MOSQUITO NOTES

(Diptera, Culicidæ)

By HARRISON G. DYAR

Aëdes iridipennis, new species.

Head with pale yellow scales, some rather broad; a patch of black ones on each side; bristles black. Mesonotum with dense narrow curved scales, black and pale yellow intermixed, the black predominating in two central bands and posterior side-stripes, the yellow forming a narrow line between these, a patch in front of wing-base and a border to ante-scutellar space. Abdomen black, with narrow basal segmental white bands, triangularly widened on the sides; venter pale, with a black medio-ventral band, broken at apices of segments and some black on the posterior borders of the segments laterally. Legs deep blue-black, the setae pale by contrast; femora whitish below towards base; knee spots narrowly whitish. Wing-membrane clear, strongly iridescent; scales narrowly ligulate, black. Claws of female toothed on front and mid legs.

Type, female, No. 25264, U. S. Nat. Mus.; head of Indian Creek, south base of Cochise Head, Chiricahua Mountains, Arizona, altitude, 6,100 feet, biting by day in a cave, August 17, 1917 (C. H. T. Townsend).

A second female, Bogotá, Colombia, 1918 (Fr. Apollinaire-Marie), the property of the Museum of Natural History, Paris, France, is very similar. The light scales of the head and mesonotum are a little darker and more golden yellow, the dark areas less sharply marked. The wing scales seem a little darker, and tend to be denser at the bases of the fork-cells and third vein. The specimen is damaged, proboscis and antennae missing, as well as all legs save one fore femur and tibia and one hind femur. The abdomen is well preserved. The specimen may not be conspecific with the above, but seems so close as to deserve citation.

Aëdes terrens homoeopus, new subspecies.

Specimens of *terrens* Walk., occurring in the northern part of the range of the species, show a difference in the male hypo-

pygium. The inner area of the side-piece is normally weakly chitinized, and in the usual form shows no differentiation. In the present form there is an angular thickening about the middle, encroaching on the weak inner area. The coloration of the adults is as usual, the male with the mesonotum silvered across, the female with dark central band.

Type No. 25253, U. S. Nat. Mus.; three males, Alajuela, Costa Rica, August and October, 1921 (A. Alfaro); Cordoba, Mexico, March 7, 1908 (F. Knab).

Culex (Choeroporpa) pose Dyar & Knab.

Mr. G. H. Bradley is the fortunate discoverer of the male of this species, which proves to be abundantly distinct. The species was bred at Mound, Louisiana.

Male hypopygium. Side-piece somewhat swollen, curved, convex, a lunate area of fine hairs on the convexity. Clasper constricted in the middle, a little less than the apical half swollen, parallel sided and elliptical, a crest of short fine pile on the anterior declivity; lower termen projecting and upcurved, crossing the elliptical appendiculate spine; a sinuous groove from the spine base; one seta at the upcurve of this groove, and another near the base of the enlargement. Outer division of lobe of side-piece with a slender and rather long stem, a large quadrately expanded leaf in the outer setal group, about as long as the setae, which are all flattened and curved; inner arm short but distinct, with the usual hooked filament and short accompanying one. Inner division of lobe of side-piece with some minute spines at base, furcate, the arms unequal, the inner only about half as long as the outer, each with a long sinuate filament with expanded hooked tip. Tenth sternites with long slender stem and comb-shaped tip, about ten teeth in comb. Second mesonomal plate broad, the tip curved outward at right angles, furcate, both arms pointed and smooth, the lower the longer; a third long sharp point on the stem at the base of the outward curve, being subapical. Ninth tergites large, elliptical, with many setae, approximate and outwardly oblique.

In the table of species (Ins. Ins. Mens., viii, 79-81, 1920), this runs—2, 5, 12, 15, 16, 19, 20, 21, 22, falling with *mutator* and *leprincei*. There is no appreciable difference in the genitalic type from that of these two species; but the very distinct coloration of the adult will make confusion unlikely.

Culex (Isostomyia) bifoliata, new species.

Male palpi very short; proboscis long and stout; pleurae and anterior edge of mesonotum pale greenish, the dorsum obscured by a vestiture of fine dark brown hairs, thin in spots and with two narrow bare lines of whitish color; bristles sparse and long, black. Abdomen entirely black. Legs bronzy black, the femora pale beneath. Wing-scales narrowly ligulate. Vertex very broadly with narrow curved white scales, the erect forked ones also white; narrow ovate white scales low on the sides. The white scales are intermixed sparsely with black ones, especially posteriorly.

Male hypopygium. Side-piece elliptical with tapered tip, convex, a little swollen; an area of dense stout setae on the inner side, the upper hairs directed outwardly and curved. Clasper long and rather slender, roundedly bent at right-angles in the middle; a membranous ridge beneath outwardly; spine thick and much widened, appendiculate; a crest of short stout minute spines on outer aspect. Outer division of lobe of side-piece a single rod with four filaments at tip, one with hooked tip, one smaller, the other two subequal and stout; two crooked curved leaves of moderate size, strongly inserted on the stem, at basal and apical thirds respectively. Inner division of lobe of side-piece a long rod, exceeding the outer division, bearing two rather short stout filaments at tip, the inner more basally inserted than the outer. Tenth sternites rather broad and membranous, one margin thickened, the tip curved-comb-shaped with about six teeth. Second plate of mesosome smooth, narrowly elliptical, concave; basal hooks curved, with broadly spatulate tips. Transparent triangular plates with finger-shaped ends present at the angles of side-pieces. Basal plates large, emarginate. Ninth tergites undeveloped, a few setae in a

group on the narrow band of chitin representing the segment.

Types, four males, No. 25254, U. S. Nat. Mus., no females definitely associated: Mandingo, Canal Zone, Panama, December 22, 1921, bred from larvae found in a hole in a plum tree (J. B. Shropshire); Miraflores, Canal Zone, Panama, December 15, 1921, bred from larvae found in a tree-hole (J. B. Shropshire). The first culture contained three males and a female, but the latter appears to belong to some other species of *Culex,* probably *Culex mollis* D. & K.; the second culture produced one male of this species and three specimens of *Haemagogus argyromeris* D. & L. A female bred from a larva found in a tree-hole, December 31, 1921, without exact locality, apparently belongs here, but as no male is associated, it has not been made a type. Some females, bred from larvae found in containers at Miraflores and Balboa have been placed here, but it is not certain that they belong to the species. They more probably appertain to *Culex nigripalpus* Theo.

Near *corrigani* D. & K. (*chalcocorystes* Mart.), readily differentiated by the details of the hypopygium. The structure of the clasper is as in *conservator* D. & K. (*divisor* D. & K.), which also has no leaves on the outer division of the lobe of side-piece.

These species with reduced male palpi present an interesting series. In *restrictor* D. & K. (*consternator* D. & K.), which I placed in *Micraëdes* (Ins. Ins. Mens., vi, 102, 1918), the male palpi exceed the proboscis. Both divisions of the lobe of side-piece are rod-like and short, the inner with the two filaments nearly normal, but shortened, the outer with five filaments, one of which is very strong and tusk-like. This is a continental form, from Mexico and Panama.

In (*Tinolestes*) *latisquama* Coq., a crab-hole species from the continent—Costa Rica and Panama—the male palpi are about half the length of the proboscis. The clasper is smooth and very stout. The inner division of the lobe of side-piece is short, columnar and stout, with the two filaments short and thick, tooth-like with expanded tips; the outer division is approximated to the inner, sessile, with one long, tapered very

stout spine and two or three stout setae, confused with the vestiture.

In (*Micraëdes*) *bisulcatus* Coq. from the Antilles—Martinique, Porto Rico, Cuba (the Santo Domingo type has disappeared from the collection)—the male palpi are a little shorter, being only a little over one-third the length of the proboscis. The clasper is simple, slender and long. The inner division of the lobe of the side-piece has the two filaments shortened and thick, the outer on a rather long pedicel, the inner sessile at the base of this. Outer division very short, bearing the five setae at different angles from large tubercles, one of them stout and long. This genitalic structure is essentially as in *restrictor,* or even less developed in the direction of *latisquama,* though the adult male palpi have degenerated.

In the remaining three species, the male palpi are very short, as short as those of the female. (*Micraëdes*) *corrigani* has the clasper smooth, curved and rather short. The inner division of lobe of side-piece columnar, short and thick, the two rods inserted nearly together from the summit. Outer division short, the six setae radiating from the crown, about alike. The species occurs in Panama.

The last two species have the clasper angularly curved and beset with small spines on the outer terminal aspect, though not thickened. (*Isostomyia*) *conservator* D. & K., from Trinidad and Surinam, has the outer division of the lobe of side-piece short and stout with six radiating spines, two long and stout, one shorter, and two small and slender. In (*Isostomyia*) *bifoliata* Dyar, from Panama, this part is lengthened and bears two leaves, as described above.

Culex (Choeroporpa) iolambdis Dyar.

Mr. J. B. Shropshire fortunately discovered a second male of this species, bred from larvae in surface-water at Gold Hill, Canal Zone, Panama, December 31, 1921. The characters rested heretofore only on the single male type, which is entirely confirmed by this second specimen.

Culex (Choeroporpa) aneles Dyar & Ludlow.

Mr. Shropshire is also the discoverer of a second male of this species, bred from larvae in a swamp, Gatun, Canal Zone, Panama, October 29, 1921. The type was taken at Cardenas, February 11 of the same year.

Wyeomyia modalma, new species.

Prothoracic lobes moderately well separated; clypeus and postnotum nude. Occiput black-scaled with blue reflection. Prothoracic lobes coppery golden. Mesonotum with thick flat scales with brown and blue luster, evenly concolorous with scutellum. Abdomen bluish black dorsally, silvery white below, the colors separated in a nearly straight line, very slightly indented in the centers of the segments. Legs black with brassy luster beneath; mid tarsi with outer half of second, third to fifth joints white; hind tarsi with fourth and fifth joints white below, a small black dot on the fourth joint at tip. Wing scales ovate, rather narrow.

Types, five females, No. 25256, U. S. Nat. Mus.; one, "hand catch from Gatun," Canal Zone, Panama, December 10, 1921 (J. B. Shropshire), three, "hand catch from a house at Paja," Canal Zone, Panama, January 16, 1922 (J. B. Shropshire).

Allied to *agnostips* D. & K., but that has a large white spot on the vertex. The white on the mid tarsi of *agnostips* is similar; the single type has but one hind leg remaining, and that has lost the last three joints, which may have been white-marked also. However, the marking of the head seems sufficient difference. The two species are of the same size, and both have a rather short stout proboscis. The wing-scales also are similar. The male and larva are unknown in both species.

Wyeomyia (Shropshirea) ypsipola, new species.

The peculiar male hypopygium requires a new subgeneric term, for which *Shropshirea* is proposed in honor of the discoverer. The side-pieces (Plate II, fig. 7) are reduced, practically hairless and enclosed within the tip of the abdomen when at rest. The three setae in a row remain; at the extreme tip are a few minute hairs; a lobe just before the tip gives rise

to a copious curving hair-tuft. Clasper very broadly and irregularly articulated, apparently of three lobes. Main lobe irregularly tapering, with a shoulder at one side and an angular fold further out on the other side; some minute hairs on shoulder and tip. Second lobe thin, with two terminal angles, one side forming a recurved hook. The third lobe is slender and forked, but I cannot make out its attachment in the single slide.

The vestiture of the single specimen is not well preserved. Apparently the prothoracic lobes are dark with white tip; occiput dark, white scaled below, perhaps with a white margin to the eyes or vertical spot. There seem to be some white scales in this position. Mesonotum and scutellum dark scaled. Clypeus and postnotum without scales, the lateral seta of the postnotal tuft appears to have a triangularly widened tip. Abdomen with the colors separated on the sides in a straight line, the venter peculiarly marked, the segments having a dark posterior border, which widens on the sides, broader posteriorly, the last two segments having only a white V at segmental base. Legs black, the mid tarsi white below continuously on joints 2 to 5. The wing scales are rather broadly ovate. Proboscis long, but quite stout.

Type, male, No. 25257, U. S. Nat. Mus.; "bred from larvae found at Comacho in a tree-hole," January 14, 1922. The species bred from this culture were as follows:

Aëdes thorntoni D. & K..... 2
Aëdes terrens Walk..... 3
Limatus asullepta Theo..... 1
Haemagogus argyromeris D. & L..... 2
Wyeomyia ypsipola Dyar..... 1
Culex corniger Theob..... 5
Uranotaenia geometrica Theob..... 9

Most of these are well-known tree-hole breeders; *Culex corniger* occasionally occurs in tree-holes. However, the *Uranotaenia geometrica* is an open ground-pool breeder and never occurs in tree-holes. There is, therefore, something the matter with the record, and an admixture of ground-pool forms

has occurred. It is therefore possible that the *Wyeomyia ypsipola* did not come from a tree-hole, although it probably did so.

I have been unable to find any described female to which this male would fit. The imperfection of the vestiture renders the task more difficult than usual, and it is hoped better material may be found. The structure is so remarkable, however, that it seems desirable to record it. The most likely comparison seemed to be with *Wyeomyia celaenocephala* D. & K., described from Guatemala. However, the single female type of this species seems to have distinctly violet prothoracic lobes, and it is a smaller and slenderer insect. No other species with the mid tarsi only white-marked comes as near. *W. abia* D. & K. from Dominica comes next, but this, too, is a small slender insect with delicate proboscis, the prothoracic lobes with a distinct violet tint.

Goeldia paranensis Brèthes.

Lynchiaria paranensis Brèthes, Bol. Inst. Ent. y Pat. Veg., i, 40, 1912.

This species was not placed by Dr. and Mrs. Bonne in their recent table of the species of *Goeldia* (Ins. Ins. Mens., x, 38, 1922) on account of lack of material. A female specimen is now before me, by the kindness of Dr. Juana Petrocchi. The species is small for a *Goeldia*, though not as small as *espini* Mart. The prothoracic lobes are remote, and the generic location seems correct. Clypeus and postnotum nude, the tuft of setae on the latter distinct. The tarsi are entirely dark; proboscis as long as abdomen; abdominal colors strongly roundedly incised; scutellum concolorous; lateral and ventral abdominal scales yellowish white.

It thus falls in the table between *lunata* and *espini*, intermediate in size and coloration between these species, nearer *espini*. *Lunata* is a distinctly large species, with dark marks on the pleura under the silver scaling, which is absent in *espini*, slightly indicated in the sutures in *paranensis*.