Notes on Neotropical Tabanidae (Diptera)
III. The Genus *Protosilvius* Enderlein[1]

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ABSTRACT

The South Brazilian genus *Protosilvius* Enderlein (Dipt., Tabanidae) is reviewed and *Histriosilvius* Kröber placed in synonymy. The type species, *P. termitiformis* End. and *H. longipalpis* (Macq.) of the respective genera are redescribed and figured, and 3 new species, *P. phoeniculus*, *P. priscus*, and *P. mackerrasi* are described from both sexes. The genus is considered to belong to the most primitive section of the Pangoniini, near the Australian *Ectenopsis* and Nearctic *Apatolestes* and *Asaphomyia*.

The knowledge of *Protosilvius* and *Histriosilvius* has hitherto depended entirely on the female type specimens of the species on which they were founded. Study of considerable additional material, including males of three species, has furnished an increased understanding of these rather primitive flies.

Through the courtesy of Dr. I. M. Mackerras I have received a full description and drawings, reproduced below, of the type of *Protosilvius termitiformis* End., while I have studied the type of *Histriosilvius longipalpis* (Macq.) in Paris. In addition to these, I have received on loan and collected myself twelve specimens of three additional species, including males of all three. Examination of the genitalia of both sexes of these flies confirms their placement by Mackerras (1955) in the most primitive section of the Pangoniini.

Protosilvius Enderlein

1922, Mitt. Zool. Mus. Berlin, 10(2): 337, in key only, type *P. termitiformis* End.; 1925, Mitt. Zool. Mus. Berlin, 11(2): 272, description; includes also *P. longipalpis* Macq. Kröber, 1930, Mitt. Zool. Mus. Hamburg, 44: 158, fig. 15, quotes Enderlein's generic description and redescribes and figures type; 1932, Rev. Ent. 2(2): 195. Borgmeier, 1933, Rev. Ent. 3(3): 299, monotypic for *P. termitiformis* End. Kröber, 1934, Rev. Ent. 4(2): 236. Mackerras, 1955, Australian Jour. Zool., 3(3): 466, not seen; placed tentatively in *Pangoniini*.

Histriosilvius Kröber, 1930, Zool. Anz. 88(9-10): 238–9, fig. 11, monotypic for *H. longipalpis* Macq.; 1930, Mitt. Zool. Mus. Hamburg, 44: 150, fig. 1, fig. of antenna only; 1932, Rev. Ent., 2(2): 194; 1934, Rev. Ent. 4(2): 231, full references. Borgmeier, 1933, Rev. Ent. 3(3): 293, monotypic for *H. longipalpis* Macq. Mackerras, 1955, Australian Jour. Zool., 3(3): 466, fig. 11D, not seen; placed in Pangoniini. (NEW SYNONYMY.)

The genus may be characterized as follows: Slender, long-winged flies with small heads and elongate abdomens. Eyes bare or with barely visible short hairs, those of the male with upper eye facets greatly enlarged or not. Ocellar tubercle prominent with three well-developed ocelli. Frons narrow or broad, without a bare callus. Face receding, the frontoclypeus separated from genae by a deep groove. Palpi curved, somewhat flattened and beset with abundant long hairs. Proboscis hardly exceeding palpi, the labella long, membranous and hairy. Antennae with first two segments inflated, wider than basal plate of third segment. Third segment of a somewhat flattened basal plate and 4 to 7 annuli, of which the terminal annulus is very much the longest. All three antennal segments with unusually long hairs.

Thorax normal, legs rather long and slender, the mid and hind tibiae with short paired spurs. Wing long and rather narrow. Basicosta and Subcostal vein bare, Costa and R_1 setose, R_4 usually with a short appendix, second submarginal cell (R_4) rather long and narrow, all marginal cells except Cu_2 widely open. Abdomen long and slender, the sixth tergite but little shorter than the second.

Male genitalia with style bifid, the dorsal branch slightly hooked, as in *Apatolestes*; ninth tergite large, convex, the cerci rounded or blunt. Female genitalia with roughly triangular cerci, the eighth sternite about as wide as long, the gonapophyses undivided.

The group seems to represent in the Neotropics such genera as *Ectenopsis* (Australia) and *Apatolestes* and *Asaphomyia* (Nearctic). *Zophina* Philip, whose genitalia have not been described, seems also closely similar on external characters. Whether some or all of these obviously similar and primitive groups should be combined under one generic name, as suggested by Dr. Mackerras (in litt.) will depend on close comparative study of ample material, which is not yet available, at least to me.

Based largely on external characters, *Protosilvius* seems to be separable from allied genera as follows:

From *Veprius* Philippi (*Chaetopalpus* Mackerras, 1955), by having bare eyes, narrower, parallel frons, and usually more than 4 annuli in style of third antennal segment.

From *Apatolestes* Williston, by narrower parallel frons without basal callus and usually less than 8 complete segments in third antennal segment.

From *Asaphomyia* Stone, by narrower frons, 4 or more annuli in third antennal style, and longer proboscis and palpi.

From *Zophina* Philip, by absence of swollen subcallus and apparently narrower frons, and by less distinct basal plate of third antennal segment.

From *Ectenopsis* Macquart, by generally narrower frons, less protuberant face, shorter proboscis and generally longer, hairier palpi.

The genitalia of only a few species of these groups

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have been described, so it is not possible to say yet whether the differences observed are of generic or only specific value. Of the species described in the present paper, the male genitalia of *priscus* and *mackerrasi* differ very little from the figures given by Mackerras (1955) for *Apatolestes* or (1956) various species of *Ectenopsis*. The male genitalia of *phoeniculus* resemble most those of *Ectenopsis occidentalis* Mackerras 1956, at least in the swollen base of the style. The female genitalia are also similar to those figured for *Apatolestes* and *Ectenopsis* by Mackerras (1955, 1956), except that the apex of the eighth sternite is simple, not divided into two lobes or gonapophyses, as are all other describer species.

The differences in genitalic and, less marked, external characters between *phoeniculus*, and *priscus* and *mackerrasi* might warrant the retention of *Histriosilvius* in a subgeneric sense if it could be shown that *longipalpis* differed from *termitiformis* in the same ways. Lacking fresh material of these species, it seems better to treat *Histriosilvius* as a synonym of the earlier *Protosilvius*.

KEY TO FEMALES

1. Notably hairy species with the abdomen banded 2
   Rather bare species, the abdomen unicolorous 3
2. Frons narrow, over four times as high as width at narrowest part. Third antennal segment with basal plate and four annuli, the last longer than sum of preceding three. Abdominal tergites pale behind, with silvery-white hairs ..... ***longipalpis***
   Frons broader, less than 3.5 times as high as width at narrowest point. Third antennal segment with basal plate ill defined, divided into 3 annuli with another partial division, so that the segment may be said to be incompletely 8-annulate. Abdomen with yellowish hairs on hind margins of tergites ..... ***phoeniculus***
3. Thorax and abdomen with dense yellow hairs. Palpi slender, curved, blunt, cylindrical. Frons 3.5 times as high as narrowest width. Antennae with basal plate and 6–7 annuli, the last not as long as the two preceding ..... ***termitiformis***
   Thorax and abdomen with sparse black or brown hairs. Terminal annulus of antennae longer than two preceding 4
4. Frons broader, about 3 times as high as narrowest width. Wings smoky hyaline, the costal cell markedly dark. Terminal annulus not so long as three preceding ..... ***priscus***
   Frons narrower, over 4 times as high as narrowest width. Wings dilute blackish, darkest anteriorly. Terminal annulus longer than three preceding annuli ..... ***mackerrasi***

KEY TO MALES

1. Style expanded caudad. Hairy species with banded abdomen ..... ***phoeniculus***
   Style not expanded. Short-haired species with unbanded abdomen 2
2. Upper eye facets greatly enlarged. Ocellar tubercle rising far above eye level ..... ***priscus***
   Upper eye facets not enlarged. Ocellar tubercle hardly raised above eye level ..... ***mackerrasi***

Protosilvius termitiformis Enderlein

Plate 2, figs. 7–11.

1922, Mitt. Zool. Mus. Berlin, 10(2): 337, no description; 1925, Mitt. Zool. Mus. Berlin 11(2): 273, ♀, San João del Rey, Brasil. Kröber, 1930, Mitt. Zool. Mus. Hamburg 44: 158 fig. 15, redescription of type; 1934, Rev. Ent. 4(2): 256. Vianna Martins, 1940, Os Tabanídeos do Estado de Minas Gerais, Belo Horizonte, p. 63.

Dr. Mackerras has furnished the following information on *P. termitiformis*, after a study of the type specimen on loan from the Berlin Museum.

"The type ♀, in Berlin Museum, bears four labels: 'S. Joao. d. Rey. Sello.' in copperplate and 'Brasilien' in different hand; '2437'; 'Type' (orange label); '*Protosilvius termitiformis* type Enderl. ♀' (handwritten) 'Dr. Enderlein det. 1922' (printed).

"A pale yellow, slender, rather soft-bodied species, with unusually long wings (14 mm.), and abdominal tergites fully extended. Length 12 mm. (possibly 13 mm., if body were straight).

"*Head*.—Eyes more or less triangular in profile, rounded laterally in front view, with very short yellowish hairs which are just visible at X15. Frons of medium width (index about 3.5), smoothly tomentose, with a median groove, and short, inconspicuous, brown hairs; ocellar tubercle large and prominent. Subcallus very small, tomentose, indistinctly separated from frons; parafacials narrow, tomentose and with short hairs; face convex, but deeply sunken, separated from parafacials by deep groove, tomentose but without hairs. Antennae: first and second segments short, plump, pale yellow, with rather strong black hairs; third swollen at the base, parallel-sided distally, rather indistinctly 7-annulate, and characterized by a row of strong bristly hairs above. Palpi with first segment somewhat swollen, second rather narrow and parallel-sided, very hairy, like the palpi of *Caenoprosopon* (and of *Protodasyapha hirtuosa*). Proboscis short, rather weak, with long but narrow, fairly soft, hairy labella. The eyes are dark reddish brown, and the rest of the head, including appendages, entirely light yellow.

"*Thorax*.—Scutum and scutellum light yellow, with rather dense yellow hairs, without special distinguishing features. Pleurae similar, without distinguishing features; spiracles rather widely open, and with medium lips.

"*Legs* normal; femora yellow, with yellowish hairs; remaining segments somewhat darker, and with dark brown hairs; hind tibial spurs rather short, but easily seen; hair covering of hind tibiae uniform, not developed into definite fringes.

"*Wing* long, rather narrower than usual, diffusely brownish grey, with costal cell little darker than the rest; stigma rather ill defined. Vein *sc* bare above and below; Cu_1 with fairly even row of small setulae; R_4 rectangular at base, and with short appendix; cell R_4 unusually long and narrow; cells R_5 and M_3 widely open; cell Cu_2 closed, short petiolate. Halteres with yellowish stem and brownish knob.

"*Abdomen* long and narrow, rather soft, with first seven segments fully extended, and apical aperture rounded, widely open; rather bare, entirely yellow, with golden hairs, above and below. Genitalia: 8th sternite small, with wide, indistinctly separated

gonopophyses; 9th tergite expanded laterally; cerci pointed, rather tent-like in arrangement.

"Differs from *Protodasyapha* in: narrower, smoother, less hairy body; almost bare eyes; narrower, converging frons, without callus; much narrower parafacials; shorter 1st and 2nd antennal segments, and row of dorsal hairs on 3rd; longer legs; longer, narrower wings, with unusually long and narrow cell R_4; fully extended abdominal tergites, less flattened terminal segments, and smaller 8th sternite, with differently shaped gonopophyses.

"Appears to differ from *Histriosilvius* only by the differently shaped, more definitely annulate 3rd antennal segment, possibly by the dorsal hairs on this segment (I did not note them on *longipalpis*) and long cell R_4 (apical parts of wings, including all cell R_4, of type of *longipalpis* missing)."

Protosilvius longipalpis (Macquart)

Plate 3, figs. 10–13.

Pangonia longipalpis Macq., 1847, Dipt. Exot. Suppl. III, p. 9, pl. 9, fig. 3, ♀, Brésil. Walker, 1854, List Dipt. Brit. Mus., V. Suppl. 1, p. 123. Kertesz, 1900, Cat. Tab., p. 20.

Diatomineura (*Corizoneura*) *longipalpis*, Ricardo, 1900, Ann. Mag. Nat. Hist., 5, Ser. 7, p. 173.

Eseubeckia longipalpis, Lutz, 1909, Zool. Jahrb., Suppl. 10, H. 4, pp. 671–672. Surcouf and Gonzalez-Rincones, 1912, Dipt. Vuln. Venezuela, Pt. 2, p. 107. Surcouf, 1921, Gen. Insect. Taban. p. 115.

Protosilvius longipalpis, Enderlein, 1925, Mitt. Zool. Mus. Berlin, 11(2): 272.

Histriosilvius longipalpis, Kröber, 1930, Zool. Anz. 88 (9–10): 238–239, fig. 11; 1934, Rev. Ent. 4(2): 231. Mackerras, 1955, Australian Jour. Zool., 3(3): 466, fig. 11D. Fairchild, 1956, Smithsonian Misc. Coll., 131(3): 21.

Type: 1 ♀ in B.M. Red Circled type label, a Macquart hand label reading "*Pangonia longipalpis* ♀ n. sp. J. Macq." pasted onto a Bigot label reading "Brasil D. Exot." and a Kröber det. label reading "*Histrisilvius longipalpis* Macq." (sic!). The specimen is poorly preserved, with one wing and the apical half of the other missing and the whole very dirty. Kröber's description of the color is adequate, but his figure too schematic. It may be supplemented by the following points and the accompanying figures, which were drawn with the aid of a camera lucida.

Frons moderately narrow, wider at vertex and base, no frontal callus; tubercle at vertex large, with three prominent ocelli. Antennae as figured, tabanoid, the basal plate obscurely annulate, the style with four slender annuli, the terminal as long as the preceding three together. Palpi nearly as long as proboscis, curved, flattened, rounded at tip, somewhat grooved on the outer surface and with long hairs. Proboscis less than head height, the labella narrow, long, membranous and beset with long hairs. Frontoclypeus sunken between the eyes. Subepaulet bare, costa and first vein (R_1) setose, subcosta bare. Wings hyaline. Hind tibiae with paired spurs. Thorax blackish in ground color, obscurely striped, greyish brown pollinose. Abdomen dark brown, black-haired except that each segment has a narrow complete hind-marginal border of silvery white hairs, slightly broadened in the middle. Legs brownish. The head is small in proportion to the body, being considerably narrower than thorax. The abdomen in life appears to have been quite long and slender, the sixth segment being but little shorter than the second. I did not measure the specimen. Macquart gives the length as 5½ lines (= 12.4 mm.), while Kröber says both wing and body are 11 mm. long. I also did not note the presence of hairs on third antennal segment of the type, but they may have been lost.

Protosilvius phoeniculus, new species

Plate 1, figs. 1–10.

A slender, blackish, hairy fly with small head, greyish hyaline wings, and abdomen banded with dull yellowish hairs.

FEMALE.—Length 12 mm., of wing, 12 mm. Eyes bare, blackish, probably unicolorous in life, though no attempt made to revive a pattern. Frons 3.3 times as long as narrowest width, dark brown pollinose, without callus or pollinose ridge, with sparse black hairs along ocular margin. Ocellar tubercle large, brown pollinose, with recumbent black hairs on top, the ocelli large. Frontoclypeus and genae brown pollinose, the former rounded, separated from genae by deep tentorial grooves, both with scattered black hairs. Antennae brown pollinose, black-haired, as figured. Palpi brown pollinose, with long and dense black hairs. Proboscis with labella large, brown pollinose, densely long black-haired. Mesonotum and scutellum dark brown, the sutural lines paler, brown pollinose and with long black hairs. Pleura dark brown with long brown hair. Legs unicolorous dark brown, with long dark hairs, but no hind tibial fringe. Wings greyish hyaline, basicosta and subcosta bare, costa and radius with macrotrichiae, all cells but anal open, a short appendix on upper fork of third vein. Abdomen dark brown, mainly black-haired, but posterior margins of at least first to fifth tergites slightly paler and with a fringe of yellowish white hairs, which may be incomplete or evident only in middle or at sides on some tergites. Beneath, pale hairs are evident only on second and third segments. The specimen is teneral, and the colors probably weaker than in a mature specimen.

Holotype female, Itatiaia, R. J. Brasil, 2,200 meters, 6-1-954, W. Zikan coll. The genitalia have been removed and mounted on a slide.

MALE.—Length 11 mm., of wing 10.5 mm. Eyes bare, holoptic, though facets not actually touching. No area of enlarged facets. Ocellar tubercle large and prominent, brown pollinose, with three large reddish ocelli. Subcallus greyish-brown pollinose, rather prominent. Frontoclypeus and genae greyish-brown pollinose, densely long black-haired. Antennae greyish-brown pollinose, the third segment blackish, as figured. Palpi as in female though more slender and porrect, with a light brown area free of hairs on dorsal surface at about middle. Proboscis as in female, though shorter.

Mesonotum blackish grey, with a dorsolateral pair of paler stripes; scutellum grey pollinose, both with mixed black and yellow hairs. Pleura grey pollinose, dark haired. Legs blackish, dark grey pollinose, mainly dark haired. Halteres with stem brown, knob dull yellowish. Wings as in female, the costal cell dilute brownish. Abdomen blackish brown, black-haired, the posterior margins of all tergites paler and with wide fringes of long yellow hairs. Beneath the abdomen is paler and pale hairs predominate. Genitalia as figured.

Allotype male, same data as holotype. The head shows scattered pollen grains, suggesting the specimen was taken on flowers. The genitalia mounted on a slide.

A single male paratype is labelled "7-1-1927 Alto Itat.", "52 Dr. Shan. J. F. Zikan coll." and "Micropangonia". It is moldy and dirty so that the colors are dull and the abdominal bands obscure, but I believe it is the same species. Holotype and allotype in Instituto Oswaldo Cruz, paratype in collection of Dr. John Lane.

This species may be no more than a variant of *longipalpis*. The differences in the structure of antennae, proportions of frons of female, and coloration of abdominal hairs may be more apparent than real, considering the condition of the material and the fact that the sketch of the type of *longipalpis* was made without mounting the antenna. The locality where the present species was taken, the highest mountain in Brasil, has yielded other peculiar forms, often with southern affinities. The name is in reference to the shape of the styles of the male genitalia, which recalls the head of the Hoopoe (*Phoeniculus*), a bird.

Protosilvius mackerrasi, new species

Plate 3, figs. 1–9.

A small, slender, blackish species with blackish wings, unmarked abdomen and unicolorous legs.

FEMALE.—Length 11 mm., of wing 11 mm. Eyes bare, blackish, no attempt made to revive a pattern. Frons about 4.5 times as high as narrowest width, just below ocelli, nearly as wide at vertex as at base, dark chocolate brown pollinose, without callus, but with an ill-defined, raised, pollinose, median ridge extending part way down frons from ocellar tubercle. Ocellar tubercle large, nearly as wide as vertex and with three well-developed ocelli. Subcallus somewhat protuberant, brown pollinose. Genae brown pollinose with long blackish brown hairs. Frontoclypeus not prominent, brown pollinose, separated from genae by very large and deeply sunken tentorial pits. Antennae brown, brown pollinose, the first two segments greatly inflated, larger in diameter than the third; basal plate of third segment laterally flattened, about two-thirds as wide as long. Style of four annuli exceeding basal plate, the terminal annulus sticklike, nearly equalling the three preceding annuli together. Palpi long, equalling proboscis, strongly elbowed, brown pollinose, beset with long dark hairs, especially on the ventral surface. Proboscis short, the labella pollinose, slender, occupying nearly three-fourths of length of proboscis and with scattered long hairs.

Mesonotum and scutellum brown pollinose, black-haired, the pleura and sternum concolorous and with dark brown hairs. Legs rather long and slender, the hind pair extending well beyond tip of abdomen if extended, brown, black and brown-haired. No hind tibial fringe. Paired spurs on mid and hind tibiae. Wings long and slender, rather uniformly blackish brown infuscated. Basicosta and subcosta bare, costa setose above and below, R_1 setose above, bare below. Fork of third vein (R_4) with an appendix. Cells R_5 and M_3 open, cell Cu_2 closed, but in this specimen the anal vein fails to reach the margin in both wings. Abdomen long and slender, the tergites not diminishing much in size from second to fifth, the sixth and seventh somewhat shorter, all tergites and sternites brown, thinly brown pollinose and black-haired. Genitalia as figured.

Holotype female, Bananal, São Paulo, Brasil, Jan. 1937, D. Mendes coll.

MALE.—Length 10 mm., of wing 10 mm. Eyes bare, holoptic, the facets hardly differentiated in size, those on the upper middle portion of eye being only slightly larger than those on lower margin, with no line of demarkation. Frontal triangle brown pollinose,

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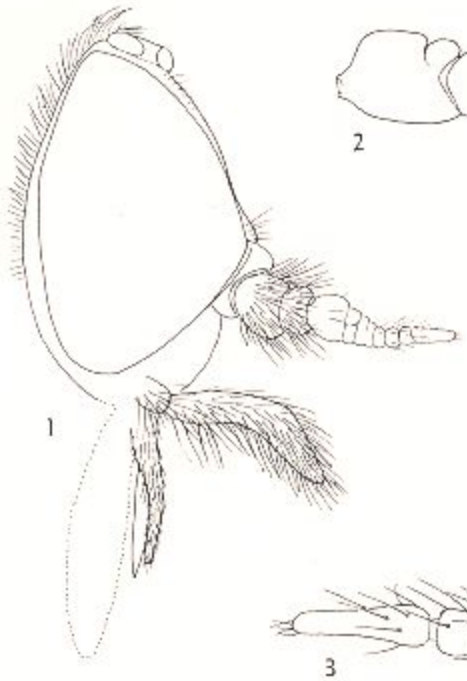
Explanation of figures

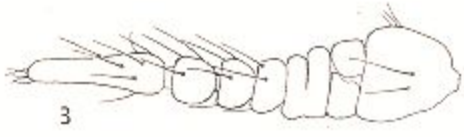
PLATE 1, figs. 1–10, *P. phoeniculus* n. sp. FIG. 1.—Head, female. FIG. 2.—Antenna, male. FIG. 3.—Antenna, female. FIG. 4.—Base of spermathecal ducts. FIG. 5.—Frons, female. FIG. 6.—Frons, male. FIG. 7.—Genitalia, male, ventral view. FIG. 8.—Ninth tergite and cerci, male dorsal view. FIG. 9.—Eighth sternite, female. FIG. 10.—Terminal segments, female, posterodorsal view, showing ninth and tenth tergites and cerci.

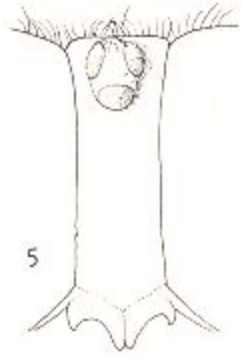
PLATE 2, figs. 1–6, *P. priscus* n. sp. FIG. 1.—Head, female. FIG. 2.—Frons, female. FIG. 3.—Antenna, female. FIG. 4.—Frons, male. FIG. 5.—Genitalia, male, ventral view. FIG. 6.—Ninth tergite and cerci, male, dorsal view. FIGS. 7–11, *P. termitiformis* End., Holotype. FIG. 7.—Head, female. FIG. 8.—Frons, female. FIG. 9.—Antenna. FIG. 10.—Terminal abdominal segments. FIG. 11.—Palpus.

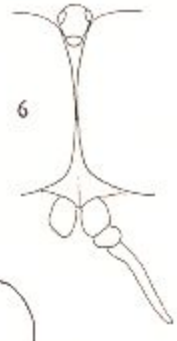
PLATE 3, figs. 1–9, *P. mackerrasi* n. sp. FIG. 1.—Frons, female. FIG. 2.—Frons, male. FIG. 3.—Antenna, male. FIG. 4.—Antenna, female. FIG. 5.—Ninth tergite and cerci, male. FIG. 6.—Bases of spermathecal ducts. FIG. 7.—Genitalia, male, ventral view. FIG. 8.—Wing, female. FIG. 9.—Terminal abdominal segments, female, dorsal view. FIGS. 10–13, *P. longipalpis* (Macq.), Holotype. FIG. 10.—Head. FIG. 11.—Frons. FIG. 12.—Antenna. FIG. 13.—Palpus.

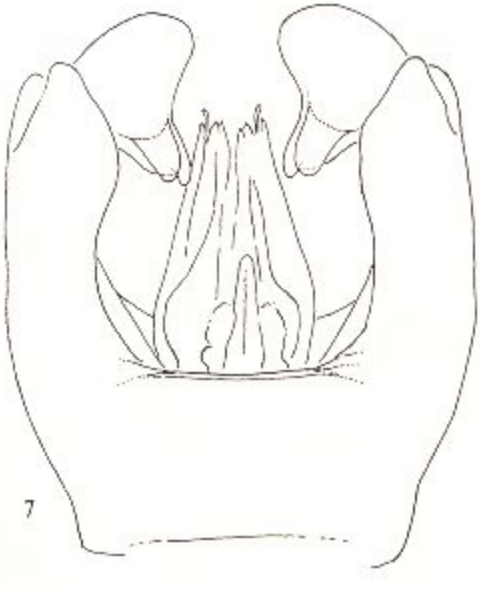
The figures were drawn at varying scales, but since all the species are about the same size, it has not been thought worthwhile to indicate the somewhat different magnifications. The figures of *P. termitiformis* End. were supplied through the courtesy of Dr. J. M. Mackerras.



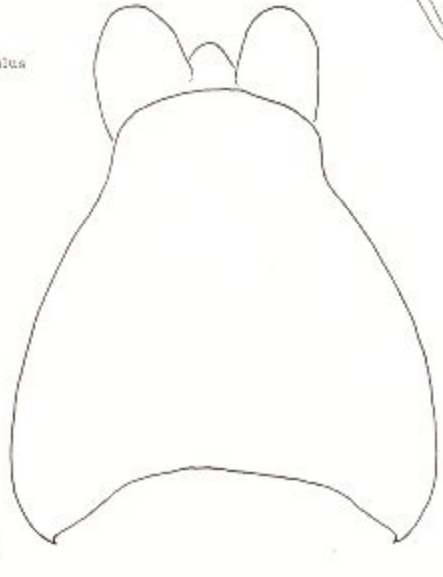


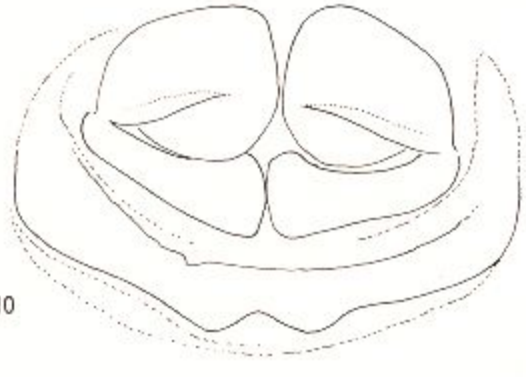


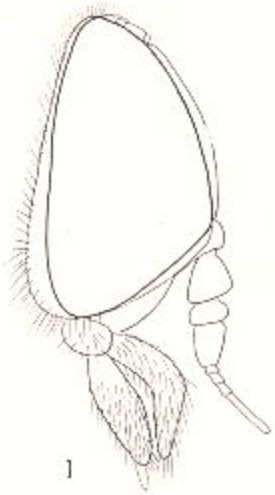




phoeniculus







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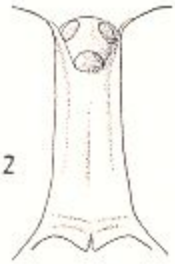

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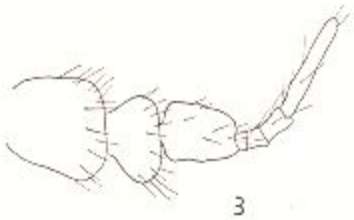

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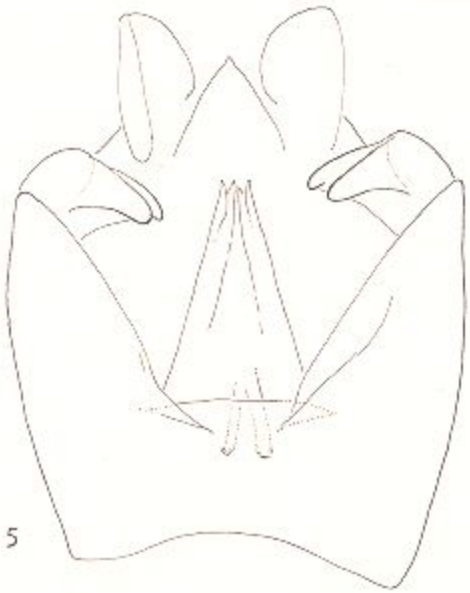
priscus



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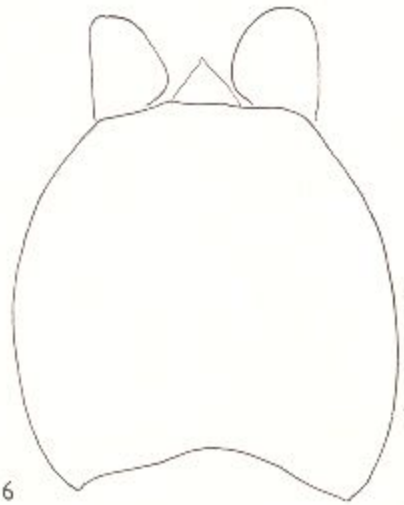

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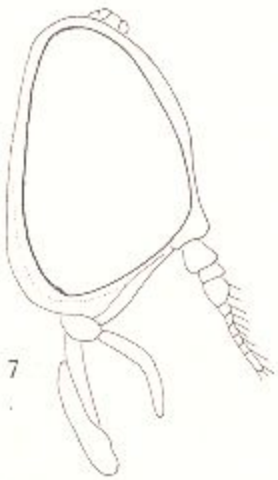

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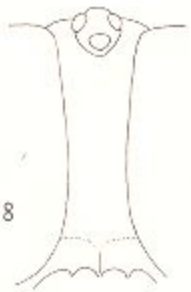

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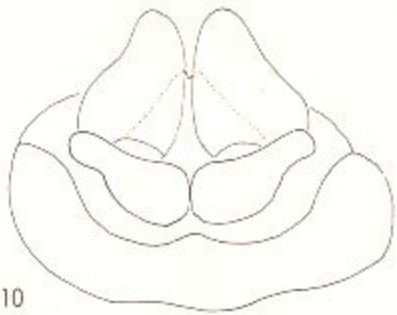

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termitiformis

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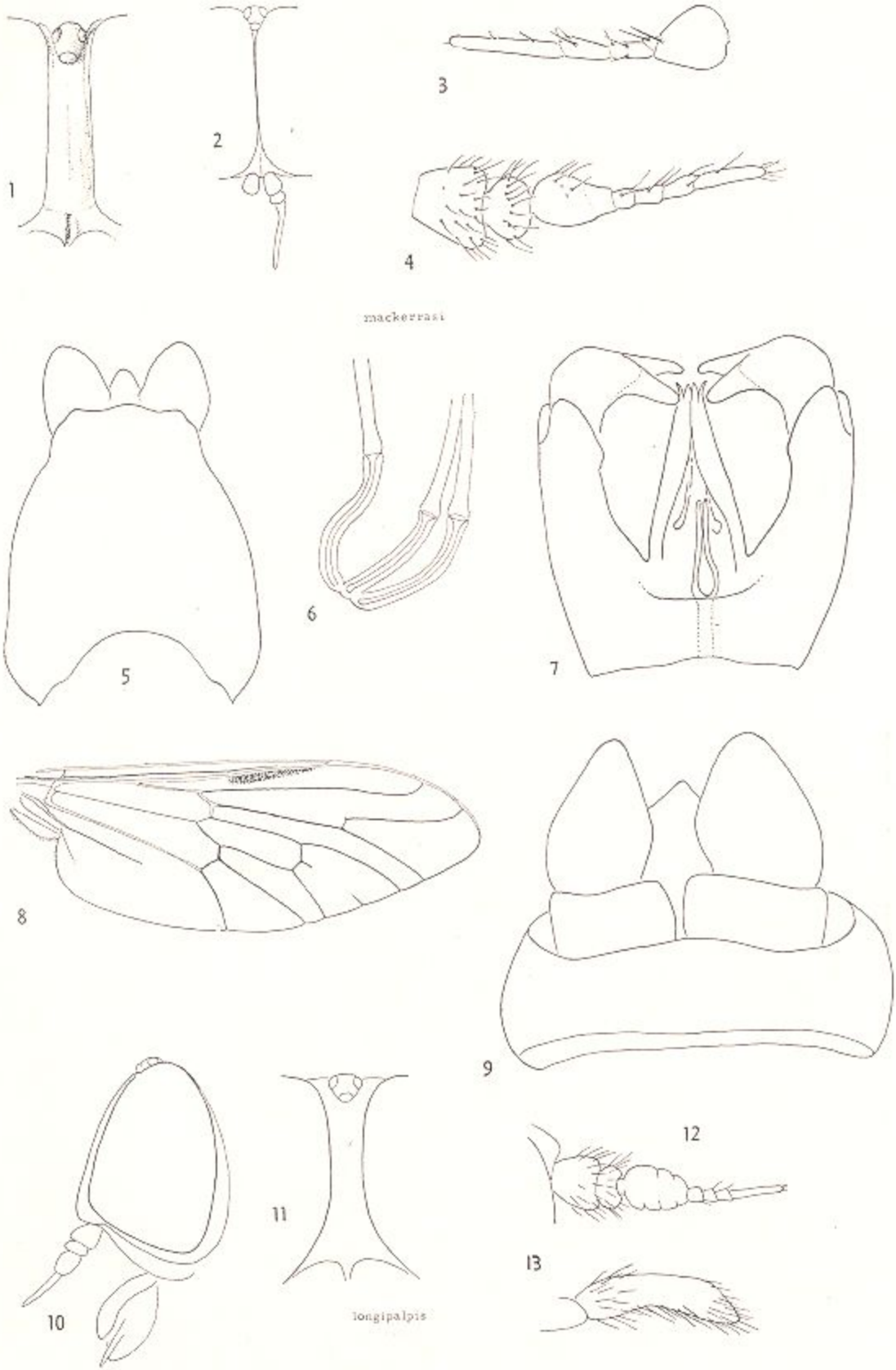
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mackerrasi
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longipalpis
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higher than wide. Antennae yellow, very slender, as figured. Palpi brown, the first segment rather inflated, the second cylindrical, curved, nearly as long as proboscis, both clothed with very long dense dark hairs. Frontoclypeus brown pollinose, separated from the brown pollinose genae by a deep groove. Beard brown. Thorax and abdomen cinnamon brown, sparsely clothed with short blackish brown hairs. Legs slender, light brown, entirely dark-haired, the hind tibiae without a fringe of longer hairs. Halteres brown. Wings greyish hyaline. The specimen is somewhat teneral. Genitalia as figured.

Allotype male, Bananal (Bocaina), S. Paulo, 8-1937, Travassos coll.

Paratypes, 2 females, without locality, agreeing with the holotype but slightly larger; 1 male without locality, darker than the allotype and with brownish wings, apparently not teneral; 1 male, same data as allotype, lighter than allotype, yellowish with mostly yellowish brown hairs and clear wings, but apparently not teneral. I detect no significant structural differences in these males in spite of their color differences. All the specimens are somewhat moldy.

Holotype female, 1 paratype female and 1 paratype male to be deposited in M. C. Z. Allotype male and remaining paratypes to be deposited in Instituto Oswaldo Cruz.

Protosilvius priscus, new species

Plate 2, figs. 1–6.

FEMALE.—Length 10 mm., of wing 10 mm. Eyes bare, no attempt made to revive the color, probably greenish black in life. Frons about 3 times as high as narrowest width, wider at base than at vertex, greyish brown pollinose, without bare callus, as figured. Ocellar tubercle prominent, with three large ocelli. A postocular fringe of erect dark hairs present, and a patch of hairs on posterior aspect of ocellar tubercle. Frontoclypeus brown pollinose, roof-shaped, separated from genae by very large and deep tentorial grooves. First two antennal segments dark brown, much inflated, clothed with dense long black hairs. Third segment yellowish, slender, as figured. Palpi dark brown, brown pollinose, rather stout and blunt, curved, and beset with long black hairs except for a small patch on dorsal surface near apex which is bare and lighter in color than the remainder. Proboscis dark brown, the labella long, membranous, pollinose and clothed with black hairs. Thorax and abdomen dark brown, the latter nearly black, both thinly brown pollinose and sparsely black-haired. Legs long and slender, blackish brown, black-haired; hind tibiae without a fringe of longer hairs. Wings smoky hyaline, the costal cell dark brown, the anterior border and first basal cell more infuscated than rest of wing.

Holotype female, Leopoldo Bulhões, Goyaz, Brasil, X-1935, Spitz coll. 1 female paratype, same locality and collector, XII-1933.

MALE.—Smaller than female and a teneral specimen, hence paler and with only faintly smoky wings. Eyes bare, holoptic, bright green in life, the area of enlarged facets extensive, fully four-fifths of eye area and the facets very large. Smaller facets also enlarged, being easily twice the size of the facets of the female eye. Frontal triangle slender, reaching about one-fourth the distance to the vertex. Ocellar tubercle large, raised well above eye level and with three large ocelli. Antennae as in female, though more slender. Palpi smaller than in female though decumbent and hairy, not porrect. Otherwise as in female.

Genitalia with ninth tergite a large undivided sclerite; cerci rounded; style deeply bifid, the dorsal arm a little longer and feebly hooked.

Allotype male, Anapolis, Goyaz, Brasil, 19 Dec. 1936, Fairchild coll.

This species differs from *mackerrasi* in broader frons in the female, in less intensely blackish wings, in the shape of the style of the male genitalia, and in having the male eye facets very greatly enlarged.

Holotype female in the Departmento de Zoologia, Estado de São Paulo. Allotype male and paratype female to be deposited in M. C. Z.

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