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## NOTES ON NEOTROPICAL TABANIDAE (DIPTERA) V. THE SPECIES DESCRIBED BY G. ENDERLEIN

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**Abstract:** The 36 generic and 67 specific names applied to Neotropical Tabanidae (Dipt.) by G. Enderlein are reviewed in connection with a study of his type specimens. 7 genera are retained as useful, 3 are reduced to subgenera, and the remainder considered synonyms. 15 of the specific names are considered valid as proposed, 34 are synonyms, 17 are reduced in rank or placed in other genera, and 1 is a homonym. 22 new specific synonymies and 7 new combinations are proposed.

Dr Gunther Enderlein in a series of papers (1922-1930) on the Tabanidae of the world, proposed a large number of new genera and species. His system of classification has been discussed by Bequaert (1924), Kröber (1932), Szilady (1926) and Mackerras (1955), and his genera and species from the Nearctic, Australian and Ethiopian regions dealt with by Stone (1938), Philip (1947), Mackerras (1956-1964) and Oldroyd (1952, 1954, 1957) respectively. His genera and species based on Neotropical forms were treated by Kröber in a series of papers culminating in his Catalogue of the Neotropical Tabanidae (1934), but Kröber apparently did not actually study all of Enderlein's types.

Through the great kindness of Dr H. Schumann of the Zoologisches Museum der Humboldt-Universität in Berlin, I have received on loan all of Enderlein's types of Neotropical Tabanidae. This courtesy has enabled me to study the specimens unhurriedly and to make notes, comparisons and drawings under the best conditions. For the most part, the specimens are well preserved and well labelled, and the labels conform to the data given in the descriptions. Enderlein's descriptions are generally accurate but superficial, and unaccompanied by figures, so that the characters of color and vestiture are well described, while the more essential structural characters are difficult to abstract from the purely verbal descriptions. There are reported to be syntypes or specimens determined by

Enderlein in the Deutsches Entomologische Institut (J. Moucha, pers. comm.), but I have not seen them, and in any case all Enderlein's species are represented by types in Berlin.

In the following review, it seems best to separate discussion of Enderlein's generic names from the notes on the species. Most of the genera have been disposed of by previous students, but those proposed for Neotropical species, or containing such species, have received only partial attention since Kröber's work. I have therefore reviewed all his genera containing Neotropical species, as well as his use of other generic names for Neotropical species he described where this use differed from current practice. The names are discussed in alphabetical order for ease of reference.

*Archiplatius* End. 1922, 1925. Type *T. trifarius* Macq. Chile. Stone (1944) synonymizes with *Dasybasis* Macq. 1847. The type of *trifarius* appears to be lost. Enderlein (1925) described the following species in this genus: *columbianus*, *pygmaeus*, *trianguliferus*, *trianguliferus* var. *ochraceus*. *Pygmaeus* is a *Tabanus*, the others are *Dasybasis*.

*Agelanius* Rondani 1863. Type *A. meridianus* Rond. At present this is considered a synonym of *Dasybasis* Macq. Three of the four species described by Enderlein are *Dasybasis*, the fourth is *Tabanus* (*Poeciloderas*).

*Bombomimetes* End. 1922, 1925. Type *Pangonia rufoaurora* Phil. 1865. Mackerras (1955) has correctly synonymized this with *Scaptia* (*Scaptia*).

*Brachypsalidia* End. 1922, 1925. Type *T. impressus* Wied. 1828. Kröber (1934) treats this as a synonym of *Chelotabanus* Lutz whose type is *T. fuscus* Wied. 1819, an earlier name for the same species. The concept is hardly more than a subgenus of *Tabanus* (Fairchild 1964).

*Calliosca* End. 1925. Type *C. schoenemanni* End. 1925. Mackerras (1955) synonymizes with *Scaptia*.

The type species is a synonym of *Scaptia varia* Walk.

*Chelommia* End. 1922, 1925. Type *C. fibulata* End. 1925. Treated as a synonym of *Chelotabanus* Lutz by Fairchild (1964). The type species is a synonym of *T. hirtitibia* Walk.

*Dasyapha* End. 1922, 1925. Type *D. bisulcata* End. 1925. Kröber (1934) synonymizes with *Chaetopalpus* Philippi 1865, recently shown by Philip (1960) to be a synonym of *Veprius* Rond. 1863. Enderlein described 2 species in this genus, *bisulcata* and *mendozana*.

*Dasychela* End. 1922. The genus was established in a key only with *D. limbatiivena* n. sp. as type. In 1925 Enderlein described *limbatiivena*, placing it in *Dicladocera* without reference to *Dasychela*. (see Fairchild 1958, p. 518).

*Dasyommia* End. 1922, 1925. Type *T. cinctus* Fab. Philip (1947) places this in synonymy of *Hybomitra* End. The single Neotropical species described here by Enderlein, *D. bogotana*, is a synonym of *Tabanus hirtitibia* Walk. 1847.

*Dasyphyrtia* End. 1922, 1925. Type *Tabanus maculipennis* Macq. 1845. Macquart's type is apparently lost, and his name is a homonym of *T. maculipennis* Wied. 1828. From the description, Macquart's species was probably based on a specimen of *T. quadripunctatus* Fab. with first posterior cell closed. This appears to be the species on which Enderlein based his concept, though I have not seen specimens determined by him.

*Gymnochela* End. 1925. Type *T. planiventris* Wied. 1828. Treated by Kröber (1934) as a synonym of *Amphichlorops* Lutz. It also has the same type species as *Rhabdotylus* Lutz.

*Holcopsis* End. 1923, 1925. Type *H. fenestrata* End. 1925. The type species is the same as *Tabanus piliferus* Philip from Mexico and the genus includes also *T. bifenestratus* O.S. Enderlein's type had no locality and he suggested Australia, so that the name was omitted from Kröber's catalogue (1934). It appears to be a useful concept in the *Diachlorini*, allied to *Phaeotabanus* and *Erioneura*.

*Hybopelma* End. 1922, 1925. Type *T. quadripunctatus* Fab. Placed as a synonym of *Hibomitra* End. by Philip (1947). It has the same type as *Poecilochlamys* Lutz 1922, *Poecilosoma* Lutz 1909 (preoc.), *Poeciloderas* Lutz 1921 and *Dasyphyrtia* Enderlein 1922. The concept possibly has utility as a subgenus of *Tabanus* for a small group of related Neotropical species. Enderlein's 2 names were published in May 1922, and *Dasyphyrtia* has page priority. Both were proposed in a key and with type species designated. *Poecilochlamys* was also proposed in 1922 in a key, but the month is not stated nor were any species included. From other evidence it is known that the name was intended to replace *Poecilosoma* Lutz 1909 (preoc.) and *Poeciloderas* Lutz 1921, the latter published in a list

with *quadripunctatum*. Kröber (1934) uses *Poeciloderas* with *Hybopelma* and *Dasyphyrtia* as synonyms, a solution which there seems no necessity to replace at present. The single taxon proposed by Enderlein, *dasyphyrtina* 1925, was proposed as an aberration and has no standing.

*Hybostraba* End. 1923, 1925. Type *H. guttiventris* End. Kröber (1934) lists as a subgenus of *Tabanus*. The type is, however, a Palearctic species of *Tabanus* and not from Venezuela as described. The name was defined solely on ♂ characters. Enderlein also described *ovalipalpus* here, but its type specimen is *T. claripennis* Big.

*Laphriomyia* Lutz. Type *L. mirabilis* Lutz. The single Enderlein species described here is perhaps no more than a color variety of *mirabilis*. The genus is no more than a subgenus of *Fidena*.

*Leptapha* End. 1923, 1925. Type *T. fumatus* Wied. 1821. A valid concept.

*Linapha* End. 1923, 1925. Type *L. scripta* End. 1925. As suggested earlier (Fairchild & Philip 1960), *scripta* End. is a synonym of *Dichelacera unifasciata* Macq., and *Linapha* thus a synonym of *Dichelacera* Macq.

*Listrapha* End. 1922, 1925. Type *Pangonia latipalpis* Macq. Mackerras (1955) places as a synonym of *Scaptia* (*Pseudoscione*). Enderlein described 4 species here, *convergens*, *imitans*, *subulipalpis* and *acutipalpis*. *Convergens* was correctly placed in *Fidena* by Kröber (1930a, 1934), the others are *Scaptia*.

*Listraphella* End. 1929. Type *L. schoenemanni* End. 1929. Also a synonym of *Scaptia* (*Pseudoscione*), Mackerras (1955). Enderlein (1929) included also *imitans* End. 1925, previously included in *Listrapha*.

*Listriosca* End. 1922, 1925. Type *Pangonia australis* Philippi 1865. Enderlein later (1929) said that the *australis* on which this name was based was not Philippi's species, but a new one, which he named *flavipes*. *Australis* Phil. and *angustifrons* End. are also included. The name is treated by Mackerras (1955) as another synonym of *Scaptia* (*Pseudoscione*).

*Melpia* Walker 1850. Type *Pangonia fulvithorax* Wied. As pointed out by Bequaert (1924), *Melpia* Enderlein with *Pangonia exeuus* Wlk. as type is different from Walker's genus, as defined by their different genotypes. Mackerras (1955) has synonymized Walker's genus with *Fidena*. Of the 3 species and one variety described here by Enderlein, 2 and the variety are *Fidena*, the other a *Scaptia*.

*Mimodynerus* End. 1922, 1925. Type *Acanthocera anacantha* L. & N. Placed by Fairchild (1939) and Barretto (1947) as a synonym of *Acanthocera* Macq.

*Ommallia* End. 1923, 1925. Type *O. viridis* End. 1925. Kröber lists (1934) as a synonym of *Chlorotabanus* Lutz. Philip & Fairchild (1956) concur,

though noting that the type species is a synonym of *C. unicolor* Wied. The other 4 species placed here are *Tabanus*, one, *herculeana*, probably Palearctic; the others, *thiameana*, *interrupta* and *brevihamus*, Neotropical.

*Oopelma* End. 1923, 1925. Type *Tabanus globicornis* Wied. 1821. A valid concept.

*Oscia* Walker 1850. Type *Pangonia lata* Guerin. The genus has been synonymized with *Scaptia* Walk. by Mackerras (1955). Enderlein's sole species is a typical *Scaptia*.

*Parosca* End. 1922, 1925. Type *Pangonia viridiventris* Macq. Placed by Kröber (1934) as synonym of *Listratha* End., by Mackerras (1955) as synonym of *Scaptia* (*Pseudoscione*).

*Protodasyapha* End. 1922, 1925. Type *Tabanus hirtuosus* Phil. 1865. Considered valid by Mackerras (1955) who places it among the primitive *Pangoniini*.

*Protosilvius* End. 1922, 1925. Type *P. termitiformis* End. 1925. The genus is valid, recently reviewed by Fairchild (1962), and not further discussed here.

*Psaldia* End. 1922, 1925. Type *Pangonia furcata* Wied. 1828. Kröber (1934) treats as a full genus, Fairchild (1940) as a genus, but later (1942 a) et seq. as a subgenus of *Dichelacera*. Enderlein's only species, *ocellata*, appears to be a color form of *fulminea* Hine.

*Pseudomelpia* End. 1922, 1925. Type *Ps. horrens* End. 1925. Mackerras (1955) treats as a valid monotypic subgenus of *Scaptia*. I concur.

*Pseudoselasoma* Bréthes 1911. Type *P. opacum* Bréthes. The genus has been misunderstood by Enderlein and others. Enderlein thought it the same as *Pseudacanthocera* Lutz and *Leucotabanus* Lutz, but the species included by Bréthes in 1921 indicate that it is closer to *Dasybasis*, if not the same. Of the two species described here by Enderlein, one is *Diachlorus*, the other *Pseudacanthocera*.

*Rhamphidommia* End. 1922, 1925. Type *R. muscosa* End. 1925. Recognized as a valid genus by Kröber (1934), but placed as a synonym of *Catachlorops* by Carrera & Lane (1945) and of *Amphichlorops* by Barretto (1951). The type species is quite distinctive on head characters, and the genus can perhaps be maintained for it.

*Rhamphis* End. 1922, 1925. Type *Dichelacera bifascies* Walk. Synonymized with *Dichelacera* by Kröber (1934). The only Enderlein species is *parvidens*.

*Rhinotrichista* End. 1922, 1925. Type *Dielsia maculipennis* Schin. Kröber (1934) correctly treats as a synonym of *Scione* Walk. 1850. Of the 5 Enderlein species, *generosa*, *flavescens*, *strigata*, *brevipalpis* and *cingulata*, 2 are synonyms.

*Ricardoia* End. 1922, 1925. Type *Pangonia semiflava* Wied. 1828. Treated as a synonym of *Esenbeckia* by

Fairchild (1951), Philip (1954) and Mackerras (1955). Two species described here by Enderlein, *fuscipes* and *latiflagrum*, the latter a synonym.

*Scapacis* End. 1922, 1925. Type *S. fidenodes* End. 1925. Placed as a synonym of *Esenbeckia* by Philip (1945). The sole species is based on a ♂.

*Scaptiodes* End. 1922, 1925. Type *S. nigerrima* End. 1925. Philip (1958) retains the genus for the type species and *T. gagatinus* Phil., though suggesting they may be synonymous. The genus is close to *Dasybasis*, of which it may be no more than a subgenus.

*Spheciogaster* End. 1922, 1925. Type *S. lutzii* End. 1925. Treated by Fairchild (1939) and Barretto (1947) as a synonym of *Acanthocera* Macq. Enderlein's single species appears valid.

*Stypochela* End. 1922, 1925. Type *St. bogotana* End. 1925. Study of the type of *bogotana* indicates that my interpretation (Fairchild 1958) based on the description, was in error, and the species is closer to *Amphichlorops vespertina* J. Beq. than to the group I had associated with it.

*Stypommia* End. 1922, 1925. Type *St. patagonica* End. 1925. Kröber (1929, 1930) confused this with *Stypommisa*, but recognized it as a full genus in his catalogue (1934). The type species is, however, a synonym of *T. tritus* Walk., and the genus a synonym of *Dasybasis*.

*Stypommisa* End. 1923, 1925. Type *St. punctipennis* End. 1925. An apparently valid genus of small species with narrow frons, generally ridge-like callus and strong tubercle at vertex. Basicosta may be bare or sparsely setose. *Dudaella* Strand 1932, *Enderleiniella* Kröb. 1932, *Therioplectes* End. 1925 in part, *Sziladya* Kröb. 1929 and *Sziladyus* Kröb. 1930 (nec Enderlein 1925) all appear to cover the same concept.

*Styposelaga* End. 1922, 1925. Type *St. sexannulata* End. 1925. Placed as a synonym of *Stenotabanus* Lutz by Kröber (1934). The type species is the same as *Stenotabanus maculifrons* (Hine) 1907, and probably the same as the headless type of *T. incipiens* Walk. as noted by Philip (1960).

*Therioplectes* Zeller 1842. Type *T. tricolor* Zell. This is a Palearctic group. The only Neotropical Enderlein species belongs in *Stypommisa*, being closely related to the type of that genus.

Of the Neotropical species described by Enderlein, I have seen type material of all but two, both of which have been adequately treated previously, but are included here for completeness. In addition to these, Enderlein proposed other names which are best disposed of at once, as none have specific type specimens. Three of these were proposed as aberrations, and the names hence have no status under the International Rules. These are *Archiplatius argentinus* Bréthes ab. *agelanides* End., *Hybopelma quadripunctata* Fab. ab.

*dasyphyrtina* End., *Rhinotriclista cingulata* End. ab. *scionina* End. The fourth, *Esenbeckia lutzii* End. was proposed as a replacement name for *E. fuscipennis* var. *flavescens* Lutz 1909 (nec Ricardo 1900). But as shown elsewhere (Fairchild 1961), *flavescens* Lutz is a synonym of *fuscipennis* Wied.

The species are arranged under the genera in which they were described by Enderlein, both genera and species arranged alphabetically. In the notes I have given the number and condition of the specimens, but have not repeated the data on the labels unless these differ importantly from the data given in the description. Where more than one specimen is marked as type, I have in most cases selected and labelled a lectotype. In the cases where no matching specimens were available to me (homotypes), I have given notes on what seemed useful diagnostic characters. The figures accompanying many of the species were made with a camera lucida from the types, and with a few indicated exceptions, are to the same scale. Except in the figures of head of the two species of *Dasypha*, and *Listratha imitans*, hairs have been omitted. At the end of the notes I have summarized the status and synonymy of the genera and species.

*Agelanius alticola* End. 1925. The ♀ type is somewhat greasy and dirty. It is a *Dasybasis* and will be discussed by Philip & Coscaron.

*Agelanius maculipennis* End. 1925. The ♀ type is intact, though somewhat dirty and denuded. The eyes are pilose, the basicosta setose, and it is obviously related to *Tabanus quadripunctatus* Fab., *T. histrio* Wied, and *T. seclusus* Bréthes. It has broader frons, yellowish callus and more slender red antennae than *seclusus*, but wings about the same. Abdomen similar, but middorsal triangles on all tergites and whole abdomen lighter brown. Kröber (1931) listed the species under *Poeciloderas* Lutz, and changed the name to *pelidnopterus* upon reducing *Poeciloderas* to a subgenus of *Tabanus* in his catalogue (1934). The correct name is thus *Tabanus (Poeciloderas) pelidnopterus* Kröb. 1934.

*Agelanius mendozanus* End. 1925. The ♀ type lacks terminal antennal segments and is dirty and somewhat greasy. It is a *Dasybasis* and will be discussed by Philip & Coscaron in a forthcoming revision.

*Agelanius niger* End. 1925. The ♂ type lacks terminal segment of one antenna and style of the other, mid and one hind leg, and is grease darkened. The eye pubescence is short, sparse and confined to the enlarged facets. It is a *Dasybasis* and will be discussed by Philip & Coscaron in their forthcoming revision.

*Archiplatius* End. Of the 4 forms described here by Enderlein, *trianguliferus*, *trianguliferus* var. *ochraceus*, *columbianus*, and *pygmaeus*, the first 3 are *Dasybasis* and will be discussed by Philip & Coscaron in a revision in preparation.

The remaining species, *Arch. pygmaeus* End. 1925 is represented by a stunted and denuded alcoholic ♀ specimen. It has setose basicosta and agrees well with a small specimen of *Tabanus claripennis* Big. from Argentina. Kröber (1934), who considered *Archiplatius* to be a synonym of *Agelanius* and the latter a subgenus of *Tabanus*, renamed this species *pusio* due to homonymy with *T. pygmaeus* Will. 1887.

*Bolbodimyia desecta* End. 1925. The ♀ type is intact, though apex of abdomen moldy. It is a valid species and the type has been previously discussed by Stone (1954).

*Calliosca schoenemanni* End. 1925. The ♀ type is intact and in good condition. As noted by Kröber (1930 a), it is the ♀ of *Scaptia varia* (Walk.). Kröber's redescription and figures of both sexes are adequate, except that his figure of palpus and possibly also of antenna is of ♀, not ♂. The ♂ palpus is slender, curved and hirsute, with a bare patch on outside of apical third. The proboscis of ♀ is short, with broad fleshy labella, hardly longer than palpi, and with adherent pollen grains.

*Chelommia fibulata* End. 1925. Kröber (1934) lists as a synonym of *T. cinnamomea* Schin. 1868, which is itself a synonym of *T. hirtitibia* Walk. 1850 and I agree. Of the 3 specimens mentioned in the description, 2 were sent, both in fairly good condition. The specimen labelled "Cartago" has been selected and labelled lectotype.

*Dasypha bisulcata* End. 1925. The type lacks a mid leg, thorax split and it is glued to pin. The specimen seems slightly teneral, as wings are milky and wrinkled. Kröber (1930 b) redescrines and figures, not quite accurately. Figures of head in side view and frons are given here (Fig. 1). Dr Philip also examined this specimen and informs me that it is certainly the

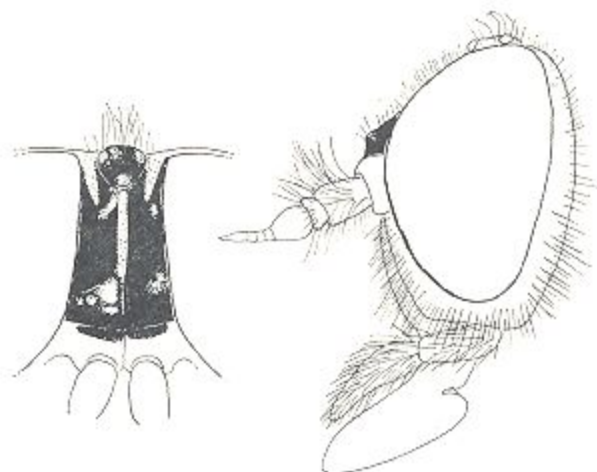


Fig. 1. *Dasypha bisulcata* End., ♀ holotype. Head in side view, frons,  $\times 12.5$

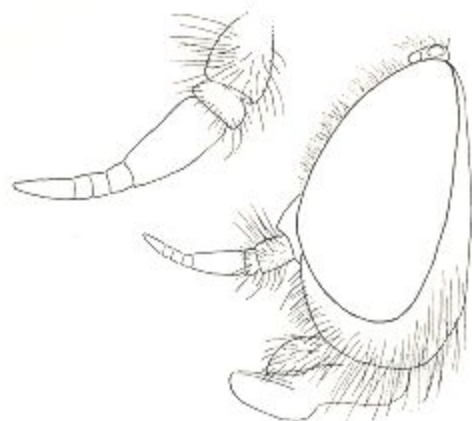


Fig. 2. *Dasyapha mendozana* End., ♂ holotype. Head in side view,  $\times 12.5$ ; antenna,  $\times 25$ .

same as *Veprius presbiter* Rond. and *V. coracinus* (Philippi).

*Dasyapha mendozana* End. 1925. The ♂ type has abdomen broken, whole insect discolored with grease and very possibly teneral, as wing spots and veins have a milky look, legs are pale, and abdominal tergites shrunken. Kröber (1930 b) quotes the original description, figures the antenna and palpus, and briefly describes 2 additional ♂♂. A camera lucida sketch of head in side view and antenna of the type is given her (Fig. 2).

*Dasyommia bogotana* End. 1925. The type lacks antennal styles and 1 palpus, otherwise well preserved. It agrees well with homotype of *T. hirtitibia* Walk. 1850, except for having the dark middorsal abdominal stripe of nearly continuous inverted black triangles and in nearly lacking the median ventral black stripe. Good series of the species show the abdominal markings to be quite variable, some specimens having the abdominal stripe quite faint and interrupted.

*Dichelacera ecuadoriensis* End. 1925. Two ♀ types, the one from Sta. Inez has one wing folded and abdomen greasy, the one from Baiza has abdomen crushed. The two are conspecific, the Baiza specimen with wing pattern a little more intense. The Sta. Inez specimen in slightly better condition and labelled lectotype. The specimen figured by Fairchild & Philip (1960) is a little smaller but agrees well. Both it and types have yellow callus.

*Di cladocera hoppi* End. 1927. The ♂ type is intact and well preserved. Kröber (1940) has figured the species. It is close to *macula* Macq., but with paler wings, the basal cells hyaline, and with beard and pleural hairs gray rather than rufus.

*Di cladocera limbativena* End. 1925. The ♀ type lacks 1 antenna; 1 wing torn, otherwise in fair condition. A peculiar species with hairy eyes, faded wing pattern similar to *D. peruviana* (Big.) and *D. badia*

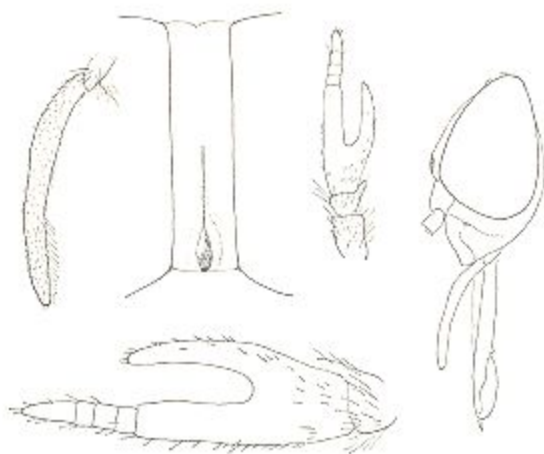


Fig. 3. *Di cladocera limbativena* End., ♀ holotype. Head in side view,  $\times 6$ ; frons, antenna, palpus,  $\times 12.5$ ; antenna,  $\times 25$ .

Kröb., proboscis about head height, slender, the small labella pollinose, palpi very long and angled, frontal callus clubshaped, raised. The weak wing and body coloration suggests specimen may be teneral. Antennae slender, rather unlike others in this group. This is genotype of *Dasychela* End. 1922 and more obviously related to the *badia* group than is *Stypochela* (see Fairchild 1958). Figures of head characters are given (Fig. 3).

*Di cladocera maculistigma* End. 1925. The ♂ type is intact though dorsum quite denuded and whole insect dirty. The wing is same as *D. hoppi* End., the antennal tooth a little shorter than in that species. Abdomen with white hair on sides of tergites 1 to 3, extending on hind margin halfway to middle of tergites 2 and 3. Dorsum so denuded that presence of median triangle not evident. In other respects same as *hoppi*. Further collecting will perhaps show both this and *hoppi* to be no more than races of *macula* Macq.

*Di cladocera steinheili* End. 1925. The ♀ type has 1 wing broken, but is otherwise well preserved. It agrees closely with a homotype of *D. basirufa* (Walk.) in my collection.

*Esenbeckia balzapambana* End. 1925. The ♂ type is in near perfect condition though slightly teneral. The abdomen is translucent greenish with a broad black middorsal stripe formed of broadly contiguous inverted triangles. Venter of abdomen largely pale, except for a dark inverted triangle on middle of sternite 4. Wings smoky hyaline, costal cell and base darker. Legs reddish yellow, bases of all femora about 1/2 blackish. It differs from ♂♂ of *E. prasiniventris* (Macq.) in more slender palpi, 3rd antennal segment broader at base, more abruptly tapered and with terminal annulus blackish, whitish rather than rufous hairs on thorax and beard, as well as in color of abdomen and legs. I have

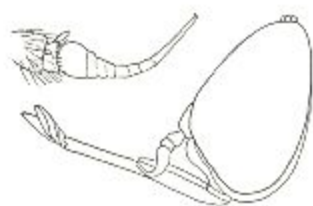


Fig. 4. *Esenbeckia balzapambana* End., ♂ holotype. Head in side view  $\times 6$ ; antenna,  $\times 12.5$ .

a presumed ♀ in poor condition, but it lacks all but a trace of dark abdominal stripe and only hind femora are darkened. Head characters of type are shown (Fig. 4).

*Esenbeckia erosa* End. 1925. The type is in perfect condition. Except for color of abdomen, this agrees in detail with a homotype of *E. clari* var. *infusca* Lutz. In var. *infusca* the abdomen is blackish except for slightly paler sides of first tergite. In *erosa* tergites 1 and 2 are translucent horn-colored with a median black patch beneath scutellum, a quadrilateral median black patch higher than wide on tergite 2 and extreme sides blackish. Tergite 3, all black in var. *infusca*, has a pair of pale dorsolateral patches in *erosa*. Wings, legs and structure are the same. The name may be retained in a varietal sense. Other syntypes are supposed to be in D.E.I. Berlin.

*Esenbeckia lemniscata* End. 1925. The ♀ type has the abdomen glued on but is otherwise in good condition. It agrees closely with a homotype of *E. clari* Lutz except for color of abdomen. In *clari* the abdomen is all black, in *lemniscata* the first 2 tergites are as in *erosa*, but the black more extensive, and tergite 3 all black, being essentially intermediate between *clari* and *erosa* in this respect. The wings have the basal cells, adjoining costal and anal areas yellow, as in *clari*. I suspect that all these so-called species, *clari* Lutz, *clari* var. *infusca* Lutz, *erosa* End., *lemniscata* End. and possibly *mattogrossensis* Lutz, are but color forms of *E. lugubris* Macq., but much more material will be necessary to settle the matter. *Lemniscata* at least is no more than a variety of *clari* Lutz. The syntype from Curuzu de Fierro is supposed to be in D.E.I., Berlin.

*Esenbeckia sexmaculata* End. 1925. Two ♀ types, the Colombian specimen in near perfect condition, that from Ecuador lacking tips of antennae and proboscis. Both agree closely with *E. testaceiventris* (Macq.) and the Colombian specimen has been labelled as lectotype.

*Fidena albibarba* End. 1925. Two ♀ types, the one from Theresopolis, Sta. Catharina lacks 1 antenna and is dusty and glued to pin, the other from Itajahy lacks antennae, shrunken, wings crumpled, apparently once in liquid. The two appear conspecific and the Theresopolis specimen has been labelled lectotype. The Itajahy specimen is det. Kröber 1929 as *F. leucopogon* Wied. and agrees with specimens so named by Kröber in Vienna Mus. The types also agree with specimens det. *leucopogon* by Lutz in Inst. Oswaldo Cruz, but as will be shown elsewhere, this is not *leucopogon* Wied. A long series in my collection shows the color of vestiture of abdomen to vary from orange to black. This name is not listed in Kröber's catalogue (1934). The lectotype is here figured (Fig. 5).

*Fidena aurifasciata* End. 1925. The type is intact and in fair condition. It differs from the closely similar *F. nigripes* v. Röder in much more produced face, equalling vertical eye diameter, longer and more slender palpi, in having a middorsal tuft of yellow hair

*Fidena albibarba* End., ♀ lectotype, Theresopolis, Sta. Catarina. Head in side view,  $\times 6$ ; frons, antenna and palpus,  $\times 12.5$ .

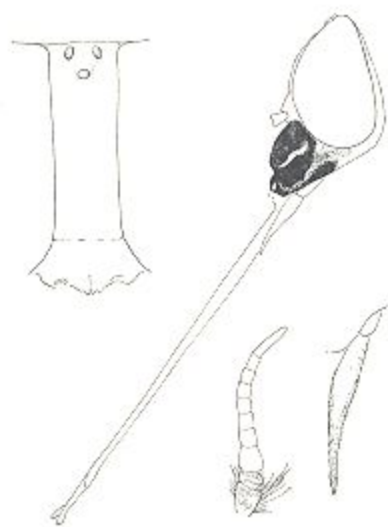


Fig. 5. *Fidena albibarba* End., ♀ lectotype, Theresopolis, Sta. Catarina. Head in side view,  $\times 6$ ; frons, antenna and palpus,  $\times 12.5$ .

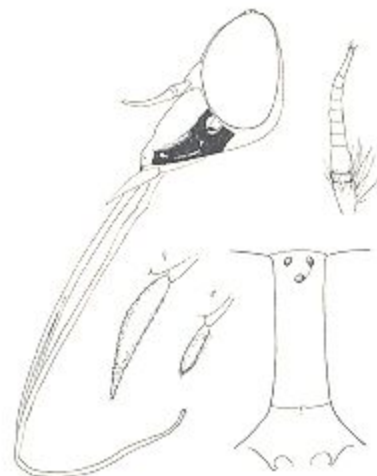


Fig. 6. *Fidena aurifasciata* End., ♀ holotype. Head in side view,  $\times 12$ ; frons, antenna, palpus,  $\times 12.5$ . *F. obtusipalpis* End. ♂ holotype. Palpus,  $\times 12.5$ .

on tergite 4, and tergite 5 wholly yellow haired. *Nigripes* also has the hind tibiae and tarsi largely black haired, yellow haired in *aurifasciata*. I have a specimen from Parana agreeing with the type. I believe that *F. obtusipalpis* End. is the ♂ of *aurifasciata*. Head characters are figured (Fig. 6).

*Fidena longipalpis* End. 1925. Three ♀ types, all badly denuded and dusty and all lacking 1 or both antennae. The specimen labelled "Brasilien, Casapava., Sello W." labelled as lectotype, as it is the only specimen with an Enderlein det. label, though all are same species. A specimen from Parana, Brasil, in my collection agreeing with the lectotype also agreed with specimens det. *incisuralis* (Macq.) 1847 by Lutz in Instituto Oswaldo Cruz, and it also agrees with Lutz' description (1909), though not so well with his figure. It is not *incisuralis* (Macq.), however, which is smaller and lacks the spotted wings due to small clouds on crossveins. Head characters of the lectotype are shown (Fig. 7).

*Fidena obtusipalpis* End. 1925. The ♂ type is intact though greasy and caked with dirt. Comparison with related species indicates this as the ♂ of *aurifasciata* End. It has the same coloring and greatly produced face. The palpus is here figured (Fig. 6).

*Holcopsis fenestrata* End. 1925. Described from unknown locality, possibly Australia. Comparison with the types in M.C.Z. of *T. bequaerti* Philip (= *bi-fenestratus* O.S.) and *T. piliferus* Philip 1943 from Mexico indicate that *fenestrata* is ♀ of *piliferus*, and the species will take Enderlein's name. Transcription of my notes on the type and figures of head structures are given in (Fig. 8).

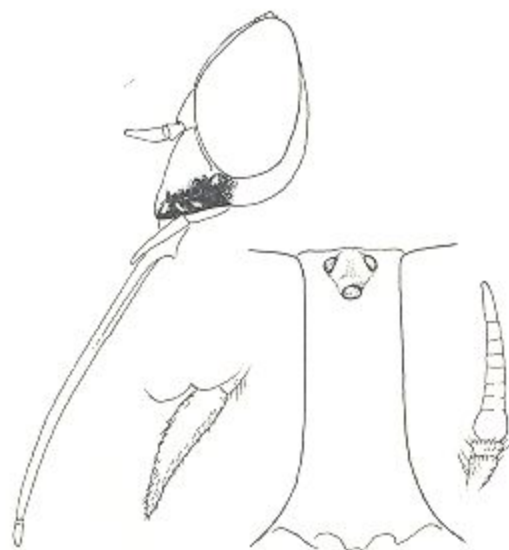


Fig. 7. *Fidena longipalpis* End., ♀ lectotype, Casapava, Brasil. Head in side view,  $\times 6$ ; frons, antenna, palpus,  $\times 12.5$ .

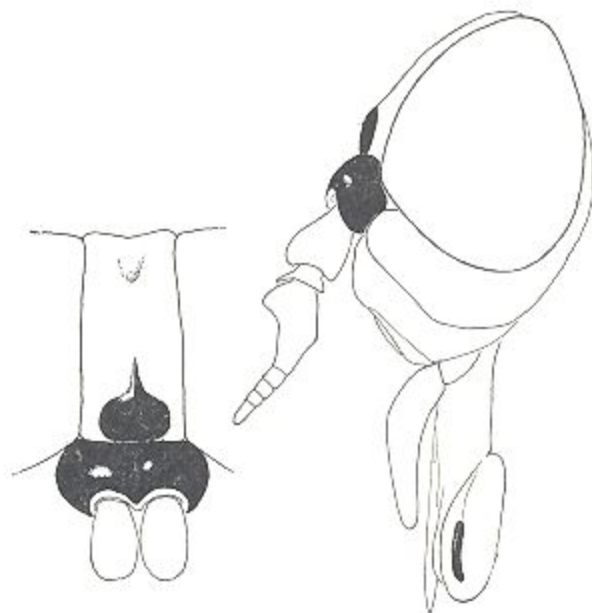


Fig. 8. *Holcopsis fenestrata* End., ♀ holotype. Head in side view, frons, antenna, palpus,  $\times 12.5$ .

Eye sparsely long pilose. Basicosta bare. No tubercle at vertex, but a slight, partly denuded hump. Callus black, oval, slightly wider than high, narrower than frons, with upper median pointed spur. Frons about twice as high as wide at base. Subcallus inflated, shiny, brown. Genae and fronto-clypeus also rather inflated and protuberant, but brown pollinose. Antennal segment 1 inflated, at least dorsally shiny, yellow, but beset with long hairs; 2 and 3 normal, 2 with dorsal spine; 3 slender with strong dorsal angle, plate somewhat longer than style. Palps moderately slender, normal. Labella compact, pollinose, but with a shiny sclerotized strip. Legs normal, hind tibiae with double fringe. Wings rather dirty, apparently brown infuscated, darkest along costa, below stigma and in basal cells, with windows in marginal and submarginal cells, discal cell and apical half of second basal cell. Abdomen with first 2 segments yellow, black in middle, remainder black. Venter yellowish. Legs yellowish, the fore tibia obscurely bicolored.

*Hybostraba guttiventris* End. 1925. The ♂ type lacks 1 antenna, but is otherwise in excellent condition. The locality label reads "Venezuela?". Kröber (1931) figured the specimen, though rather inaccurately. The eyes are bare, the basicosta setose. In my opinion the species is not Neotropical. It agrees fairly well with ♀♀ of *T. autumnalis* L., but I had no ♂♂ for comparison.

*Hybostraba ovalipalpus* End. 1925. The ♂ type is in poor condition, crushed, wings folded, encrusted with grease and dirt, and the head possibly glued on. The upper eye facets are much enlarged and long pilose,

the lower facets bare. Frontal triangle partly bare and shiny. Kröber's (1931) comments and figure are misleading; he keys the species as having a pollinose frontal triangle, but gives it correctly as shining yellow brown in his redescription. This is nothing more than *Tabanus claripennis* Big., agreeing closely structurally and in what is discernible of color.

*Laphriomyia miniatistola* End. 1925. The ♀ type is intact though rather dusty and denuded. I detect only 3 points of difference from a homotype of *Fidena* (*Laphriomyia*) *longipalpis* L. and C. (= *mirabilis* Lutz); the palpi are shorter without the excessively drawn-out point of *longipalpis*, the hairs on abdomen are bright rufous orange except for black first tergite, and there is no tuft of white hairs just above wing bases. I believe this is no more than a color form of *mirabilis* Lutz, but it may be retained as a subspecies on account of striking color differences and wide geographic separation. I treated *longipalpis* Lutz & Castro 1937 as a synonym of *mirabilis* Lutz 1911 (Fairchild 1961). With the recognition that *Laphriomyia* is no more than a subgenus of *Fidena*, *longipalpis* Lutz & Castro 1937 also becomes a homonym of *longipalpis* End. 1925. Head structures are given in figure (Fig. 9).

*Linapha scripta* End. 1925. The 2 types sent are both from Coll. H. Loew, one without locality, the other labelled Brasilien. One is headless and lacks one wing, the other with abdomen broken, both much denuded and faded. As suspected previously (Fairchild & Philip 1960), these are pale specimens of *Dichelacera unifasciata* Macq., with reduced wing markings and antennal tooth reduced to a mere dorsal angle. The specimen with head has been labelled lectotype.

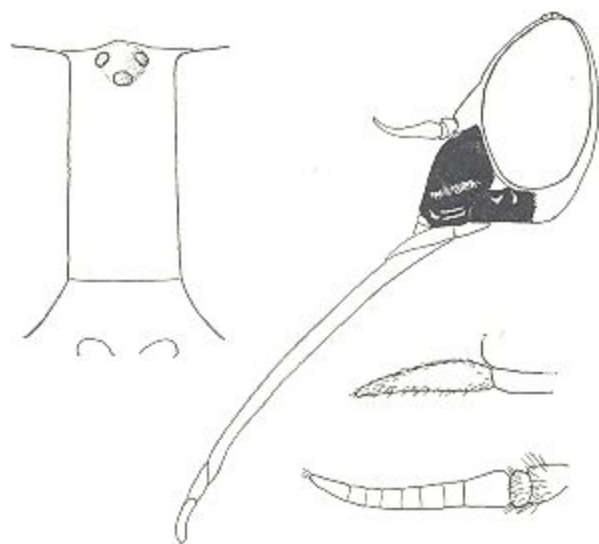


Fig. 9. *Laphriomyia miniatistola* End., ♀ holotype. Head in side view,  $\times 12$ ; frons, antenna, palpus,  $\times 12.5$ .

*Listrappa acutipalpis* End. 1929. The 3 ♀ types all bear the same labels. One is intact and in fair condition, the other two lack one or both antennae and are greasy. All are same except for some variation in palpal shape. I can see no difference between these and *L. imitans* End. except palpal shape. The intact specimen has been labelled Lectotype. The palpi of all 3 specimens are figured (Fig. 13, D-F).

*Listrappa convergens* End. 1925. The ♀ type is slightly dusty but intact. The first posterior cell is narrowly open in one wing, closed at margin in the other. Except for the open cell, this specimen agrees closely with specimens of *Fidena opaca* Brèthes 1910, det. by Coscaron, who has studied Brèthes' type. The head structures of the type are here figured (Fig. 10).

*Listrappa imitans* End. 1925. Two ♀ specimens labelled "Type" were sent, one from Bader von Longavi, Schoenemann, the other Coquimbo, H. Loew Coll. The first is intact, the second lacks antennal styles, hind legs, and is greasy. Except for larger, more drawn-out palpi in the Coquimbo specimen, the two appear the same. I give here figures of the head structures of the Longavi specimen and palpus of the Coquimbo specimen. (Figs. 11, 13 A, B.). The former should be taken as lectotype though it was not so labelled.

*Listrappa subulipalpis* End. 1929. 1♂, 12♀ types from Contulmo and Cornudes received. Specimens vary in preservation, but most are more or less greasy. All are conspecific and differ from *Scaptia latipalpis* (Macq.) as det. by C. B. Philip only in somewhat more slender and pointed palpi. I have labelled the ♂ as lectoallotype, a ♀ from Contulmo 20-10-03 as lectotype. This latter bears a 1928 det. label by Kröber as *Parosca latipalpis* Macq. Kröber (1930 a) did not mention *subulipalpis* End., and included some of the

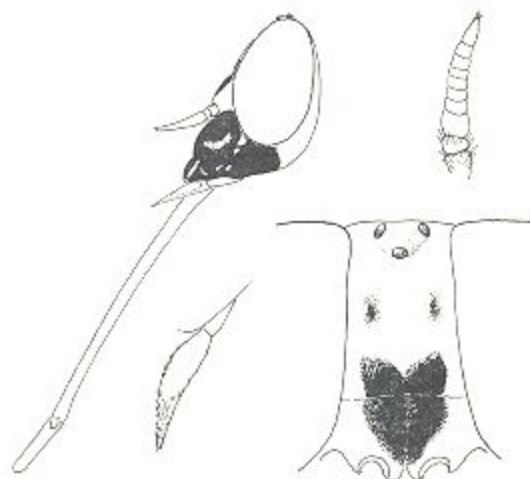


Fig. 10. *Listrappa convergens* End., ♀ holotype. Head in side view,  $\times 6$ ; frons, antenna, palpus,  $\times 12.5$ .



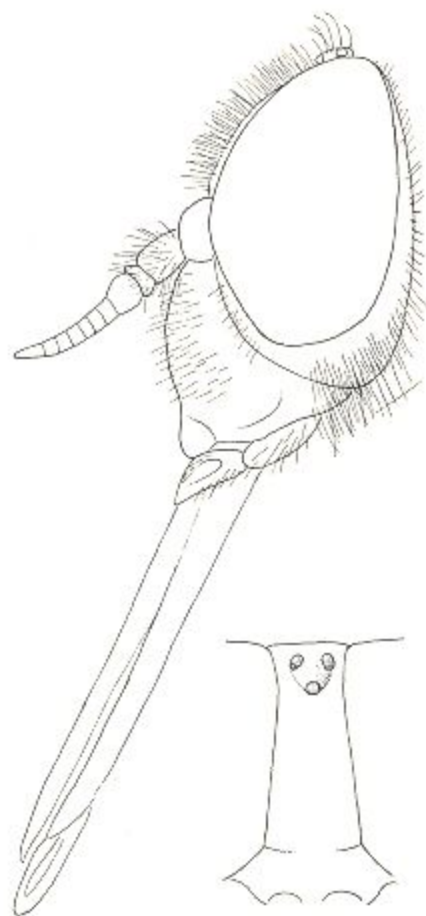


Fig. 11. *Listrapha imitans* End., ♀ lectotype. Head in side view, frons,  $\times 12.5$ .

type series in his discussion of *latipalpis*, while in 1934 he lists *subulipalpis* as not having been seen by him.

*Listraphella schoenemanni* End. 1929. Eleven ♀ specimens with red type labels sent, labelled "Mittel, Chile Schoenemann, or Mittel Chile, Cauquenes, Schoenemann". All are conspecific, but none in perfect condition. The specimen bearing a green printed label reading "Mittel Chile, Cauquenes, Schoenemann S. 21-12-1897" and an Enderlein det. label has been labelled lectotype. Another specimen with same data bears in addition to Enderlein's det. label, one by Kröber 1929 as *Listriosca farinosa* Kröb. and would seem to be the type of Kröber's species also. These specimens are same species as *imitans* End. 1925 and as a specimen det. *australis* Phil. by Enderlein. Palpi of Lectotype and 3 paratypes of *schoenemanni*, and holotype of *farinosa* here figured (Fig. 13 c, g-j).

*Listriosca angustifrons* End. 1929. One ♀ type labelled "Chile, Bader von Longavi, Parral, Schoenemann". It lacks 2 legs and is dirty and denuded. It differs from *flavipes* only in very slightly narrower frons. I give here figures of head characters of the type (Figs. 12, 13 k).

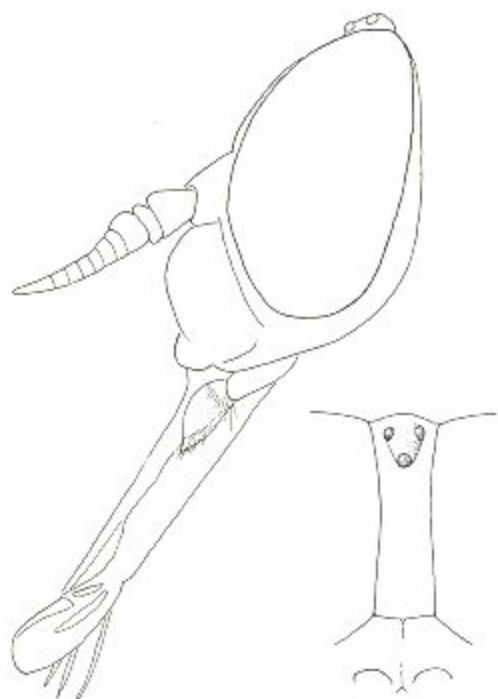


Fig. 12. *Listriosca angustifrons* End., ♀ holotype. Head in side view, frons,  $\times 12.5$ .

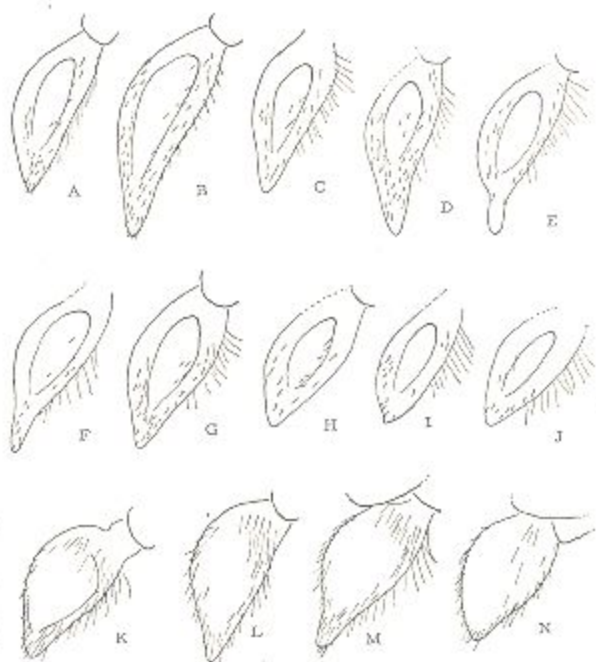


Fig. 13. Palpi of females of species of *Listrapha* and *Listriosca*, all  $\times 25$ . *L. imitans* End.: A, lectotype; B, Paratype. C, *L. farinosa* Kröb.; *L. acutipalpis* End.: D, lectotype, E, F, paratypes. *L. schoenemanni* End.: G, lectotype, H-J, paratype. *L. angustifrons* End.: K, holotype. *L. flavipes* End.: L-N, syntypes.

*Listrioseca flavipes* End. 1929. Three specimens labelled "Type from Chile, Bader von Longavi, Parral, Schoenemann." All are same species. Two are det. Enderlein 1920 as *Listrioseca australis* as well as *Listrioseca flavipes*, and one of these is also det. Kröber 1928 as *australis*. These are same species as *angustifrons* End. and differ from *imitans* and its synonyms in having narrower frons, more bulbous face, shorter proboscis, more flattened palpi and wholly yellow femora. I have labelled the only intact specimen, and the only one not bearing *australis* det. label, as lectotype. Palpi of the 3 specimens are figured (Figs. 13, 1-N).

Dr Philip has recently sent me specimens which he compared with types of *Pangonia australis* Philippi, *P. vittata* Phil., and *P. dorsoguttata* Macq. All three species are quite similar, but the homotype of *australis* Phil. agrees best, and quite closely, with *Scaptia imitans* End. and its synonyms listed below. *Scaptia vittata* (Philippi) appears to be different, smaller, paler, with more protuberant face and more slender palpi. *S. dorsoguttata* (Macq.) 1850 may eventually prove the earliest name for this complex, though neither my notes on the type nor the specimen sent by Dr Philip entirely agree with any of Enderlein's specimens. My notes state that the type of *dorsoguttata* agreed best with the drawings of types of *imitans*, but was smaller, with broader frons, wholly yellow femora, and the dark middorsal abdominal stripe a series of inverted triangles. The palpi agreed with the figure of the Coquimbo paratype of *imitans*.

In summary, the 7 names proposed by Enderlein and Kröber remaining in *Scaptia* (*Pseudoscione*) are related as follows:

- australis* Philippi 1865
- imitans* End. 1925
- schoenemanni* End. 1929
- acutipalpis* End. 1929
- farinosa* Krob. 1930
- flavipes* End. 1929
- australis* End. 1925, in part, nec Philippi
- angustifrons* End. 1929
- latipalpis* Macq. 1850
- subulipalpis* End. 1929

*Melpia auribarba* End. 1925. The ♀ type is intact and well preserved. It differs from Panama examples and the type of *Fidena columbiensis* Kröb. 1930 in slightly larger size, more produced face and rich yellow color of beard and pleural hairs. The two are conspecific in my opinion.

*Melpia auribarba* var. *albibarba* End. 1925. The ♀ type is intact and well preserved. This is the normal form of the species, with white or nearly white beard and pleural hairs. Although having page priority over *Fidena albibarba* End., this name was proposed as a

variety for a specimen with the same locality data as the type form, and hence in my opinion has no standing under the Rules.

*Melpia auricauda* End. 1925. Two ♀ types, the one from Muzo, Colombia intact and in excellent condition, the one from Venezuela lacks head and right wing. A specimen from Rio Chacarito, Miranda, Venezuela differs only in having abdominal hairs orange instead of yellow. Three others from Darien, Panama are same, while specimens from Chiriqui, Panama, as well as others from Darien, and Peru are smaller, with shorter faces, and with the pale hairs of abdomen, when present, usually covering the fourth to last tergites instead of fifth to last. Unfortunately my homotype of *Fidena pyrausta* O.S. (= *rhizophora* Bell.) is intermediate, having the size and produced face of *auricauda*, but the orange hairs of abdomen on fourth to last tergites. A specimen from Ecuador is small, with shorter face, but has fourth tergite dark haired. Panama specimens are also very variable in color of abdominal hairs, these ranging from pale straw yellow through orange, red and brown to black. I believe therefore that *auricauda* is no more than a variant of *rhizophora*. *F. basilaris* Wied. is very similar, but has more bulbous shiny face and unusually short blunt palpi. *F. analis* Fab. differs in having only extreme base of wing blackish, the rest glass clear with yellow veins, and the abdomen yellow haired on tergites 3 to 7. Specimens in the Lutz collection det. Lutz as *Phaeoneura basilaris* Wied. are *rhizophora* rather than *basilaris*.

*Melpia ferruginea* End. 1925. The ♀ type lacks left wing, right wing beyond discal cell, tip of proboscis, and left antenna, and is denuded and dusty. This is the species treated by Lutz (1909) as *Diatomineura molesta* (Wied.). It does not, however, agree with a homotype of that species, though closely related. It agrees quite closely with a homotype of *Diatomineura seminigra* Ric. 1902 and should be placed in its synonymy. These two species, *molesta* and *seminigra* are peculiar in the structure of the proboscis, which has

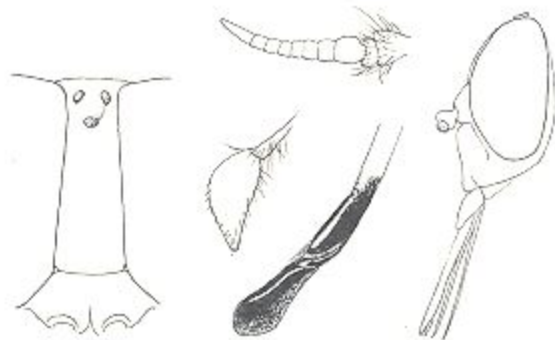


Fig. 14. *Melpia ferruginea* End., ♀ holotype. Head in side view,  $\times 6$ ; frons, antenna, palpus,  $\times 12.5$ ; homotype, tip of proboscis,  $\times 12.5$ .

the labella wholly sclerotized and shiny and apically expanded into a small round bulb. The theca is also quite heavy and largely sclerotized. In other respects the species fit well into *Scaptia* (*Pseudoscione*). The palpi are exceedingly broad and flat, nearly as broad as long. A figure of the type and of the labella of homotype is included (Fig. 14).

*Ommallia brevihamus* End. 1925. The ♀ type is intact and well preserved. I believe it is but a local form of *Tabanus bigoti* Bell, 1859 with slightly more produced antennal tooth and a small spot of reddish on middle of fifth tergite. Otherwise it agrees closely with my concept of *bigoti* (Fairchild 1964) and with a specimen from Muzo, Dept. Boyaca, Colombia in my collection. Figures of the type are included for comparison (Fig. 15).

*Ommallia interrupta* End. 1925. The ♀ type is well preserved, and is in my opinion no more than a slight color variant of *O. thiemeana* End. 1925. *Thiemeana* has page priority. I have a specimen from Ecuador in close agreement. The type is here figured (Fig. 16).

*Ommallia thiemeana* End. 1925. Though more than 1 specimen is suggested by the measurements given in the description only one was sent. The specimen has one wing detached and glued to a slip of paper,

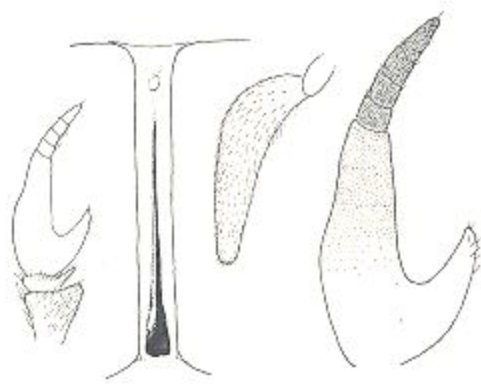


Fig. 15. *Ommallia brevihamus* End., ♀ holotype. Frons, antenna, palpus,  $\times 12.5$ ; third antennal segment,  $\times 25$ .

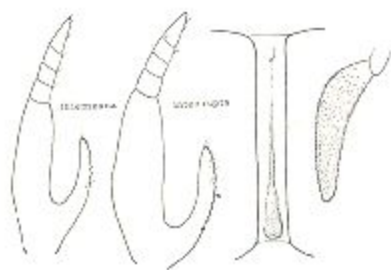


Fig. 16. *Ommallia interrupta* End., ♀ holotype. Frons, palpus,  $\times 12.5$ ; third antennal segment, all black except extreme base of plate,  $\times 25$ . *O. thiemeana* End. ♀ syntype, third antennal segment, all black except extreme base,  $\times 25$ .

but is otherwise well preserved. *T. surifer* Fchld. 1964 is probably no more than a variant of *thiemeana*, but because of the very different antennae and the fact that *surifer* has been taken in several localities in Colombia, it seems better to keep them separate for the present. Aside from antennal shape, I detect no other differences. I give here a figure of the antenna of the type for comparison with that of *surifer* (Fig. 16).

*Ommallia viridis* End. 1925. The type ♂ is well preserved and is a specimen of *Chlorotabanus* (*Cryptotylus*) *unicolor* (Wied.) as previously reported by Philip & Fairchild (1956).

*Ommallia herculeana* End. 1925. The locality was unknown to Enderlein, though he suggested South America. The type is a *Tabanus* with setose basicosta, and is probably Palearctic, though I did not recognize it. It is almost surely not Neotropical.

*Oscia faceta* End. 1925. The type ♂ has lost the flagella of antennae, several legs, and the abdomen is denuded. This agrees well with what I take to be *Scaptia rufa* (Macq.), whose type appears to be lost. Kröber's separation of the 2 species (1930 a) is not convincing, the denuded condition of the type seemingly misled him.

*Psaldia ocellata* End. 1925. Type ♀ in near perfect condition, only lacking one antenna. It agrees with my figure (Fairchild 1940), and appears to be the light, and commoner, form of *fulminea* (Hine), as suspected (Fairchild 1942 a).

*Pseudomelpia horrens* End. 1925. The ♂ type is somewhat greasy, lacks a leg and one wing glued on. Mackerras (1955) and Kröber (1930 a) have discussed and figured the species in both sexes. The tibiae have numerous scattered very heavy setae, almost forming spines.

*Pseudoselasoma bicinctum* End. 1925. The ♀ type is headless, as described, and lacks one wing and both hind legs. Aside from type and locality labels, it bears a Kröber 1928 det. label as *Diachlorus bicinctus* (Fab.) and I agree. Neither the name nor the synonymy was included in Kröber's (1934) catalogue.

*Pseudoselasoma brevicorne* End. 1925. A ♂ and ♀ from Paraguay and a ♀ from Colombia. The Paraguay specimens are well preserved, the one from Colombia lacks the terminal antennal segments. Kröber (1929 a) has discussed and figured the species, which is obviously closely related to *Pseudacanthocera sylveirii* (Macq.). The ♀ from Paraguay has been labelled Lectotype.

*Rhamphidommia muscosa* End. 1925. Two ♀ types, both with same labels and conspecific. Neither specimen in good condition, but the best one labelled as Lectotype. Kröber's (1931 a) figures of wing and head structures are inaccurate. The frons is widened below, not parallel-sided and the wing not as extensively

darkened. My homotype of *Catachlorops pictipennis* Kröb. agrees closely with Enderlein's types in structure, and fairly well in color, but the condition of the latter precludes close comparison. I believe also that *C. parapictipennis* Barr. 1950 is the same, my specimen agreeing closely with his description and figures. Barretto (1950) was led astray by Kröber's inaccurate figure of the wing of *pictipennis*, which shows the base of the wing much too extensively dark. The short membranous labella, hairy face, broad frons and callus and relatively small head are distinctive. The eyes of my specimen (relaxed) are uniformly blackish green.

*Rhamphis parvidens* End. Two ♂ types were received; the third specimen is supposed to be in D.E.I., Berlin. One is labelled Paraguay, Fiebrig, the other Mattogrosso, Rohde. The Paraguay specimen lacks one wing and one hind leg, the Mattogrosso specimen lacks one antenna and tip of the other and one wing is broken. I have labelled the Paraguay specimen as lectotype. Fairchild & Philip (1960) suggested this might be a variant of *Dichelacera rubricosa* (Wulp.). Study of the much damaged types of latter in Amsterdam indicates that *parvidens* is closer to *D. fuscipes* Lutz in wing pattern, though with wing markings a little heavier and antennal tooth shorter than any *fuscipes* available for comparison. The types of *rubricosa* now lack antennae, but males agreeing in other respects have antennae like *parvidens*. It seems best therefore to retain *parvidens* as valid until further information accumulates. Females should key out with *fuscipes*, but have longer and more slender antennae with basal tooth reduced to a sharp angle.

*Rhinotriclista brevipalpis* End. 1925. The ♀ type lacks antennae and one mid leg. It is very similar to the type of *Rh. strigata* End. but frons narrower, dark frontal patch smaller, abdomen paler, second tergite extensively pale pruinose, scutellum dark, concolorous with thorax, thoracic stripes faint, the mid stripe absent. Palpi a little shorter and less acute than in *strigata*.

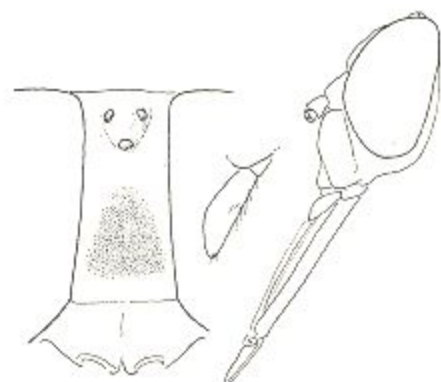


Fig. 17. *Rhinotriclista brevipalpis* End., ♀ holotype. Head in side view,  $\times 6$ ; frons, palpus,  $\times 12.5$ .



Fig. 18. *Rhinotriclista cingulata* End., ♀ holotype. Head in side view,  $\times 6$ ; frons, antenna, palpus, tip of proboscis,  $\times 12.5$ .

Kröber (1934) lists as a synonym of *Scione claripennis* Ric., I believe correctly, although types of latter are presumably lost. Panama material is more like *strigata*, with usually pale scutellum. (fig. 17).

*Rhinotriclista cingulata* End. 1925. The ♀ type is in near perfect condition. A curious species which could easily go into *Fidena* except for closed cell  $M_4$ . Frons as figured, brown pollinose without contrasting markings. Fronto-clypeus bare in middle, perhaps abraded, rather bulbous, brown pollinose fading to gray on genae. Beard white. Palpi as figured. Mesonotum brown, dark haired, the characteristic *Scione* pattern faint; scutellum concolorous. Legs yellowish brown, dark-haired. Wings dilute yellowish brown, unspotted. First 2 abdominal tergites light yellow, the first black-haired, the second largely yellow-haired, tergites 3-6 brown, black-haired except for median yellow hair tufts on 3-5. Enderlein indicates 2 specimens, 1 with incomplete vein  $M_2$  named ab. *scionina*. The 1 sent is normal and should be taken as lectotype (Fig. 18).

*Rhinotriclista flavescens* End. 1930. The ♀ type is well preserved. A slender yellow species, thorax brown with usual grey markings. Legs entirely yellow. Wings strongly yellow-brown tinted, the spots on fork and cross veins discrete, dark grey, the veins dark, contrasting. Abdomen yellow on first 2 tergites, 2 with a small dark spot in middle, 3 to last irregularly brownish, with large diffuse median blackish areas. Abdomen orange haired, with median tufts of pale yellow hairs on tergites 2-5. Frons broad, slightly divergent below, about  $2\times$  as high as wide, diffusely brownish in middle. Antennae yellow, sub-subulate, slender. Palpi very slender, bare outwardly, the apex produced, short black haired, last segment about equalling 3rd antennal segment. Face very greatly

produced, distance from beneath antennae to base of proboscis equals length from vertex to beneath antennae, pollinose, brown dorsally, broadly grayish laterally. All hairs on eyes, frons, face etc. long, yellow. Proboscis long, the fixed parts slightly longer than head, the theca blackish, labella small, not sclerotized. I have not seen the original description, nor have I seen other specimens. The greatly produced face is noteworthy (Fig. 19).

*Rhinotriclista generosa* End. 1925. Two ♀ types, both with same data. The specimen with a Kröber det. label as *Scione rufescens* Ric. has been labelled lectotype. Kröber (1934) places in synonymy of

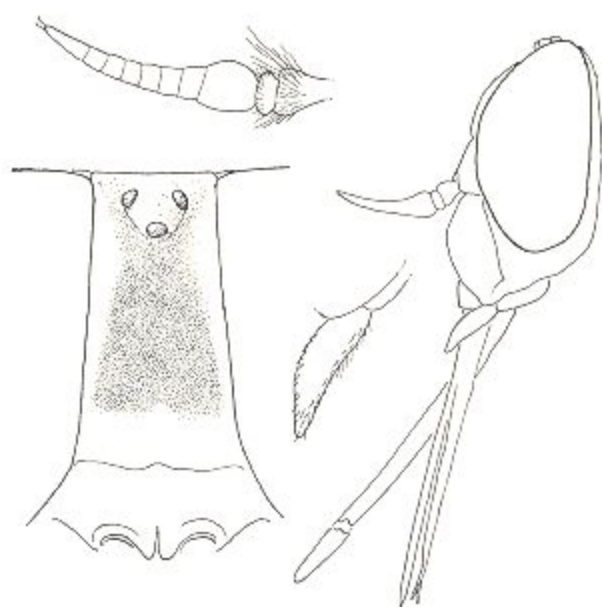


Fig. 21. *Rhinotriclista strigata* End., ♀ holotype. Head in side view  $\times 6$ ; frons, antenna, palpus,  $\times 12.5$ .

*Scione rufescens* Ric. 1900, I believe correctly. The large palpi and bulbous frontoclypeus are characteristic. Figures of head characters of the Lectotype are here included (Fig. 20). Panama material is smaller and darker.

*Rhinotriclista strigata* End. 1925. The ♀ type lacks an antenna and is somewhat denuded. The description indicates more than 1 specimen in type series. Panama material reported by me (1942) as *claripennis* Ric. is close to *strigata*, but *strigata* differs in slightly broader and more divergent frons, light gray pollinose subcallus and face and pure white beard. Figures of head characters of Enderlein's type are included for comparison (Fig. 21).

*Ricardoia fuscipes* End. 1925. The ♂ type is intact and in good condition, but appears slightly teneral. An entirely dark, nearly black species, entirely dark haired. Wings fumose but not black at base. In good light, the abdomen is dark brown with suggestions of a black inverted triangle on tergite 2 and a black streak on 3. Antennae orange, slender; terminal annulus very long and spike-like. Palpi orange, black haired, slender, of equal width throughout; terminal segment about as long as antennal segment 3 and roughly  $1/3$  length of mandibles. Theca of proboscis slender, dark brown, shiny, the labella relatively large and rounded. Kröber (1934) placed as a synonym of *Esenbeckia saussurei* Bell., but Philip (1954) considered this unlikely. Like Philip, I have seen no ♀♀ which seem possible mates for this. The head characters of the type are here figured (Fig. 22).

*Ricardoia latiflagrum* End. 1925. The type of this

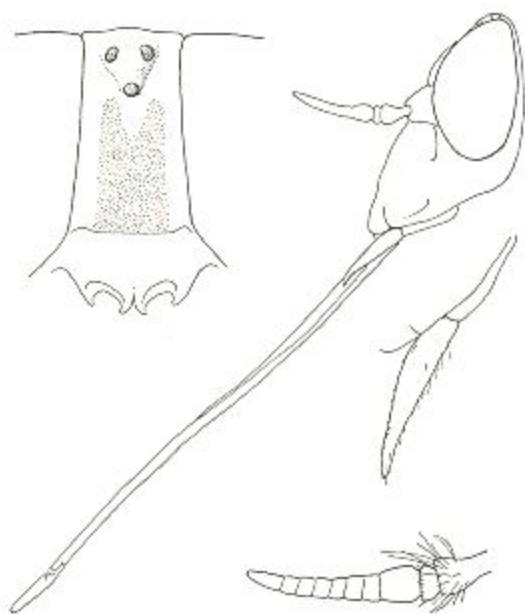


Fig. 19. *Rhinotriclista flavescens* End., ♀ holotype. Head in side view,  $\times 6$ ; frons, antenna, palpus,  $\times 12.5$ .

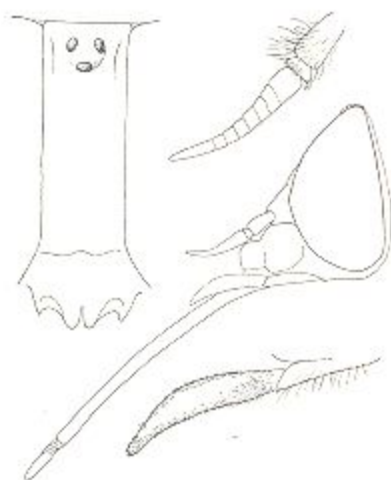


Fig. 20. *Rhinotriclista generosa* End., ♀ lectotype, Callanga, Peru. Head in side view,  $\times 6$ ; frons, antenna, palpus,  $\times 12.5$ .

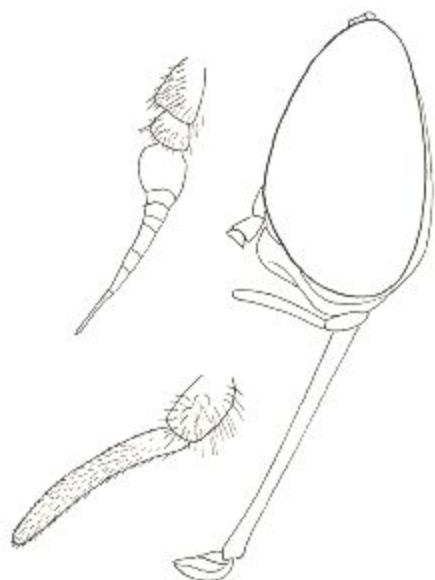


Fig. 22. *Esenbeckia fuscipes* End., ♂ holotype. Head in side view, the proboscis reconstructed, folded beneath body on specimen,  $\times 6$ ; antenna, palpus,  $\times 12.5$ .

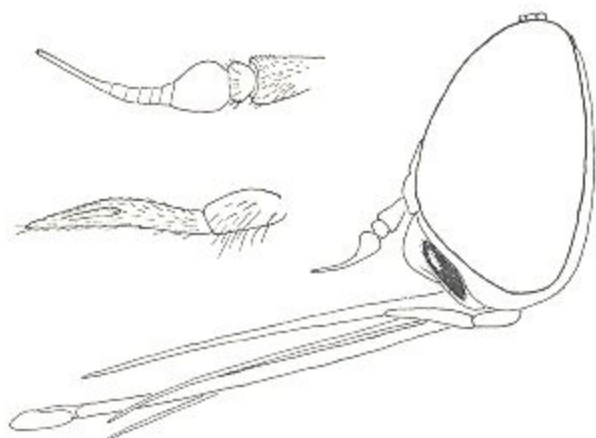


Fig. 23. *Scapacis fidenodes* End. ♂ holotype. Head in side view,  $\times 6$ ; antenna, palpus,  $\times 12.5$ .

Nearctic species was not studied. Philip (1941) has placed it as a synonym of *Esenbeckia incisuralis* Say after study of the type.

*Scapacis fidenodes* End. 1925. The ♂ type lacks one antenna and some tarsi. As noted by Philip (1954) this is near *Esenbeckia curtialpispis* Phil and *E. saussurei* Bell. Compared to a ♂ *curtialpispis* homotype it is smaller, the femora entirely black and no yellow or reddish hairs on thorax. The antennae are more slender, palpi short but very slender, almost thread-like. The 1st posterior cell is coarctate though open in both wings. Compared to a ♂ determined as *saussurei* by Bequaert (= *planiventris* Macq.), *fidenodes* is blacker, smaller, with black scutellum and much more slender, pointed palpi. Length 16 mm, of wing 14 mm. I give here a figure of head structures (Fig.

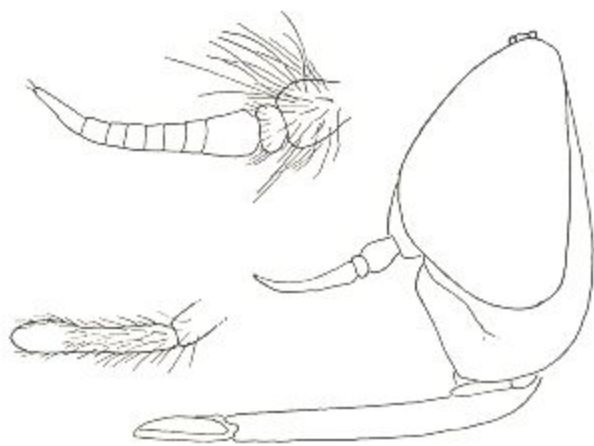


Fig. 24. *Scione brevistriga* End., ♂ holotype. Head in side view,  $\times 6$ ; antenna, palpus,  $\times 12.5$ .

23).

*Scaptiodes nigerrima* End. 1925. The type is somewhat greasy and the wings stained. Aside from locality, type and Enderlein det. labels, it bears a Philip det. 1954 label as *Dasybasis gagatina* Philippi.

*Scione brevistriga* End. 1925. The ♂ type is in fair condition, a little rubbed, parts of abdomen obscured with deposit and left wing crumpled, possibly slightly teneral. Hairs of face brown, beard brownish gray. Proboscis unusually heavy, the labella slender but wholly sclerotized. Antennae red, dusky at tips. About 1/3 of eye area with large facets, not sharply demarcated. Thorax lacking stripes that branch to suture and mid-stripe, rufous haired. Scutellum black, red haired. Usual pleural hair tufts and postalar tufts dull yellowish. Legs orange yellow, femora black haired, tibiae red haired. Wings dilute brownish, basal cells and costal cell darker and ill defined clouds along base of  $Cu_1$ , at cross-veins and fork. Vein  $M_2$  incomplete. Abdomen dorsally light orange brown, orange red haired, except for tufts of black hair in middle of at least tergites 2-3, perhaps underlain by a dark integumental patch, but deposit obscures most of tergites 3-6. Sternites appear darker with more black hairs. The structure of proboscis suggests relationship with *rufescens* Ric., but there are many points of difference (Fig. 24).

*Scione limbativena* End. 1925. The ♀ type is in good condition. A brown and yellow species, costal cell yellow, veins black and strongly brown margined,  $M_2$  failing to reach margin, both closed cells also petiolate. Frons about  $2.5\times$  as high as basal width, divergent. A small black spot in center, otherwise yellowish gray pollinose and abundantly long-haired. Frontoclypeus brown, bare in middle, sides and genae gray pollinose, all with abundant long hair. Antennae yellowish red. Palpi short, leaf-shaped, reddish.

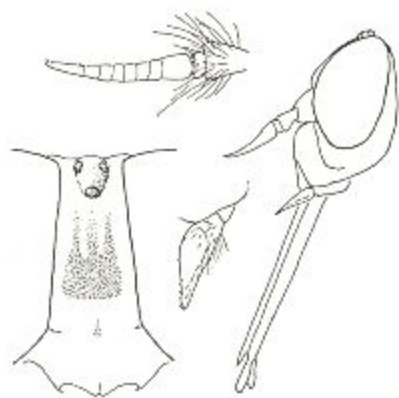


Fig. 25. *Scione limbaticvena* End., ♀ holotype. Head in side view,  $\times 6$ ; frons, antenna, palpus,  $\times 12.5$ .

All femora black on at least basal half or more, thence dark reddish, densely long black haired. Tibiae all red, red haired, tarsi dusky. Abdomen dull yellow, first 2 tergites lightest, with large median black patches not reaching hind margin. Sides of tergites 2-6 with increasing black. Vestiture of black hairs except for median tufts of pale yellow on 2-5, sides of 4-6, and hind marginal band on 1 and 2. Scutellum black and black haired. Thorax pattern of usual stripes, but they are blackish and hard to see, probably due to grease. Figures of head characters are included (fig. 25). A second specimen, not a type, bears a green printed label "Nord Peru / Huancabamba / 3000 m./H. Rolle V." It lacks antennae and is greasy and dirty.

*Scione lurida* End. 1925. Two ♀ types, both in good to excellent condition. One is from Colombia, the other from British Honduras. The Colombian specimen is det. *Scione aurulans* (Wied.) by Philip and has been labelled lectotype. It has the wings a little darker than most Central American specimens, with indications of brown shades along veins, and the frontoclypeus is slightly shorter. Both specimens were compared with the type of *aurulans* (Wied.), the British

Honduras specimen agreeing closely, the Colombian differing as noted. This is a case of discontinuous distribution, as *aurulans* has not been taken in Panama or Costa Rica. Enderlein's name might be retained in a subspecific sense, though differences are slight and probably overlapping. The lectotype is here figured (Fig. 26).

*Spheciogaster lutzii* End. 1925. The ♀ type lacks tip of left antenna but is otherwise in good condition. It is not *Acanthocera anacantha* Lutz, having a small tooth on base of 3rd antennal segment and white halteres. It agrees closely with the description of *A. vespoidea* Barr. 1947 and with specimens I had determined as that species.

*Stypochela bogotana* End. 1925. The single ♀ sent has one wing torn and is a little denuded. The description indicates 3 or more specimens. Whole insect pale yellowish brown. Wings very dilute yellowish, costal cell not darker. Appendix at fork a mere stub, hardly evident in one wing. Proboscis slightly less than head height, slender, the labella membranous, over half length of proboscis. Eyes bare, not fine and short pubescent as described. As in any bare-eyed species, scattered short hairs are visible under high magnification. Antennal style nearly as long as short basal plate, so that dorsal spine much exceeds end of basal plate. Whole 3rd antennal segment unusually hairy. Basicosta bare. Callus slenderly club-shaped. No ocelli or true tubercle at vertex, only a small denuded spot. No hind tibial fringe. Kröber's figure (1931 a) of antenna is inaccurate, as there are four clear annuli in style and the proportions of basal plate to style are nearly 1:1, not 2:1 as he shows. The palpi are also more inflated. His verbal description is accurate, except for antennae. I have labelled this specimen as lectotype to avoid possible later confusion.

This species is not especially close to *badia* and the species I have put in *Stypochela* (1958). Its greatest

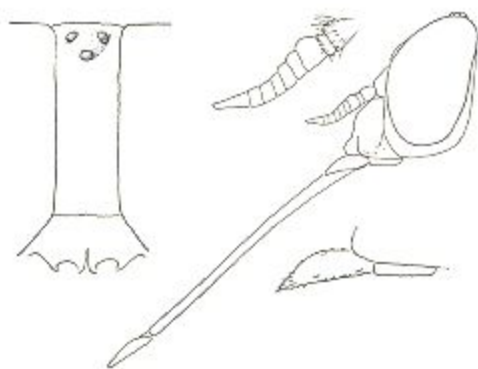


Fig. 26. *Scione lurida* End., ♀ lectotype, Colombian, Starcke. Head in side view,  $\times 6$ ; frons, antenna, palpus,  $\times 12.5$ .

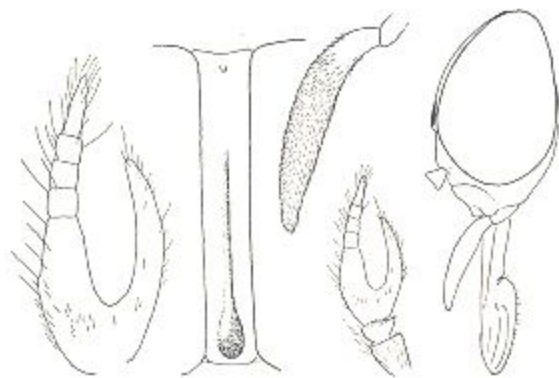


Fig. 27. *Stypochela bogotana* End., ♀ lectotype. Head in side view,  $\times 6$ ; frons, antenna, palpus,  $\times 12.5$ ; third antennal segment,  $\times 25$ .

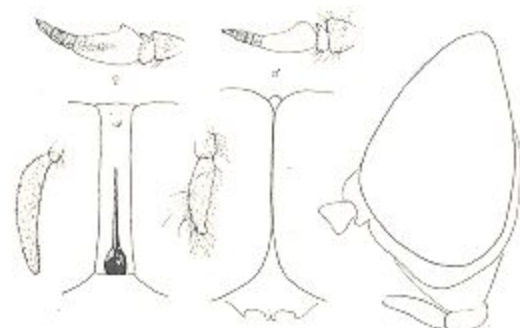


Fig. 28. *Theriopectes punctulipennis* End., ♀ holotype. frons, antenna, palpus,  $\times 12.5$ . ♂ allotype. Head in side view, frons, antenna, palpus,  $\times 12.5$ .

similarity is to *Amphichlorops vespertina* J. Beq. I include figures of the head structures of lectotype (Fig. 27).

*Stypommia patagonica* End. 1925. The ♀ type lacks antennae but is otherwise well preserved. It is, as placed by Kröber (1934), a synonym of *Dasybasis tritus* (Wlk.). Coscaron (1961) has redescribed the species in detail, with excellent figures.

*Stypommisa punctipennis* End. 1925. The ♀ type lacks antennae and 1 palpus is denuded and has been repinned. The ♂ type lacks one antenna and one leg. I believe the sexes are properly associated. The ♂ has densely hairy eyes, the ♀ bare. Both sexes have dark femora. The ♀ has been selected and labelled lectotype. The ♂ type of *Theriopectes punctulipennis* End. is same species. See discussion of that species.

*Styposelaga sexannulata* End. 1925. The type ♀ is intact and well preserved. It agrees closely with a homotype of *Stenotabanus maculifrons* (Hine) from Panama except for slightly larger size. The synonymy has been suggested by Philip (1960).

*Theriopectes punctulipennis* End. 1925. The ♀ type is intact though repinned, the ♂ type with a torn wing and somewhat darkened with grease. Both are from same locality and both with Enderlein det. labels as *Enderleiniella punctulipennis*. The ♂ is also labelled in pencil as *Sziladyus punctulipennis* End. Kröber (1934) places the species in *Dudaella* Strand 1932, of which it is the type. Comparison shows the sexes to be misassociated, the ♀ being *Stypommisa rubrithorax* (Macq.), the ♂ *St. punctipennis* End. The character used by Enderlein to separate ♂♂ of *punctipennis* and *punctulipennis*, the degree of prominence of the tubercle at vertex, does not hold in series. The ♀ is here selected as lectotype, making the name a synonym of *Stypommisa rubrithorax* (Macq.). The head characters of ♂ and ♀ type are here figured (Fig. 28).

#### SUMMARY OF GENERIC NAMES

In the following list, Enderlein's generic names appear alphabetically at the left, their equivalents at the

right. Valid names accepted here are in boldface, synonyms in ordinary type. Very few, if any, of these allocations represent wholly new synonymy or new combinations, as Enderlein's names have been much moved about, and genera are highly subjective in any case. Of the 36 generic names considered here, 26 are synonyms or seem unnecessary, 3 are reduced to subgenera and 7 are retained as useful genera.

- Archiplatius End. 1922=**Dasybasis** Macq. 1847  
 Bombomimetes End. 1922=**Scaptia** (**Scaptia**) Walk. 1850  
 Brachypsalidia End. 1922=**Tabanus** (**Chelotabanus**) Lutz 1913  
 Calliosca End. 1925=**Scaptia** (**Scaptia**) Walk. 1850  
 Chelommia End. 1922=**Tabanus** (**Chelotabanus**) Lutz 1913  
 Dasyapha End. 1922=**Veprius** Rond. 1863  
 Dasyommia End. 1922=**Hybomitra** End. 1922  
 Dasyphyra End. 1922=**Tabanus** (**Poeciloderas**) Lutz 1921  
 Gymnochela End. 1925=**Stibasoma** (**Rhabdotylus**) Lutz 1909  
**Holcopsis** End. 1923  
 Hybopelma End. 1922=**Tabanus** (**Poeciloderas**) Lutz 1921  
 Hybostraba End. 1923=**Tabanus** L. 1758  
**Leptapha** End. 1923  
 Linapha End. 1923=**Dichelacera** (**Dichelacera**) Macq. 1838  
 Listrapha End. 1922=**Scaptia** (**Pseudoscione**) Lutz 1918  
 Listraphella End. 1929=**Scaptia** (**Pseudoscione**) Lutz 1918  
 Listrosca End. 1922=**Scaptia** (**Pseudoscione**) Lutz 1918  
 Mimodynerus End. 1922=**Acanthocera** Macq. 1834  
 Ommalia End. 1923=**Chlorotabanus** (**Cryptotylus**) Lutz 1909  
**Oopelma** End. 1923  
 Parosca End. 1922=**Scaptia** (**Pseudoscione**) Lutz 1918  
**Protodasyapha** End. 1922  
**Protosilvius** End. 1922  
 Psalidia End. 1922=**Dichelacera** (**Psalidia**) End. 1922  
 Pseudomelpia End. 1922=**Scaptia** (**Pseudomelpia**) End. 1922  
**Rhamphidommia** End. 1922  
 Rhamphis End. 1922=**Dichelacera** (**Dichelacera**) Macq. 1838  
 Rhinotriclista End. 1922=**Scione** Walk. 1850  
 Ricardoia End. 1922=**Esenbeckia** Rond. 1863  
 Scapacis End. 1922=**Esenbeckia** Rond. 1863  
 Scaptiodes End. 1922=**Dasybasis** (**Scaptiodes** End.



1922

- Spheciogaster End. 1922=**Acanthocera** Macq. 1834  
 Stypochela End. 1922=**Amphichlorops** Lutz 1909  
 Stypommia End. 1922=**Dasybasis** Macq. 1847  
**Stypommisa** End. 1923  
 Styposelaga End. 1922=**Stenotabanus** Lutz 1913

## SUMMARY OF SPECIFIC NAMES

Enderlein's specific names are listed at the left, their equivalents at the right. Valid names are in bold-face, invalid in ordinary type. Apparently new synonyms are indicated by (N.S.), and new combinations by (N.C.). Of the 67 species described, 34 are synonyms, 17 are reduced in rank or in a different genus, one is a homonym, and 15 appear valid as proposed.

- Agelanius maculipennis*=**Tabanus** (**Poeciloderas**)  
**pelidnopterus** Kröb.  
*Archiplatius pygmaeus*=**Tabanus claripennis** Big.  
 (N.S.)  
**Bolbodimyia desecta**  
*Calliosca schoenemanni*=**Scaptia varia** Walk.  
*Chelommia fibulata*=**Tabanus** (**Chelotabanus**)  
**hirtitibia** Walk. (N.S.)  
*Dasyapha bisulcata*=**Veprius presbiter** Rond. (N.S.)  
*Dasyapha mendozana*=**Veprius mendozanus** (End.)  
 (N.C.)  
*Dasyommia bogotana*=**Tabanus** (**Chelotabanus**)  
**hirtitibia** Walk. (N.S.)  
**Dichelacera ecuadoriensis**  
**Di cladocera hoppi**  
**Di cladocera limbativena**  
**Di cladocera maculistigma**  
*Di cladocera steinhelli*=**Di cladocera basirufa** (Walk.)  
 (N.S.)  
**Esenbeckia balzapambana**  
*Esenbeckia crosa*=**E. clari** var. **erosa** End. (N.S.)  
*Esenbeckia lemniscata*=**E. clari** var. **lemniscata** End.  
 (N.S.)  
*Esenbeckia sexmaculata*=**E. testaceiventris** (Macq.)  
**Fidena albibarba**  
**Fidena aurifasciata**  
**Fidena longipalpis**  
*Fidena obtusipalpis*=**F. aurifasciata** End. (N.S.)  
**Holcopsis fenestrata**  
*Hybostraba guttiventris*=**Tabanus autumnalis** L.  
 (N.S.)  
*Hybostraba ovalipalpis*=**Tabanus claripennis** Big.  
 (N.S.)  
*Laphriomyia miniatistola*=**Fidena** (**Laphriomyia**)  
**mirabilis miniatistola** (End.) (N.C.)  
*Linapha scripta*=**Dichelacera unifasciata** Macq.  
*Listrappa acutipalpis*=**Scaptia** (**Pseudoscione**)  
**australis** Philippi (N.S.)  
*Listrappa convergens*=**Fidena opaca** Bréthes (N.S.)

- Listrappa imitans*=**Scaptia** (**Pseudoscione**)**australis**  
 Phil (N.S.)  
*Listrappa subulipalpis*=**Scaptia** (**Pseudoscione**)  
**latipalpis** (Macq.) (N.S.)  
*Listrappella schoenemanni*=**Scaptia** (**Pseudoscione**)  
**australis** Phil. (N.S.)  
*Listriosca angustifrons*=**Scaptia** (**Pseudoscione**)  
**flavipes** (End.) (N.S.)  
*Listriosca flavipes*=**Scaptia** (**Pseudoscione**)**flavipes**  
 (End.) (N.C.)  
*Melpia auribarba*=**Fidena auribarba** (End.)  
*Melpia auribarba* var. **albibarba**=**Fidena auribarba**  
 (End.)  
*Melpia auricauda*=**Fidena rhinophora** (Bell.) (N.S.)  
*Melpia ferruginea*=**Scaptia seminigra** (Ric.) (N.S.)  
*Ommallia brevihamus*=**Tabanus** (**Chelotabanus**)  
**bigoti** Bell. (N.S.)  
*Ommallia herculeana*=**Tabanus** sp.  
*Ommallia interrupta*=**Tabanus** (**Chelotabanus**)**thie-**  
**meana** (End.) (N.S.)  
*Ommallia thiemeana*=**Tabanus** (**Chelotabanus**)**thie-**  
**mena** (End.) (N.C.)  
*Ommallia viridis*=**Chlorotabanus** (**Cryptotylus**)**uni-**  
**color** (Wied.)  
*Oscia faceta*=**Scaptia** (**Scaptia**)**rufa** (Macq.)  
*Psalidia ocellata*=**Dichelacera** (**Psalidia**)**fulminea**  
 var. **ocellata** End.  
*Pseudomelpia horrens*=**Scaptia** (**Pseudomelpia**)  
**horrens** (End.)  
*Pseudoselasoma bicinctum*=**Diachlorus bicinctus**  
 (Fab.) (N.S.)  
**Rhamphidommia muscosa**  
*Rhamphis parvidens*=**Dichelacera parvidens** (End.)  
*Rhinotriclista brevipalpis*=**Scione claripennis** Ric.  
*Rhinotriclista cingulata*=**Scione cingulata** (End.)  
*Rhinotriclista flavescens*=**Scione flavescens** (End.)  
*Rhinotriclista generosa*=**Scione rufescens** Ric.  
*Rhinotriclista strigata*=**Scione strigata** (End.)  
*Ricardoia latiflagrum*=**Esenbeckia incisuralis** (Say)  
*Ricardoia fuscipes*=**Esenbeckia fuscipes** (End.)  
*Scapacis fidenodes*=**Esenbeckia fidenodes** (End.)  
*Scaptiodes nigerrima*=**Dasybasis** (**Scaptiodes**)**gaga-**  
**tina** (Phil) (N.C.)  
**Scione brevistriga**  
**Scione limbativena**  
*Scione lurida*=**Scione aurulans lurida** End. (N.C.)  
*Spheciogaster lutzi*=**Acanthocera lutzi** (End.)  
*Stypochela bogotana*=? **Amphichlorops bogotana**  
 (End.) (N.C.)  
*Stypommia patagonica*=**Dasybasis tritus** (Walk.)  
**Stypommisa punctipennis**  
*Styposelaga sexannulata*=**Stenotabanus maculifrons**  
 Hine  
*Theriopectes punctulipennis*=**Stypommisa rubri-**  
**thorax** (Macq.) (N.S.)

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