. We have one additional female from Plum Mitan (near Nariva Swamp), 18 March 1957, Aitken coll.

### 35. *Tabanus colombensis* Macquart

*T. trilineatus* Latreille, Bequaert 1940.  
*T. amplifrons* Kröber, Bequaert 1944.

Thirty-four females, one male; from Maraval, Caura Dam, Valencia, Sangre Grande, Vega de Oropouche, Rio Grande Forest, Rio Claro, and Parrylands. Throughout the year, from oxen, man, houses, cars, etc. Eyes reddish-purple with two horizontal green bands, the upper expanding laterally, a green spot near the occipital angle.

### 36. *Tabanus vittiger guatemalanus* Hine

*T. carneus* Bellardi, Bequaert 1940.

One female from Port-of-Spain, August 1953, W. G. Downs coll. One male, Valencia, Sangre Grande, 15 July 1957, Aitken coll.

### 37. *Tabanus lineola* var. *carneus* Bellardi

Seven hundred ninety-two females, nine males. Widespread, found throughout the year.

### 38. *Tabanus commixtus* Walker\*

*T. maya* Bequaert.

Not taken by us. One female in MCZ, Harvard University, from St. Augustine, 5 January 1944, E. McC. Callan, identified by Bequaert as *T. maya*.

### 39. *Tabanus basivitta* Walker\*

Ninety-three females, one male; from Maraval, Charuma Forest (Tabaquite), Mt. Tamana, and Rio Claro, January-April, August, and October-November, largely from oxen in or near forested areas. Eyes uniformly dark green.

The male is similar to the female in color, though our single specimen is slightly teneral and the wings paler than in the female. The eyes are bare, the area of enlarged facets occupying about half the eye area and completely surrounded by small facets. The two sizes of facets are sharply demarcated. There is a small tubercle at vertex not reaching above eye level and without vestiges of ocelli, but with a tuft of erect black hairs at its apex. Antennae dark brown, nearly black, much more slender than in female and with a shorter dorsal tooth. Palpi pale brown, porrect, clavate, with fairly dense long black and yellowish hairs. Proboscis black, slender, the labella long and pollinose. Beard brownish-yellow.

Description based on a male found resting on sunny pavement at Maraval, Trinidad, 9 February 1957, Aitken coll.

### 40. *Tabanus importunus* Wiedemann\*

Thirty-nine females, from Arima, Piarco, Aripo Savannah, Sangre Grande, Vega de Oropouche,

Rio Grande Forest, and Mayaro; January, March-June, August-October. Mainly from oxen. Eyes pale yellow-green with reddish-purple highlights.

### 41. *Tabanus nebulosus* DeGeer

*T. ferrifer* Walker, Bequaert 1944.

Seventy-nine females, from Toco, Rio Grande Forest, Vega de Oropouche, Sangre Grande, Valencia, Balata Hill Road (Manzanilla), Bovel Estate (Cocal), Bush Bush (Mayaro), and Archer Estate (Rio Claro) throughout year. Mainly from oxen. Eyes similar to *importunus*. One male, St. Augustine, 20 March 1956, Callan coll.

### 42. *Tabanus olivaceiventris* Macquart\*

Two females, from Vega de Oropouche, 26 September 1957, and Rio Grande Forest, 7 October 1957, from oxen. Aitken coll. One female from Balandra, 19 April 1959, from man, Downs coll.

### 43. *Tabanus configens* Walker\*

Ten females. Two specimens in MCZ, Harvard University, seen by senior author refer to this species: Siparia, January, and Mundo Nuevo, March, R. C. Shannon coll. We have taken eight additional females, from Rio Grande Forest, Vega de Oropouche, and the Cocal. November, January, April-June. All from oxen, except one from a car.

### 44. *Tabanus discifer* Walker

Thirty-five females, from Rio Grande Forest, Vega de Oropouche, and Rio Claro, throughout the year, mainly from oxen. Eyes dark green with reddish highlights.

### Genus *Poeciloderas* Lutz

#### 45. *Poeciloderas quadripunctata* (Fabricius)\*

One female, Aripo Savannah, 1 January 1957, W. G. Downs coll.

### SPECIES DISCARDED FROM TRINIDAD LIST

#### 1. *Chrysops incisa* Macquart

*C. fulviceps* Walker, Bequaert 1940, 1944.

A female specimen determined by Bequaert and labelled "Trinidad, N. A. Weber, 275" was compared and found to agree with Macquart's type in British Museum (Fairchild 1956). We believe this to be the specimen recorded by Bequaert in 1940. According to Dr. Weber (correspondence), specimen 275 was collected in British Guiana, hence, as the Trinidad record is based on this one specimen, the species should be deleted from the island list.

2. *Tabanus johannesi* Fairchild

See discussion under *Tabanus pungens*.

3. *Tabanus trivittatus* Fabricius

*T. fumatipennis* Kröber, Bequaert 1944.

Philip (1954) has discussed this species. The specimen in the MCZ on which Bequaert's record rests agrees with Philip's diagnosis. It is labeled merely "Trinidad, N. A. Weber, 269." Correspondence between the senior author and Dr. Weber reveals that specimen 269 was collected in British Guiana. Hence the species must be deleted from the Trinidad faunal list.

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