

Tipula annulicornuta, new species.

Male.—Length, 15 mm.; wing, 18 mm.

Frontal prolongation of the head brownish yellow; palpi pale brown. Antennae of moderate length, obscure yellow, basal flagellar segments a little darker basally, the terminal segments more uniformly dusky. Head brownish yellow.

Mesonotal praescutum obscure yellow with three brownish yellow stripes, the median stripe slightly darker anteriorly; remainder of mesonotum yellow. Pleura whitish yellow. Halteres pale, the knobs brown with yellow apices. Legs with the coxae concolorous with the pleura; trochanters yellow; femora and tibiae yellowish brown, the tarsal segments dark brown; legs long, metatarsi only a little shorter than the tibiae. Wings tinged with grayish yellow, the base and cells *C* and *Sc* more saturated, yellow; stigma bicolorous, the base yellow, the distal third brown; a very conspicuous obliterative area before the stigma, extending from *Sc*₂ into the base of cell *M*₃, almost filling cell 1st *M*₂; veins brown. Venation: *R*₂ preserved; cell 1st *M*₂ small, pentagonal.

Abdomen brownish yellow. Male hypopygium with the ninth tergite small, the caudal margin with two long, widely separated spines. Outer pleural appendage very small, cylindrical. Dorsomesal angle of ninth sternite with a dense brush of short yellow setae, immediately basad of which arises a powerful chitinized arm, bent laterad for a short distance and thence caudad and dorsad. Eighth sternite with a median brush of setae, on either side of which arises a chitinized spine that bears numerous, parallel, ridges for its whole length, the whole appearing like the horns of certain antelopes, these spines decussate.

Holotype, male, Gifu, May 10, 1921 (K. Takeuchi).

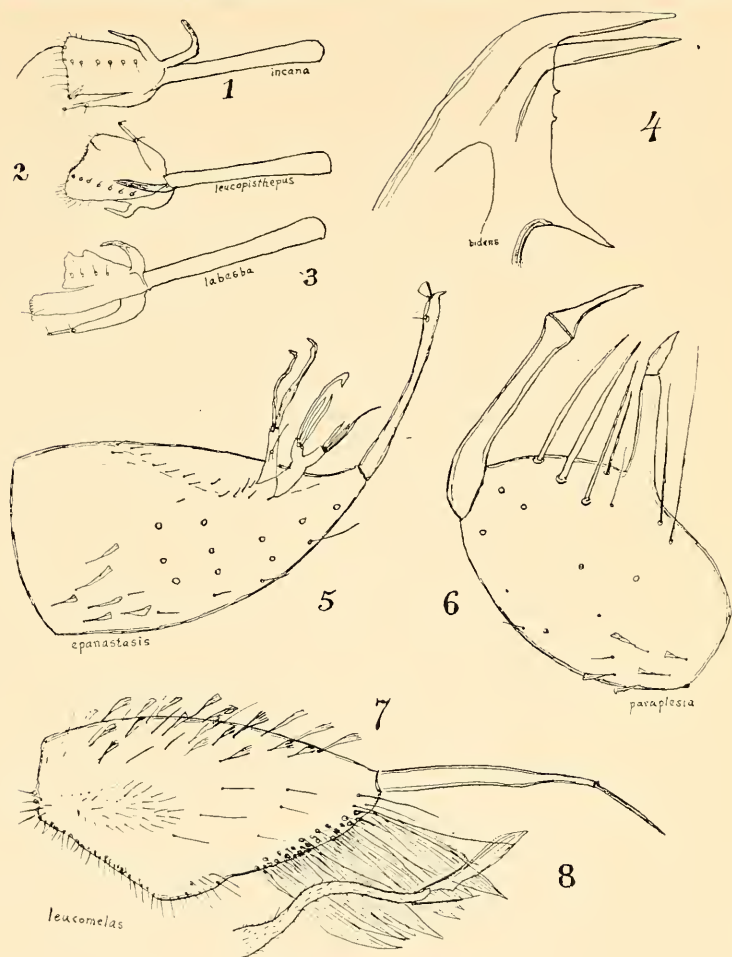
NOTES ON TROPICAL AMERICAN MOSQUITOES

(*Diptera, Culicidae*)

BY HARRISON G. DYAR

Wyeomyia (Wyeomyia) labesba Howard, Dyar & Knab.

Mr. J. B. Shropshire bred this species from an "air-plant"



EXPLANATION OF PLATE

1. Clasper of *Wyeomyia incana* Dyar.
2. Clasper of *Wyeomyia leucopisthepus* D & K.
3. Clasper of *Wyeomia labesba* H., D. & K.
4. Mesosome of *Culex bidens* Dyar.
5. Side piece and clasper of *Culex (Chocroporpa) epanastasis* Dyar.
6. Side-piece and clasper of *Culex (Carrollia) paraplesia* Dyar.
7. Side-piece and clasper of *Haemagogus (Stegoconops) leucomelas* Lutz.
8. Claspette of *Haemagogus leucomelas* Lutz.

and obtained several males, which sex was heretofore unknown. The coloration is as in the female, except that the male has less of white.

Male hypopygium. Side pieces smooth, without hairs except a few short ones on the outer side before tip; three long ones at the base within crowded closely together. Clasper with a long straight slender stem, the tip trifid; central arm broad, truncate, cleft, one half shorter than the other, the longer portion quadrate, delicately setose on the margin, the shorter portion with a row of four tubercles with recurved spines, the margin expanded and notched near the middle; short arm absent; core separated as a distinct arm, curved, pilose; long arm curved at base, narrowed, with a tubercle and recurved spine at middle and at tip; neither arm prolonged down the stem (Pl. V, fig. 3). Tenth sternites long, curved, dentate at tip; a pair of pointed setose pads beyond. Ninth tergites forming a quadrate bridge, which in the specimen mounted bears two stout spines on one side and three on the other. Eighth segment partially divided and bearing coarse setae on the margin.

In my table of the known males of *Wyeomyia* (Ins. Ins. Mens., vii, 129, 1919), this will fall with *fallax* B.-W. & B. (= *oblita* Lutz); but differs in the shape of the clasper, the produced part of the mid lobe being as wide as the short part and equally squarely truncate. (Compare Pl. V, fig. 6 of the reference cited.)

Majagual, Canal Zone, Panama, August 19, 1922 (J. B. Shropshire).

There are no good colorational differences between this and *leucopisthepus* D. & K., the latter species on reexamination proving to have white tips to the prothoracic lobes, thus obliterating the supposed differences.

Wyeomyia (*Wyeomyia*) *incana*, new species.

A small slender species of the shape and coloration of *labesba* and *leucopisthepus*, differing in the structure of the male hypopygium.

Male hypopygium. Side pieces long and slender, the tips curved down ventrally; some scales and fine setae on the terminal aspect; three long hairs close together near base. Clasper with long slender stem, the tip expanded and trilobed; central lobe broadly expanded, squarely ended (Pl. V, fig. 2), with rather long fine setae on margin, sparsely placed, and a longitudinal row of eight tubercles with recurved setae; central core detached as a separate arm, rather long, recurved, slightly pilose-striate; short side-arm bent at right angles; long side-arm as long as the middle lobe or longer, with middle and terminal seta. Tenth sternites long, slender, with curved dentate tip. Another pair of appendages within, curved, spinose-crested, pointed, but apparently not furcate-beaked as in *leucopisthepus*. Ninth tergites quadrate, stout, with two long setae on each side.

Types, male and female, No. 25759, U. S. Nat. Mus.; Margarita, Canal Zone, Panama, August 12, 1922, bred from larvae found in wild pine-apple plants (J. B. Shropshire).

Wyeomyia (*Miamyia*) *hosautus* Dyar & Knab.

Wyeomyia hosautus Dyar & Knab, Journ. N. Y. Ent. Soc., xv, 211, 1907.

Wyeomyia symmachus Dyar & Knab, Smith. Misc. Colls., Quart. Iss., lii, 262, 1909.

Wyeomyia euethes Dyar & Knab, Smith. Misc. Colls., Quart. Iss., 263, 1909.

This species was held apart on a single female, as supposedly having a distinct white tip on the prothoracic lobes. The white tip, however, is in reality faint, and there is no difference discernible between this and the better known *symmachus*. The name *hosautus* is the older and will take precedence.

Culex bidens, new species.

Head brown on the vertex, with white scales on the sides, scaled as in *Culex* proper. Mesonotum bronzy brown scaled. Abdomen black dorsally in the female, with basal white bands in the male, widened centrally; small basal segmental lateral white spots; venter whitish scaled. Legs black; femora pale

below; tarsi with very minute whitish rings, involving both ends of the joints. Wing scales narrow, dark.

Male hypopygium. Subapical lobe of side-piece with three rods, a filament, a leaf and a seta. Mesosome stout, with two long teeth from the apex, directed outwardly, the margin below long, with minute denticles, ending with a long inner arm (Pl. V, fig. 4). Tenth sternites tufted with spines, the basal arm long, at right angles, curved. Ninth tergites slight, with a row of setae.

Types, one male and four females, No. 25760, U. S. Nat. Mus.; Rosario, Bolivia (Lake Rocagua), November, 1921 (W. M. Mann, Mulford Biological Expedition).

Doctor Mann reports that the country at Rosario is in general open, supporting the Argentine fauna; but that there occur also little islands of forest. The present species apparently belongs to these forest islands, and may have been previously discovered in Brazil in some of the species of Theobald and Lutz which are unknown to me.

Culex (Choeroporpa) epanastasis, new species.

The single male type is much damaged. Proboscis and palpi black, the latter broken, but one remains entangled in the antennae, and appears to have been fully as long as the proboscis. Antennae plumose, the last two joints long and slender. Vertex of head broadly covered with narrow curved golden scales. Mesonotum denuded. Abdomen entirely black. Legs black, the femora narrowly pale beneath, tips of femora distinctly white. Wing-scales black, rather broadly ovate.

Male hypopygium. Side piece broadly triangular, longer than wide; both divisions of the lobe arise together, the inner with a stout columnar stem, with a seta at the middle, two stout, crooked, hooked, infuscated filaments arising at the tip, the inner only a trace inserted basad of the outer; outer division with curved columnar base, forked, the two limbs equal in diameter and length; a seta just before the furcation; outer limb with four narrow filaments, not evenly inserted, the inner one much longer than the others; inner limb bearing the middle

filament near its base, accompanied by a long narrow one; a long filament with hooked tip at the summit. Mesosomal plate terminating in two sharp points, nearly oppositely directed; another sharp point at the middle of the stem. Basal hooks strongly recurved, with spatulate tips, exceeding the mesosomal plate. Articulated plate large. Tenth sternites comb-shaped, the teeth flattened and very broad. Ninth tergites very small, elliptical, setose. Clasper narrowly snout-shaped, slender, scarcely widened, but with the characteristic *Choeroporpa* structure and eye-like seta; tip hooked; terminal spine appendiculate, triangularly widened, nearly as wide as long (Pl. V, fig. 5).

Type, male, No. 25761, U. S. Nat. Mus.; bred from larvae in Arenal River, Toro Point, Canal Zone, Panama, July 19, 1922 (J. B. Shropshire).

Culex (Carrollia) paraplesia, new species.

Male palpi short, about one-sixth the length of the proboscis; proboscis and palpi black. Antennae plumose. Vertex of head with brown scales, broadly whitish along the eye-margins. Abdomen entirely black above, the venter apparently also dark. Legs blue-black, the femora brown below. Wing-scales black, narrowly ovate.

Male hypopygium. Side pieces elliptical, about twice as long as wide. Clasper with a collar-like enlargement at about the outer third, the part beyond tapering and thorn-like, the spine subterminal, long, appendiculate. A single lobe on the side-piece below the middle, forming a long stout arm, bearing at its tip a single stout tooth-like appendage. Three or four very stout setae between this and the apex. Tenth sternites curved, with comb-shaped tips, containing three or four long slender teeth. Mesosome reduced. Ninth tergites undeveloped (Pl. V, fig. 6).

Type, male, No. 25762, U. S. Nat. Mus.; Puerto Niño, Colombia, February 21, 1922 (Dr. F. A. Miller), communicated by Dr. Wickliffe Rose of the International Health Board.

A female, Palmarito, Colombia, February 13, 1922 (Dr. F. A. Miller), may belong here.

Psorophora confinnis Lynch Arribálzaga.

This species was discussed in the monograph (Howard, Dyar & Knab, Mosq. No. & Cent. Am. & W. I., iv, 599, 1917) under *cingulatus* Fab., and compared with that species and *neoapicalis* Theob. Both of these species have wholly dark wing-scales and a narrow white ring on the proboscis. Arribálzaga's description is silent as to the color of the wing-scales, but he emphasizes the broad white ring of the proboscis. Specimens before me from the Mulford Biological Expedition, Rosario, Bolivia (W. M. Mann), show this character, but have the wing scales black and white. Taken with this form was a typically Argentine fauna, and it is therefore thought correct to identify the species as being the true *confinnis* of Lynch. It is a small *Psorophora* of the *jamaicensis* group, near *funiculus* Dyar; but unfortunately no males are at hand to indicate its exact relationship. The species has recently been recorded from Paraguay (Edwards, Bull. Ent. Res., xiii, 75, 1922).

Aedes euiris, new species.

In describing *Aedes iridipennis* (Ins. Ins. Mens., x, 92, 1922) I mentioned a second specimen from Bogotá, Colombia, which might not be conspecific. The type of *iridipennis* from Arizona proves to be not distinct from *Aedes muelleri* Dyar of Mexico; but additional material of the Colombian form shows that the distinctions noted are constant. It is therefore described under the above name.

Proboscis black. Mesonotum with sparse golden yellow scales, mixed with black ones, indefinitely defining two central lines and a patch on each side before; scales on pleura white. Abdomen black, with white bands at the bases of the segments, that on the second segment triangular, the bands not widened on the sides; venter white, with narrow black bands at the apices of the segments. Legs entirely black, except the femora,

which are pale beneath. Wings iridescent, the scales on the veins black, narrow. Claws of female toothed.

Types, three females, No. 25763, U. S. Nat. Mus.; Bogotá, Columbia, 1918 (Fr. Apollinaire-Marie), in the Museum of Natural History, Paris, France (labeled *iridipennis* ?); a second female with the same data in the same collection (labeled *euiris*, cotype); a third female, Bogotá, Colombia, February 28, 1922 (Dr. F. A. Miller), in the collection of the U. S. National Museum, communicated by Dr. Wickliffe Rose of the International Health Board.

Aëdes milleri, new species.

Proboscis black. Mesonotum with sparse golden scales, arranged in fine longitudinal lines, but diffusely, a central line and one on either side being most distinct; posterior lateral areas dark. Abdomen black, with dorsal triangular white spots, that on second segment produced; venter whitish, with basal median segmental black spots. Legs black, the tarsi rather broadly white ringed on both ends of the joints. Wings iridescent, scales on the veins black. Claws of female toothed.

Type, female, No. 25764, U. S. Nat. Mus.; Bogotá, Colombia, February 28, 1922 (Dr. F. A. Miller), communicated by Dr. Wickliffe Rose of the International Health Board.

Aëdes draconarius, new species.

Proboscis black scaled. Head broadly white on the vertex, the suture narrowly dark, and small black mark low on the sides. Mesonotum with broad yellowish silvery patch covering over the anterior half, faintly cut by two dark lines; posterior portion blackish, the limitation irregular. Abdomen black, with lateral triangular white segmental spots; venter yellowish white scaled, the tips of the segments with very narrow black line. Legs black, the tarsi with narrow white rings at the bases of the first three tarsal joints. Wing-scales dark. Claws of female toothed on fore and mid legs.

Male hypopygium. Side piece conical with long stout hairs within; basal lobe small, with long hairs. Claspette stem

widened at tip, with a small seta, the filament longer than the stem, broadly ribband-shaped with wide tip.

Types, two females and four males, No. 25765, U. S. Nat. Mus.; Saint Laurent, Maroni River, French, Guiana, 1909 (Dr. E. Brimont, Institut Pasteur).

One pair in the U. S. National Museum; one female and three males in the collection of the Museum of Natural History, Paris, France, sent for determination by the kindness of M. E. Séguy of the latter institution.

Nearly allied to *Aedes fluviatilis* Lutz, but differing conspicuously in the form of the claspette filament of the male hypopygium.

Haemagogus (Stegoconops) leucomelas Lutz.

The male of this species has at last come to hand, thanks to the efforts of Mr. J. B. Shropshire. It is a typical *Stegoconops*, with the male palpi nearly as long as the proboscis, the claws of the female toothed. This was the position originally assigned to it by Dr. Lutz, the describer, although it was placed in *Aedes* in the monograph. The white line on the mesonotum is most unusual in a *Haemagogus*.

Male hypopygium. Side pieces conical, about twice as long as wide, with narrow scales and hairs without; inner area broadly densely tuberculate, with fine hairs; a group of long lanceolate scales on the inner margin before apex. Clasper small, narrowed on outer third, the spine long, nearly half the length of the clasper (Pl. V, fig. 7). Claspette slender, the stem strongly curved, pilose, with one small and two stout setae near its tip; filament large, angularly widened near base, expanded and ribbed (Pl. V, fig. 8). Tenth sternites normal, the tips thickened and recurved. Ninth tergites undeveloped.

Bred from a larva found in a tree-hole, Comacho, Canal Zone, Panama, April 22, 1922 (J. B. Shropshire).

Lutz described *Haemagogus leucomelas* in 1904. It was transferred to *Aedes* by Howard, Dyar & Knab in 1917. Meigen described an European species as *Culex leucomelas* in 1804, which Martini places in *Aedes* in 1922 (Ent. Mitteilungen,

xi, 110, 1922). Were it not for the fact that *leucomelas* Lutz is here returned to *Haemagogus*, the name would have to be changed.

NOTES ON THE SYSTEMATIC POSITION OF THE GENUS EUMENOTUS, WITH DESCRIPTION OF A NEW SPECIES

(Hemiptera, Aradidae)

By TEISO ESAKI

The oriental genus of the Aradidae, *Eumenotus*, Westwood, hitherto including a single species, is one of the most remarkable genera of the family from the taxonomic point of view. This genus has been studied by several entomologists, some of whom considered it to belong to the subfamily Aradinae, while others referred it to the Mezirinae. These two subfamilies are well defined from one another, however. During my collecting trip to Formosa last year I captured a specimen of *Eumenotus*, which seems to represent a second and new species of the genus. After a careful study of this specimen I was led to conclude that this genus is sufficiently different from other genera of the Aradidae to be separated under a new subfamily.

EUMENOTINAE, new subfamily

Body moderately thick, very convex beneath. Head much broader than long, bilobed anteriorly, and with a distinct projection in front of eye; no projection behind the eye. Rostrum almost reaching the intermediate coxae. Antenna arising from the latero-ventral part of the anterior lobe. Pronotum broadest posteriorly, not divided into separate lobes. Scutellum very distinct, tongue-like in shape. Hemielytra complete; corium short, being as short as scutellum; membrane distinct, with well defined veins. Trochanters connate with femora. Sternum sulcate. Abdominal spiracles located near the basal margin of each segment.