

NOTES ON NEOTROPICAL TABANIDAE
(Diptera). X. THE SPECIES DESCRIBED
BY J. R. SCHINER AND OTHERS

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Abstract: Notes are given on types of 37 species of Neotropical Tabanidae described by Schiner, van der Wulp, Macquart and others. Six new synonymies and 6 new combinations are established. Types or authentic specimens of 12 species are figured.

This article concludes the results of a study of types of Neotropical Tabanidae undertaken in 1964 with the aid of a travel grant from the Bache Fund of the National Academy of Sciences. I here include the results of studies of the types of J. R. Schiner and F. M. van der Wulp, to which are added notes on a number of species of Macquart, Bigot, Walker and Ricardo, which I either did not see in 1953 (Fairchild 1956), or which needed further clarification. Two species described by Kröber which I saw too late to include in my notes on Kröber's species are discussed here, as well as several species of other authors.

Types of all 15 Neotropical species described by Schiner are in Vienna, and I am much obliged to Dr Max Beier for the privilege of studying them. The types of two of van der Wulp's species are in Amsterdam, one in Brussels and the remaining three apparently destroyed by pests. The location of the other types is stated in the discussion of each species.

The species are discussed in alphabetical order, and listed at the end of the discussion, where the valid names are given in boldface.

Tabanus albidocinctus Bigot, 1892, Mem. Soc. Zool. France 5: 686, ♀ (Brésil).

In 1956 I placed this species in *Stenotabanus*. Reexamination of the 2 syntypes in BM, which are in very poor condition, suggests that these are close to *St. fumiperennis* Kröb., differing in apparently lacking shiny 1st antennal segment, in possessing a slightly wider and less convergent frons, with 3 well marked ocelli, and having basal plate of 3rd antennal segment broader. *St. obscuremarginatus* Kröb. is also apparently close, the antennae about the same shape, but subcallus less extensively bare and ocelli not so well developed. The antennae are pale brownish, the style darker, legs bicolored, the tibiae basally white, wing with strong appendix on fork, small clouds on all cross veins and anterior border brownish. Abdomen dark brown to blackish with a series of pale middorsal connected triangles and posterior borders of all segments pale. I give here figures of frons and antenna of one of the syntypes (fig. 1).

Tabanus apoecilus Schiner, 1868, Reise Novara, Zool. Theil 2, Dipt., p. 85, ♀ (Gleichfalls aus Chile).

The type is in Vienna labelled Valparaiso, Novara 1857-1859 Reise, Alte Sammlung, with *apoecilus* written in, and det. Kröber 1928. It is a *Dasybasis* similar to *pachnodes* Schin. (q. v.) but with callus square instead of wider than high, yellow brown. Frons narrower, palpi larger, all black-haired, antennal plate wider, no appendix or cloud on fork of 3rd vein, abdomen without distinct pattern. Both *pachnodes* and *apoecilus* have a clearly striped mesonotum, pilose eyes and black scutellum.

Tabanus argyrophorus Schiner, 1868, Reise Novara, Dipt., p. 90, ♀ (Sechs weibchen aus Südamerika).

There are 5♀♀ labelled type in Vienna, all Lindig 1864 Venezuela. One is det. Kröber 1928 as *Di cladocera macula* Macq., another has a presumably Schiner handwritten *Tabanus argyrophorus* Sch. and is labelled lectotype. All are well preserved and conspecific, and I believe the synonymy with *macula* Macq. correct, though I made no direct comparison.

Tabanus aurora Macquart, 1838, Dipt. Exot. 1 (1): 142, ♀ (Du Bresil).

In 1956 I noted that this species was near *ferreus* Wlk. (= *fuscus* Wied.). Further study of the type confirms this. It differs from *fuscus* in its more slender and differently shaped antenna with short dorsal angle, red antennae and legs and paler color throughout. Such species as *fortis* Fchld., *chrysothrix* Fchld., *cervinus* Kröber and *neoinnotescens* Kröb. are also similar, but all have different antennae or frons. Long series of these species from numerous localities will be necessary to understand their relationships. I give here figure of the best preserved of the two syntypes in Paris (fig. 2).

Hybomitra beieri Philip, 1958, J. Kansas Ent. Soc. 31(2): 180, ♀ (Cantareira, S. Paulo; type in Vienna Nat. Hist. Mus.).

The holotype in Vienna is labelled Cantareira b. S. Paulo and *Theriopectes* n. sp. det. Bischoff. There are two paratypes with same data. Comparison in Vienna with types of *Stypommisa scythropus* (Schin.) shows them to be the same. (New Synonymy).

Tabanus callicera Bigot, 1892, Mem. Soc. Zool. France 5: 686, ♀ (Brésil).

In 1956 I noted that the type in BM appeared related to *St. pequeniensis* Fchld. Reexamination of the type in 1964 threw no further light on its identity, so I include here a description and figures of head characters (fig. 3). The type is somewhat denuded and shrunken, perhaps collected in alcohol. Basicosta with sparse macrotrichiae. Eyes bare. Antennal plate yellow, style black. Palpi pale brownish, black-haired. Proboscis short, labella fleshy. Mesonotum light cinnamon brown, pleura gray pollinose and pale haired. Legs cinnamon brown, tips of tibiae and tarsi blackish, fore tibiae obscurely bicolored. Wings hyaline, faintly smoky, no appendix on fork of 3rd vein. Abdomen completely denuded, uniformly yellowish brown. I believe it is best placed in *Stypommisa* because of the setae on basicosta and general fascies, though the frons is broader than usual in this group.

Chrysops calogaster Schiner, 1868, Reise Novara, Dipt., p. 103-104 ♀ (Südamerika; ein Weibchen).

The type in Vienna is labelled Novara 1857-1859 Reise, handwritten Rio de Janeiro, and Alte Sammlung with *calogaster* written in. It lacks terminal antennal segments, but is otherwise well preserved. I have an agreeing specimen from Colombia and it conforms to current concepts of the species. I doubt the locality of the type, as the species has not been otherwise recorded so far south.

Tabanus calopterus Schiner, 1868, Reise Novara, Dipt., p. 91, ♀ (Südamerika; Neun Weibchen).

There are now 6♀♀ in Vienna, all Lindig 1864 Venezuela and all labelled type. One has Kröber det. 1928 as *Di cladocera caloptera*, and I have labelled this specimen lectotype. Most are in good condition, and all are conspecific, though differing in size and depth of abdominal coloring. My compared specimen has shorter antennal tooth than lectotype, like some of the paratypes. There are also 1♂, 2♀♀ from Merida, Venez. and Brasil, not labelled as types. Kröber's (1940) description and figures are adequate, and as he says, the species is close to *Catachlorops*. All my specimens have bare eyes, bare basicosta and pollinose fleshy labella.

Tabanus cinnamomeus Schiner, 1868, Reise Novara, Dipt., p. 90, ♀ (Südamerika; Fünf Weibchen).

There are now 4♀♀ labelled type in Vienna. All are Lindig 1864 Venezuela, Alte Sammlung, with *cinnamomeus* written in. Note spelling on labels. I have labelled one as lectotype. All are a somewhat reddish form of *T. hirtitibia* Wlk. with narrow middorsal dark line on abdomen (**New Synonymy**).

Tabanus clarus Schiner, 1868, Reise Novara, Dipt., p. 88, ♀ (Zwei Weibchen aus Südamerika).

The 2♀♀ types in Vienna are both Lindig 1864 Venezuela. One has a Schiner hand label with *Tabanus clarus* Schin. but lacks antennae, the other has antennae but is smaller and paler. My notes and drawing of one of the types agree quite closely with the paratype of *Di cladocera umbratipenne* Fchld. 1958 from E. Perú, and my species thus falls as a synonym (**New Synonymy**).

Chrysops crassicornis van der Wulp, 1884, Wien. Ent. Ztg. 3: 141, ♀.

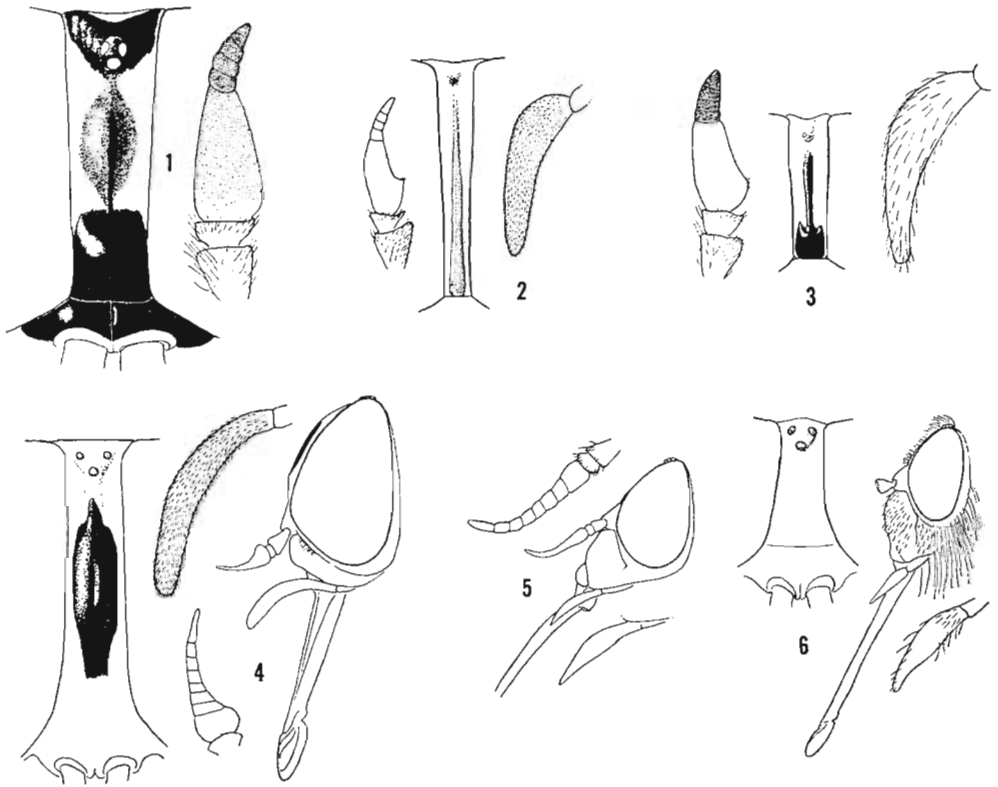
The type is in Brussels, bearing a printed "Guanajuato E. Duges and handwritten "Chrysops crassicornis v. d. W. det. van der Wulp 1884", and several other labels referring to published references to the species. It lacks apex of left wing, but is otherwise well preserved. Synonymy with *C. virgulatus* Bell. is confirmed.

Pangonia crocata Jaenicke, 1867, Abh. Senckenb. Naturf. Ges., Frankfurt 6: 330, ♀ (Chile).

There are 4 cotypes, so labelled, in Frankfurt, all in bad condition. Synonymy with *Scaptia lata* Guer. is confirmed.

Tabanus derivatus Walker, 1848, List Dipt. Br. Mus. 1: 151, ♀ (Amer., Sept.).

In 1956 I reported this as a ♂ and unidentifiable. Reexamination of the type in BM shows it to be a ♀, as described. I now believe it to be either *rubripes* Macq. or *fumo-marginatus* Hine, but its headless and denuded condition makes it inadvisable to use the name, unless it be arbitrarily assigned to the prior *rubripes*.



Figs. 1-6. 1, *Tabanus albidocinctus* Bigot (♀ Syntype, BMNH), Frons, antenna; 2, *T. aurora* Macq. (♀ Syntype, Paris), Frons, antenna, palpus; 3, *T. callicera* Bigot (♀ Holotype, BMNH), Frons, antenna, palpus; 4, *Pangonia diaphana* Schin. (♀ Holotype, Vienna), Head, frons, antenna, palpus; 5, *Scione fusca* Ric. (♀ Vienna, det. Kröber), Head, antenna, palpus; 6, *Pangonia grisea* Jaenn. (♀ Paratype, Frankfurt), Frons, head, palpus.

Pangonia diaphana Schiner, 1868, *Reise Novara, Dipt.*, p. 99-100, ♀ (Ein Weibchen aus Columbien).

The type in Vienna is Alte Sammlung with Colombien written in and bears a printed det. Schiner with *diaphana* written in. It is intact and in fairly good condition. I have agreeing specimens from Venezuela. There are other specimens in Vienna, det. Schiner and Kröber, but not labelled type. I give here figures of head structures of type (fig. 4). It is now placed in *Esenbeckia*.

Diclisia distincta Schiner, 1868, *Reise Novara, Dipt.*, p. 102-103, ♀ (Südamerika).

The type in Vienna has Novara R. with Venezuela Linding added in ink, Alte Sammlung with *distincta* written in and a Kröber det. 1928. It is excellently preserved. Beard and pleura yellowish white. Legs yellowish brown, femora darker, largely black-haired. Mesonotum brown with usual stripes, sides densely yellowish-haired, dorsum with numerous short brassy hairs. Wings pale brownish with cross-veins and fork with small clouds.

Fork angulate, no appendix. Vein M_2 incomplete. Abdomen orange yellow in ground color, 1st 2 tergites wholly dull yellow-haired, remainder dark-haired except for narrow yellow-haired posterior fringes and small middorsal triangles. Extreme sides of all tergites bear long yellow hairs and venter is wholly pale haired. I had no specimens agreeing and unfortunately neglected to draw head characters.

Chrysops frontalis Macquart, 1838, Dipt. Exot. 1 (1): 164, ♂ (de Saint Domingue).

The type in Paris, not seen by me on my first visit (Fairchild 1956) was seen in 1964. It bears an old 377, an old black-bordered label with C. h. St. Domingue, green printed Museum Paris Coll. Bosc 1828 and a Macquart det. as *Chrysops frontalis*. It is a ♂ with dichoptic eyes, as noted in the description. The wings are much folded and obscured with glue, as is most of the body. It comes nearest to an unnamed African *Chrysops* from Mozambique but its condition did not allow closer determination. It is not in any case Neotropical.

Scione fusca Ricardo, 1900, Ann. Mag. Nat. Hist. ser 7, 6: 291, ♀ (type ♀ from Bolivia; Songo).

The type was in Budapest and presumably destroyed. A specimen in Vienna is det. Kröber 1928 from Huancabamba, C. Perú, 1500 meters, coll. Fassl. Kröber (1931) redescribes from specimens from Perú and Bolivia. The species is characterized by the brown wings with bright yellow central patch extending from ends of basal cells to fork of 3rd vein and from costal cell to middle of 4th posterior cell, including the whole discal cell. Figures of the head characters (fig. 5) are here included since the species seems not to have been previously illustrated.

Pangonia grisea Jaennecke, 1867, Abh. Senckenb. Naturf. Ges., Frankfurt 6: 331, ♀ (Chile).

Philip (1960) has discussed the types in Frankfurt and believes the species distinct from *Scaptia atra* (Philippi) and *S. albithorax* (Macq.). Figures of head structures of one of the cotypes (=paratype) from Valparaiso, Chile, Bayerhoffer (fig. 6) is illustrated.

"**Tabanus infuscatipennis** Macquart" Surcouf, 1919, Miss. Serv. Geog. de l'Armée, pour la mesurer d'un Arc. Merid. Equat. en Amer. du Sud, 10 (Ent.-Bot.) fasc. 2: 230.

This name first appeared as a nomen nudum, being mentioned by Surcouf as appearing on a specimen in Paris placed in the collection next to another specimen which Surcouf goes on to describe under the name *ruber* Macq. Surcouf later (1921) lists *infuscatipennis* correctly as nomen nudum. Bequaert & Renjifo (1946) list the name as a synonym of *macquarti* Schiner 1868. I did not see this specimen in 1953 (Fairchild 1956) but did so in 1964. It is labelled 132/40 and "*Tab. infuscatipennis* Colomb." in Macquart's hand. It is *T. discus* Wied. and should be transferred to the synonymy of that species as a nomen nudum. (New Synonymy).

Tabanus luctuosus Macquart, 1835, Dipt. Exot. 1 (1): 135, ♀ (Du Bresil; Coll. de M. Serville). Un Autre individu ♀, du Muséum, et rapporté de Surinam par M. Leschenault, diffère de la description, etc.

As reported previously (Fairchild 1956) the type from Brasil is in BM and is the same

as *Catachlorops nigripennis* Kröber 1931 (Fairchild in press). The Surinam specimen in Paris is different and probably the same as *C. halteratus* Kröb. 1931 from Br. Guiana. Kröber's figure of the latter is inaccurate, showing wing tip sharply hyaline, where as there is no such sharp demarkation. My drawing of Macquart's Paris specimen shows frons and palpi as in Kröber's figure of *halteratus*, but antennae much stouter, although of about same proportions.

Stigmatophthalmus lutzi Surcouf, 1921, Gen. Insect., Tabanidae **175**: 54. No sex (Santa Fé de Bogotá).

The type in Paris is labelled Bogotá Surcouf coll. 1919 and is much broken and denuded. As shown previously it is a *Di cladocera* (Fairchild 1956) and the same as *D. acheronitens* Kröb. and *D. nigrocoeruleum* (Rond.) (Philip 1965), the last name having priority.

Tabanus macquarti Schiner, 1868, Reise Novara, Dipt., p. 89, no sex (Vier Weibchen aus Südamerika ; Colombien).

Three ♀♀ in Vienna are labelled type, Lindig 1864 Venezuela, and Alte Sammlung with *macquarti* written in. One also has a Schiner handwritten "*Tabanus macquarti* Schin." There are also 3♀♀ with same locality, not types, which have Alte Sammlung with *indescriptus* written in, one of which has an old handwritten "*Tabanus indescriptus* Schin. litt." and a Kröber det. as *bigoti*. All 6 specimens are same species, the *indescriptus* specimens appearing darker because greasy. They agree with a specimen from Restrepo, Colombia in my collection and with my discussion of the species (Fairchild 1964). *Indescriptus* Schiner is a nomen nudum, cited by Kröber (1934) as synonym of *bigoti* Bell. In spite of the locality labels, I believe these are part of Schiner's type series.

Di clisa maculipennis Schiner, 1868, Reise Novara, Dipt. p. 102, ♀ (Acht Weibchen aus Südamerika).

There are 7♀♀ labelled type in Vienna, all Lindig 1864 Venezuela and Alte Sammlung with *maculipennis* written in. These are slightly grayer and with slightly narrower frons than Panamanian examples so det. by me, but I believe are conspecific. There are 12 other specimens from various sources mostly det. Schiner and obviously the same, one of which I have secured as homotype. Figures of head characters of one of the syntypes (fig. 7) are included.

Tabanus minos Schiner, 1868, Reise Novara, Dipt., pp 88-89, ♀ (Drei Weibchen aus Südamerika).

There are 3♀♀ in Vienna labelled type, all Lindig 1864 Venezuela and Alte Sammlung with *minos* written in. One has, in addition, a handwritten *Tabanus minos* Schin. and a Kröber det. 1927 as *Dasyrhamphis minos*. This last has been labelled lectotype by me. It lacks tips of antennae and tip of one wing. A compared specimen from Baños, Ecuador, is in good agreement. It is similar to *nigrocoeruleum* Rond., and *riveti* Surc., but has median tufts of yellow hair on tergites 4-6, wings dusky all over, in addition to a black pattern like *nigrocoeruleum*, leaving the hyaline areas in basal, discal and all other cells as round to oval whitish spots, somewhat as in *guttipennis* Wied., though larger. All tibiae orange yellow, femora with basal 2/3 or more blackish. Antennae dark reddish, dorsal tooth

hardly more than an acute angle. Labella fleshy, basicosta acute, with sparse setae.

Pangonia morio van der Wulp, 1881, Tijdschr. Ent. **24**: 156-157, ♀ (Een ♀ uit Argentina; Weyenberg).

What I believe is the type in Amsterdam is labelled with a small handwritten "Argenta-Weyenb.", old handwritten *Pangonia morio*. There is no author's name nor type label, but I have labelled the specimen as Type. It is badly pest damaged, eyes destroyed, thorax and abdomen full of holes, only one leg remaining. Whole insect black, including palpi and antennae. Wings dusky grayish hyaline, costal cell brown, 1st posterior cell closed and a long appendix on fork. Remaining mid-leg black. Abdomen rather short and inflated, wholly black-haired, rather shiny. Palpi black, shiny, inflated and grooved outwardly. A ♂ from Chile in my collection agrees quite well. As shown elsewhere (Fairchild in press) this is the prior name for *Leptofidena beelzebul* Kröb.

Pangonia nigrivittata Macquart, 1850, Dipt. Exot. Suppl. **4**: 23, ♀. (Du Bresil).

In 1956 I followed Lutz and Kröber in placing this as a synonym of *Fidena marginalis* Wied. Since seeing Wiedemann's type (Fairchild in press) I have reexamined and drawn the type of *nigrivittata* in Paris. It agrees with specimens having partly bare face and more slender antennae and palpi than the lectotype of *marginalis* in Vienna. These bare-faced specimens appear to be those on which Kröber (1933) based his concept of *marginalis*, and hence explain the synonymizing of *nigrivittata*. I believe the species had best be kept separate until better evidence for their unity appears. Figures of head characters of the type of *nigrivittata* (fig. 8) are given.

Tabanus occidentalis Linnaeus, 1767, Syst. Nat. Ed. 12, **2**: 1001.

A ♀ specimen in Frankfurt is labelled type and bears the following additional labels: printed Surinam; Am. mer. Cordua; blue handwritten 54; old handwritten *Tabanus occidentalis*; Philip det. 1958 as *Tabanus lineola*. It is more or less intact, thorax crushed, rather dirty and denuded. Wing veins rather heavily brown-margined, middle of scutellum reddish, 1st and 2nd abdominal segments with a median dark shade both above and below. Fore femora and extreme bases of other femora blackish. Frontal callus higher than wide. The specimen seems to me to be *stenocephalus* Hine, and seems to agree with Kröber's (1933) concept of *occidentalis*, although he thought a ♂ in Vienna, which I did not study, might be the type. There is no evidence that this is Linnaeus' lost type. It is possibly a specimen studied by Wiedemann, with whose description of *occidentalis* it agrees well.

Epipsila oldroydi Barretto, 1957, Rev. Brasil. Malar. (1956) **8**(1): 77-78, ♀ (Holotype, 3 paratypes, Brit. Guiana in BM; 1 ♀ paratype Rio Negro, Amazonas, Brasil in Coll. Barretto).

I saw the holotype in BM in 1964. It is a small fuzzy species like *Bombylomyia* Lutz, but with legs bicolored. Face short, bulbous and largely shiny. Barretto's detailed description is excellent, and can only be supplemented by the figure of head characters here given (fig. 9). As suggested elsewhere (Fairchild 1966) this may be the ♀ of *F. analis* (Fabr.), but differences in color and structure, although possibly sexual, are too great to combine them without better evidence.

Tabanus pachnodes Schiner 1868, Novara Reise, Dipt., pp 84-85, ♀ (Ein Weibchen aus Chile).

The type in Vienna bears Novara Reise and Alte Sammlung labels and is from Valparaiso. It is det. Kröber 1928 as *Agelanius maculipennis* End. It lacks one antenna and part of one wing, and will be treated by Coscaron and Philip in a revision in preparation.

Tabanus parvidentatus Macquart, 1838, Dipt. Exot. 1 (1): 146, ♀. (Des Antilles; M. Plée. Museum).

The type in Paris bears a circular white label with "Plée 1826" on underside, a Macquart handwritten "*Tabanus parvidens*" and "291 bis." The box label reads "*parvidens* Macq.", the *dens* crossed out and *dentatus* written below. Also on box label is "Mr. Pelée, Martinique." The specimen lacks one wing, is very denuded, dusty and faded, and was at one time in liquid. The frons and antennae are as figured by Bequaert (1940), the antennae wholly yellow. Wings unspotted, costal cell darkened. Palpi quite inflated, largely black-haired. No tubercle at vertex. Basicosta setose. Proboscis short, labella fleshy. Abdomen with faint vestiges of median and sublateral pale spots, ground color yellowish. Legs yellow, apices of fore tibiae and tarsi dark-haired. It appears to me to be probably a mislabelled Palearctic or African *Atylotus*. It is unlike any Antillean species, or in fact any Neotropical species known to me. No Tabanidae have been recorded from Martinique other than this specimen. Bequaert (1940) did not recognize it.

Tabanus pictipennis Macquart, 1850, Dipt. Exot. Suppl. 4: 32, Pl. 2, fig. 8, ♀ (Maldonado, Republique d'Uruguay).

The type in Paris bears a green circular 95-3-36, an old partly undecipherable hand label on which "Pang." and "de Maldonado" can be read, and a Macquart label with "*Tabanus pictipennis* Macq. n. sp. Maldonado." Antennae missing, rather dirty and faded. In 1956 I reported this as possibly a teneral *Catachlorops*. Subsequent study of the Wiedemann types (Fairchild in press) has shown it to be the same as *Catachlorops circumfusus* (Wied.) 1830. The name is preoccupied by *Tabanus pictipennis* Macq. 1834 and preoccupies *Catachlorops pictipennis* Kröber 1931 which as shown elsewhere (Fairchild in press) is a synonym of *Rhamphidomnina muscosa* End. 1925. I believe also that *Tabanus uruguayensis* Lynch Arribalzaga 1882 was proposed as a replacement name for *pictipennis* Macquart 1850 though this is an inference. Lynch Arribalzaga's description agrees well.

Tabanus poecilopterus Schiner, 1868, Reise Novara, Dipt., pp. 91-92, ♀ (13 Weibchen aus Südamerika).

There are now 11 ♀ in Vienna, all labelled Lindig 1864 Venezuela. One has a Schiner det., a Kröber det. 1928 and a lectotype label. The specimens are all well preserved and vary little. Kröber (1934) lists this as a synonym of *Dichelacera quadrimaculatus* (Macq.) One of the paratypes secured through the generosity of Dr Beier, was later compared with the type of *quadrimaculatus* in BM and found in close agreement.

Tabanus rubricosus van der Wulp, 1881, Tijdschr. Ent. 24: 160-161, ♀ (Twee wijfjes uit Argentina; Weyenberg).

There remains 1 ♀ in Amsterdam. It bears a small handwritten "Argenta Weyenb",

and handwritten *T. rubricosus*. It is badly pest damaged. Head, except back and upper 2/3 of frons destroyed, rest denuded. Wing pattern is like ♂ from Villarica Paraguay so det. by me, but more uniform, the dark fascia of even intensity, not lighter between the veins. What remains of frons is like the figure in Fairchild & Philip (1960) and I believe we correctly determined the species. This specimen seems surely one of the syntypes, though not so labelled. I placed a type label on it.

Tabanus rufoniger Walker, 1850, Ins. Saunders, Dipt. 1: 66, ♀ (Locality ?).

The type in BM, which I failed to see previously (Fairchild 1956) is the same as *T. discus* Wied. 1828, with 1st posterior cell practically closed at wing margin. Being without locality, it was not catalogued by Kröber (1934).

Tabanus scythropus Schiner, 1868, Reise Novara, Dipt., pp. 92-93, ♀ (Ein Weibchen aus Brasilien).

The type in Vienna is labelled Novara R. with Rio de Janeiro written in, Alte Sammlung with *scythropus* added and det. Kröber 1928 as *Sziladya scythropus* Schin. It is in good condition and agreed closely with a specimen from Tingua, Rio de Janeiro in my collection. It is in my opinion a *Stypommisa* near *punctipennis* End. and *rubrithorax* (Macq.). *Hybomitra beieri* Philip is a synonym, as noted earlier in this paper.

Pangonia suturalis Rondani, in Truqui, Studi Ent. 1 (2): 107, ♀ (Brasil).

The type in Naples bears an old handwritten *Pangonia suturalis* Rnd. Brasil and Mus. Zool. 10899. It is not labelled type, and is intact though very moldy. As noted by Philip (1965) it is a *Proboscoides*. Eye border below subcallus with a white hair fringe. Antennae and palpi yellow. Mesonotum orange-haired, pleura whitish-haired, beard white. Legs reddish, hind tibiae darker. First abdominal tergite pale-haired, remainder black-haired with pale hind borders. Tergites 1-2 pale in ground color, the remainder black. Beneath the 1st 2 sternites are white-haired, the remainder black with broad white-haired hind marginal bands, becoming narrower on posterior segments. A figure of the head characters (fig. 10) is here given. It differs from *arcuata* Will., the closest available species, in narrower frons, square-tipped palpi, shorter and blunter labella, and in details of coloration.

Tabanus testaceus Macquart, 1838, Dipt. Exot. 1 (1): 137, ♀ (De Cayenne Museum).

The type in Paris is labelled Cay., 344 and *Tabanus testaceus*, all in Macquart's hand. It is very dirty and denuded. An entirely reddish species, possibly *chalcothrix* Fchld., but not the same as *aurora* Macq. All wing veins strongly brown-margined. A specimen labelled type in BM from Brasil is not the same nor a type, though discussed as such by Kröber (1930). Another specimen in Paris labelled *Tabanus testaceus* var, in Macquart's hand is *importunus* Wied. As previously noted (Fairchild 1956) the name is a homonym of *T. testaceus* Forsk. 1775.

Acanthocera trigonifera Schiner, 1868, Reise Novara, Dipt., p. 95, ♀ (Drei Weibchen aus Südamerika).

Two ♀ in Vienna are labelled type, Lindig 1864 Venezuela, and Alte Sammlung with

trigonifera written in, both in excellent condition. Another specimen, without type label, bears a Bogotá locality and the same Alte Sammlung label. It is probably also a syntype. Kröber (1928) has redescribed the species, while Lutz (1915) gave a fairly good colored figure, repeated in Lutz and Tovar (1928). The only similar species is *albomarginatus* Kröb. which differs in longer antennal tooth, narrower frons and largely black basal cells of wing. Both species have membranous labella.

Tabanus valterii Macquart, 1838, Dipt. Exot. 1(2): 184, ♀ (Du Bresil, capitainerie de Rio-Grande, M. Vautier. Muséum).

The type in Paris is dusty and denuded. The head structures are as in *T. importunus* Wied., but abdomen with a series of prominent middorsal dark integumental streaks like *T. glaucus* Wied. In 1956 I thought it probably a distinct species, but reexamination has convinced me that it is but a variant of *importunus* (New Synonymy).

Tabanus variventris Macquart, 1847, Dipt. Exot. Suppl. 2: 18, ♀ (Du Bresil; Coll. de M. le marquis Spinola).

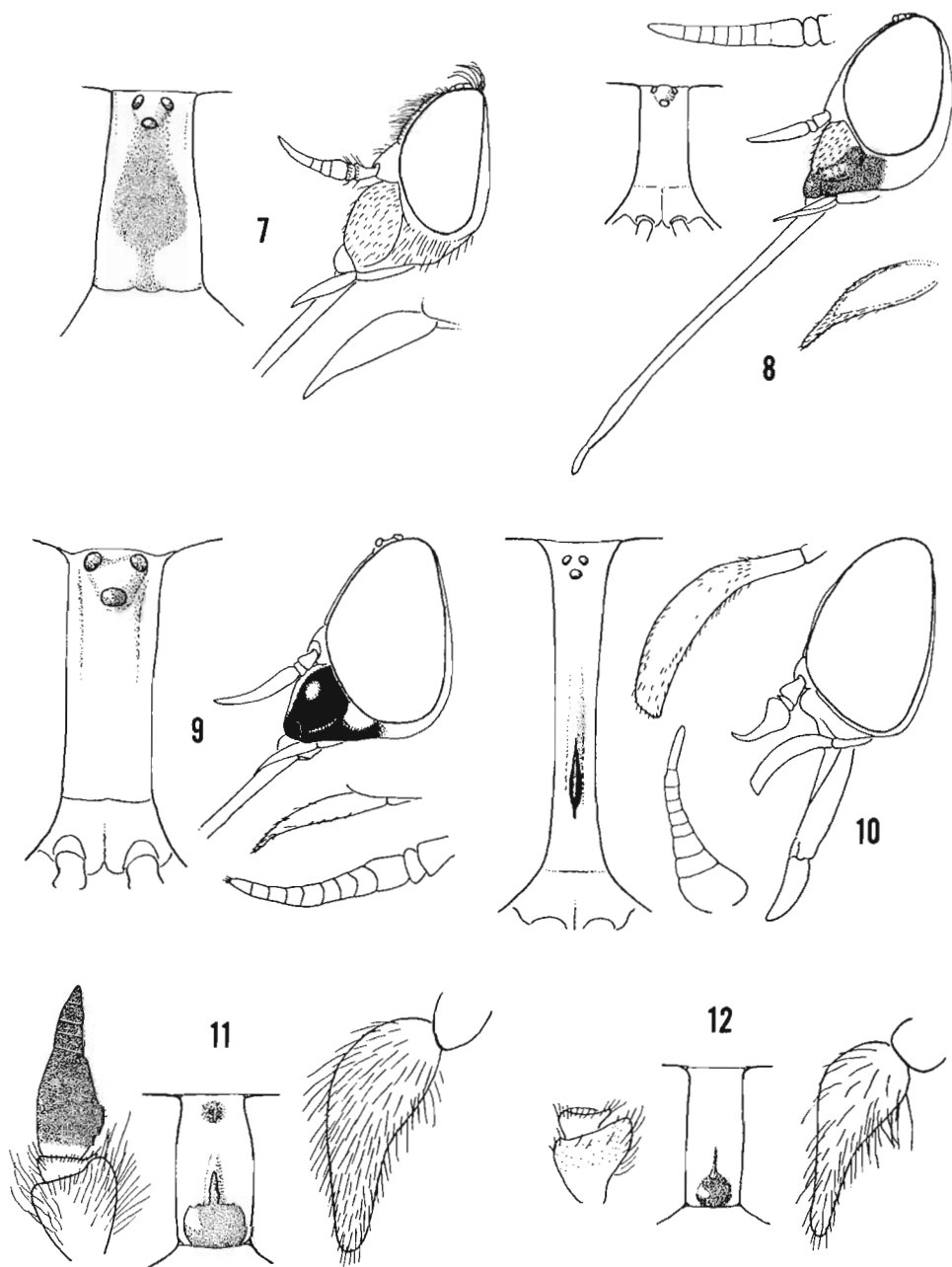
There is in Paris a specimen bearing the following labels: green circle with 292-39 beneath; Macquart hand "*Tab. erythrogaster* Colomb."; Macquart hand "*Tabanus variventris* Macq. 2e Suppl. Colombie". This specimen is *T. hirtitibia* Wlk. It cannot be Macquart's type of *variventris*, which was from Brasil and much smaller, only 13.5 mm. The smallest *hirtitibia* I have seen was 16 mm. Furthermore, no types from the Spinola collection have turned up in Paris or elsewhere (Fairchild 1956). I believe this specimen was first given the unpublished name *erythrogaster*, and subsequently wrongly det. by Macquart as his *variventris*.

Tabanus (Agelanius) pictipennis Kröber, 1931, Stett. Ent. Ztg. 92: 281-82 (Desc. from ♂ ♀, Perú, Urubamba 16 II; Oroya 22 I; Callanga).

The ♀ type in Dresden is labelled Perú 16-II-06, Urubamba, 3000 Mtr., a pink type, a red typus with *pictipennis*! ♀, a Kröber det. 1929 as *Archiplatius picticornis* Kröb., a sketch of eye by C. B. Philip and a det. as *Neotabanus* also by C. B. Philip. Kröber in 1934 changed the name to *ornatipennis* due to homonymy. The specimen is somewhat denuded and lacks one antenna and tip or right wing. The first posterior cell is slightly coarctate and costal cell yellow. Otherwise Kröber's description is accurate. Palpi very dense and long-haired, eyes also long pilose, purple with 2 green bands. Basicosta setose. Figures of frons, ant. and palpi are here given (fig. 11). The ♂ type in Dresden is labelled Perú Oroya 22-I-04, 4000 mtr., Coll. W. Schnuse; pink type; red typus with *pictipennis* Kröb. ♂ written in; Kröber det. 1929 as *Archiplatius picticornis* Kröb. It is, in my opinion, the ♂ of *caesiomaculatus* Kröb. (q. v.) rather than of *pictipennis*. Kröber's description adequate, but 1st post. cell strongly coarctate, wing spots smaller but darker, costal cell completely hyaline. Abdomen wholly dark in ground color. Median pale-haired mark on 1st 2 tergites connected, hour-glass shaped.

Tabanus (Agelanius) caesiomaculatus Kröber, 1931, Stett. Ent. Ztg. 92: 281 (Desc. from ♀, Perú, Oroya 22-I 4000 m. hoch).

The type in Dresden lacks antennal styles, is denuded, with wings torn. Very similar to *pictipennis* Kröb. (= *ornatipennis*) but frons narrower, callus smaller, abdomen almost



Figs. 7-12. *Diclisia maculipennis* Schin. (♀ Syntype, Vienna), Frons, head, palpus; 8, *Pangonia nigrivittata* Macq. (♀ Holotype, Paris), Frons, head, antenna, palpus; 9, *Epipsila oldroydi* Barr. (♀ Holotype, BMNH), Frons, head, antenna, palpus; 10, *Pangonia suturalis* Rond. (♀ Holotype, Naples), Frons, head, antenna, palpus; 11, *Tabanus ornatipennis* Kröb. (♀ Holotype, Dresden), Frons, antenna, palpus; 12, *T. caesiomaculatus* Kröb. (♀ Holotype, Dresden). Frons, antenna, palpus.

entirely blackish in ground color, not reddish at sides, and palpi more pointed. Wings with smaller, darker spots, 1st posterior cell more narrowed, costal cell hyaline. I believe that ♂ of *pictipennis* belongs here. Type labelled Perú Oroya 22-I-04: Coll. W. Schnuse; pink type; Kröber det. 1929 as *Archiplatius caesiomaculatus*. Head structures figured here (fig. 12). I think both species will go best in *Poeciloderas*, being close to *histrion* Wied., though differing in details.

- Tabanus albidocinctus* Bigot = *Stenotabanus albidocinctus*
Tabanus apoecilus Schin. = *Dasybasis apoecilus*
Tabanus argyrophorus Schin. = *Dicladocera macula* Macq.
Tabanus aurora Macq.
Hybomitra beieri Philip = *Stypommisa scythropus* Schin. (New Synonymy)
Tabanus callicera Bigot = *Stypommisa callicera* Big. (new combination)
Chrysops calogaster Schin.
Tabanus calopterus Schin. = *Catachlorops caloptera* Schin. (new combination)
Tabanus cinnamomeus Schin. = *Tabanus hirtitibia* Wlk. (New Synonymy)
Tabanus clarus Schin. = *Dicladocera clara* Schin. (new combination)
Chrysops crassicornis v. d. Wulp. = *Chrysops virgulatus* Bell.
Pangonia crocata Jaenn. = *Scaptia lata* Guer.
Tabanus derivatus Walk. = ? *Tabanus rubripes* Macq.
Pangonia diaphana Schin. = *Esenbeckia diaphana*
Diclisia distincta Schin. = *Scione distincta*
Chrysops frontalis Macq. = *Chrysops* sp. not Neotropical
Scione fusca Ric.
Pangonia grisea Jaenn. = *Scaptia grisea*
Tabanus indescritus Schin. nom. nud. = *Tabanus macquarti* Schin.
Tabanus infuscatipennis Macq. nom. nud. = *Tabanus discus* Wied.
Tabanus luctuosus Macq. in part = *Catachlorops halteratus* Kröb.
Stigmatophthalmus lutzi Surc. = *Dicladocera nigrocoeruleum* Rond.
Tabanus macquarti Schin.
Diclisia maculipennis Schin. = *Scione maculipennis*
Tabanus minos Schin. = *Dicladocera minos*
Pangonia morio v. d. Wulp. = *Fidena (Leptofidena) morio*
Pangonia nigrivittata Macq. = *Fidena nigrivittata*
Epipsila oldroydi Barr. = *Fidena oldroydi*
Tabanus pachnodes Schin. = *Dasybasis pachnodes*
Tabanus parvidentatus Macq. = *Atylotus* sp. Not Neotropical
Tabanus pictipennis Macq. 1850 = *Catachlorops circumfusus* Wied. (New Synonymy)
Tabanus poecilopterus Schin. = "Dichelacera" *quadrimaculata* Macq.
Tabanus rubricosus v. d. Wulp. = *Dichelacera rubricosa*
Tabanus rufoniger Walk. = *Tabanus discus* Wied. (New Synonymy)

Tabanus scythropus Schin.	= Stypommisa scythropa (new combination)
Pangonia suturalis Rond.	= Proboscoides suturalis
Tabanus testaceus Macq. 1838	=Indeterminable. Nec. Forskal 1775
Acanthocera trigonifera Schin.	
Tabanus uruguayensis Lynch Arrib.	= Catachlorops circumfusus Wied (New Synonymy)
Tabanus valterii Macq.	= Tabanus importunus Wied. (New Synonymy)
Tabanus (Agelanius) ornatipennis Kröb.	= T. (Poeciloderas) ornatipennis Kröb. (new combination)
Tabanus (Agelanius) caesiomaculatus Kröb.	= T. (Poeciloderas) caesiomaculatus Kröb. (new combination)

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