Sabethes (Sabethoides) chloropterus (Humboldt, 1820)

Fig. 9

We have a male which is, in the adult, slightly different from the one which we described (Lane, 1953). The proboscis is dark underneath and the palpus has white scales dorsally and is very short. As only the pupa has not been described we append below a description.

Pupa.—Tube nearly uniform, average, slighty expanded at base and apex. Cephalothoracic hairs double, long and in two pairs, the rest small.

Abdomen, fig. 9, slightly marked on segments, as in the figure. Segments IV to VI with hairs B longer than segment. Tuft A of segment VII quite smaller than that of VIII. Other hairs small. Paddle twice as long as segment VIII, spiculose at apex.

This pupa is described from a slide which has a pupal and larval exuviae. The material was determined by G. V. Santos and comes from the State of Bahia, Ilhéus, Pirataquissè, 29.IX.1949.

The larva has a tube about five times as long as basal width so that this character is not useful for the separation of this species from *S. purpureus* Peryassu and *cyaneus* (Fab.).

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CULEX (CULICIOMYIA) TERMI, AN UNUSUAL NEW MOSQUITO FROM THAILAND

(DIPTERA, CULICIDAE)

BY †DEED C. THURMAN, JR.[1, 2]

In the course of mosquito collecting in Ngao District, Lampang Province, Northern Thailand, during July, 1952, the author was much surprised to collect larval specimens of a *Culex* that were most unusual in that the siphon of each

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[2]I wish to thank Dr. Alan Stone, U. S. National Museum, and Dr. Melvin E. Griffith, USOM to Thailand, FOA, for making it possible for me to complete this study and for reviewing the manuscript.—ERNESTINE B. THURMAN.

fourth instar larva was more than twice the length of its body. On return to the laboratory it was found that the siphons measured between 11 and 12 mm. Later studies have revealed that the length of the siphon of almost all fourth stage specimens is 39 to 40 times its width at the base and more than 78 times its width at the most apical pecten tooth which is located at a basal point 1/13 of the total length. Due to the efforts of Dr. Term Vejarasthira and his assistant, Mr. Chalao Dangswasti, who reared males and females from larvae collected later at the same location, it is possible to present a complete description of this species.

The species exhibits morphological characters of the subgenus *Culiciomyia*: the palpus of the male is much longer than the proboscis; the penultimate segment is noticeably shorter than the terminal segment; there is a peculiar row of translucent, elongated, diamond-shaped scales projecting downward from the long segment of the palpus; there is one lower mesepimeral bristle present.

Culex (Culiciomyia) termi, new species

Adult small, fragile, pale yellowish-tan, sometimes with a pale greenish tinge.

Male.—Head: Dorsal surface with numerous narrow, pale, curved setae and upright narrow pale forked scales on vertex and nape; a patch of pale, flat scales around a central patch of darker scales on either side, the light scales continue dorsally around the eyes in a narrow border but seem not to meet centrally. Torus light yellowish-tan without a prominence on inner side. Antenna with complete whorls of long yellow hairs on each segment. Palpus about 1 1/5 length of proboscis; pale scales on long segment except at apex; antepenultimate segment dark scaled at apex and on dorsal surface; penultimate segment light scaled at basal 1/3 and on ventral surface; terminal segment pale scaled. Proboscis pale scaled with few dark scales at base and apex; a tuft of long pale hairs placed medio-ventrally. Clypeus with some pale scales. Thorax: Mesonotum light yellowish-tan; integument yellowish-tan with a thin vestiture of narrow, pale curved scales; a few whitish scales at anterior edge; weak bristles placed anteriorly. Prescutellar and scutellar bristles long with slight copperish tint. Scutellum with few narrow pale scales on lobes. Anterior pronotal lobes with dark integument and many dark bristles. Posterior pronotal lobes with dark integument and 3 copperish colored bristles. Two upper and one lower sternopleural bristles, five upper and one lower mesepimeral bristles present (two lower mesepimeral bristles were seen on one side of a paratype). Pleural integument light yellow with a narrow integumental stripe beginning anteriorly at the posterior pronotal setae and continuing to upper mesepimeron setae. No scales on pleura. Wing: Veins and scales uniformly pale yellowish, basal 1/3 of costa, subcosta,

and radius with denser, whitish scales; all wing scales relatively long and narrow. Anterior fork cell longer than stem. Vein 6 almost bare, ending well beyond fork of vein 5. Legs: Dark scaled dorsally and pale beneath, continuing from femur and tibia onto tarsus of fore-and mid-legs. Femur of hind leg pale scaled ventrally. Hind tarsus dark. Abdomen: Dorsum covered with flat yellowish-brown scales, somewhat paler on apical 1/2 or 2/3 of each segment giving the appearance of broad apical bands; sides and venter pale scaled; eighth segment all pale scaled.

Terminalia.—Basistyle about 3 times as long as wide, covered with minute setae and few stout ones, without scales; subapical lobe pointed, crowned with a leaf-like, medially swollen seta, tapering to point at apex; a leaf-like seta curved at the tip placed just dorsal to a spine-like seta and followed by a double row of 10-12 setae. Ventro-subapical lobe bears a single, sharp-pointed seta and along the ventral edge a row of long, fine setae directed posteriorly. Dististyle half the length of the basistyle, rounded and slightly bulging basally, narrowed medially, and expanded subapically; terminating in a reflexed, hood-like process pointed anteriorly, a small claw posteriorly, two minute subapical setae on crest of hood; crest not spiny; one seta located dorsally between subapical angle and apical hood. Tenth sternite crowned with short, heavy spines, lateral ones blunt or rounded; lateral membrane with two minute setae. Phallosome dorso-laterally expanded with two fingerlike folds; tapering apically to sharp, curved points reaching to or slightly beyond comb of tenth sternite; inner surface with row of 6-7 fine spicules, a short, heavy spine on each side; wide elephant-ear-like ventro-lateral processes. Paramere triangular, rounded basally, pointed apically, with lateral, pointed expansion beyond middle. Basal plate small, apex slightly rounded, from lateral points tapers into extremely long and narrow basal points.

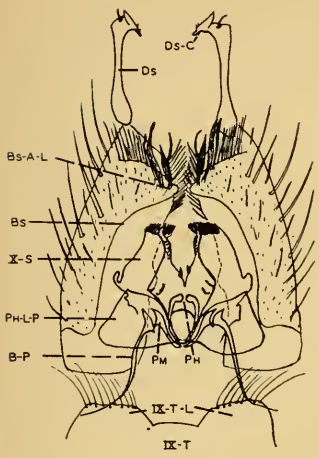
Female.—Size and coloration similar to male. Head: Antennal integument and hairs dark; flagellar segments dark with three long, black hairs dorsally and shorter hairs ventrally on each segment. Torus with light brown pubescence; proboscis straight with yellowish-brown scales; a narrow ventral longitudinal stripe of yellowish-white scales, darker at base and tip; without medio-ventral tuft of male. Palpus dark, ⅛ the length of proboscis. Thorax: Mesonotum, pleura, wings, halteres, and legs similar to male. Abdomen: Segment I with patch of pale copperish scales in center at apex. Segment II almost entirely pale copperish scaled, darker scales at base. Segments III-VII with apical 2/3 pale scaled; medio-basal V-shaped spot of darker copperish scales. Segment VIII pale scaled. All segments pale tan or drab-white scaled laterally and ventrally.

Larva (fourth stage).—Head: Antenna (0.65 mm) about 3/5 the length of the head (1.0 mm in length and 1.35 mm in width); antennal shaft with fine spicules to the tuft; fan-shaped tuft of 15-17 branches placed 2/3 from base; shaft at base about 1/10 as wide as long; a long

pair of preapical spines; one short apical spine; one, three times the length of the short one. Pre-clypeal spine curved, very slender, pale, and long. Frontal hairs: 7 with 6-8 branches; 6 and 5 with 3-4 branches, feathered; 5 placed medially to 6 almost in a straight line, hairs equal length; 4 single, minute; 8 usually single, long; 9 usually double, long; hair 10 single, slender, long. Mentum variable, about as wide as long with 3-4 large basal denticles on either side and 10 short apical teeth on either side of a large, central one. Thorax: Wider than long, densely spiculated. Prothoracic hairs: 1 and 2 long, single, reaching beyond front of head; 3 long, double, shorter, branched from base; hairs 1, 2, and 3 arise from a common chitinized plate; 4 fan shaped, 8-branched, ¼ length of 1; 5 and 6 long, single, longer than 1; 7 with 5-6 branches, ½ length of 1; 8 with 3 branches, ½ length of 1. Pro-, meso- and metathorax with 1 pair of delicate stellate hairs. Abdomen: One pair of delicate, dorsal stellate hairs on segments I-VII. Segment VIII with 50 fringed comb teeth on each side in an irregular patch. Lateral hairs on segment VIII: 1 fine, with 3 (2-6) branches; 2 single; 3 feathered, with 7 (5-8) branches; 4 long, single; 5 with 5 (2-7) branches. Siphon: 11.8 mm (11-12 mm) in length; 0.3 mm in width at base or about 39-40:1; dorsally projecting up over body, with small square acus anchored ventro-laterally. Pecten usually of 11 (9-17) teeth, apical teeth more widely spaced; pecten tooth small, fringed with denticles from base to tip, about 0.01 mm. in length. Integument of siphon with many tiny spines in closely set rows from base to tip, those at base heavier. Six pairs of minute, single hairs widely spaced along siphon. Anal segment: About as wide as long, not quite twice as wide as siphon at base; saddle covered with fine spicules, completely encircling the anal segment. Lateral hair single, longer than anal segment. Upper and lower caudal hairs long and single; ventral fan of 8 hairs each with 2 or 4 smooth branches. The siphon of a first stage larva is 1¼ times its body length; of a second stage, 1½ times; and of a third stage, 2 times.

Pupa.—Trumpets long, slender, longer than abdominal segments I and II combined. Hairs on cephalothorax usually double, delicate and inconspicuous; hairs on abdomen inconspicuous, fine; each segment with one pair of apical stellate hairs. Hair 7 on Segment VIII 5 branched; on Segment VII 3 branched.

Culex (*Culiciomyia*) *termi*, new species. Fig. 1, structures of male terminalia; fig. 2, apical lobe of basistyle (enlarged); fig. 3, terminal structures of fourth stage larva (eighth abdominal segment, anal segment with gills, siphon). *Abbreviations*: *B-P*—basal plate, *Bs*—basistyle, *Bs-A-L*—apical lobe of basistyle, *Ds*—dististyle, *Ds-C*—dististyle claw, *IX-T*—ninth tergite, *IX-T-L*—lobe of ninth tergite, *Ph*—phallosome, *Ph-L-P*—lateral plate of phallosome, *Pm*—paramere, *X-S*—tenth sternite.


Ds-C
Ds
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PH-L-P
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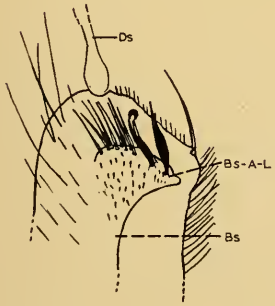
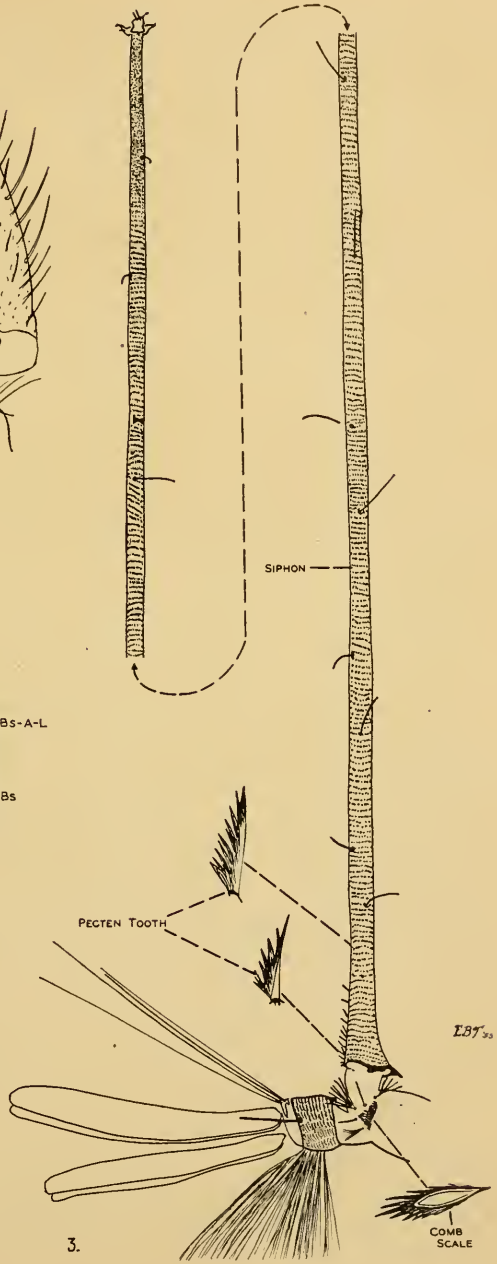
IX-T-L
IX-T

1.


Ds
Bs-A-L
Bs

2.


SIPHON
PECTEN TOOTH
COMB SCALE

3.

The system of nomenclature employed for the chaetotaxy of the immature stages follows that of Belkin (1950, 1952, 1953).

Holotype male, allotype, and paratypes (1 female and 6 males), larvae and pupae in alcohol, and four stages of larvae, pupal skins, and male terminalia mounted. USNM Cat. No. 62023.

Type locality: Kew Kong Lom, Kilometer 114 on the road between Lampang and Payao, Ngao District, Lampang Province, Thailand, ex.—elephant tracks. July 3, 1952, 62 larvae (all stages), adults reared (D. C. Thurman, Jr.); July 10, 1952, larvae, mass reared (Term Vejarasthira); July 25, 1952, 1 ♂ reared (D. C. Thurman, Jr.); August 18, 1952, larvae, mass reared (Term Vejarasthira); October 1, 1952, larvae (2 mounted) (D. C. Thurman, Jr. and Melvin E. Griffith); September 18, 1952, larvae, mass reared (2 mounted) (Chalao Dangswasti); November, 1952, larvae, 2 ♂ and 1 ♀ reared (Chalao Dangswasti); December 14, 1952, 2 larvae (D. C. Thurman, Jr.); March 21, 1953, 6 larvae and 3 pupae mounted, 3 ♂ and 1 ♀ reared (D. C. Thurman, Jr. and Manop Rattanopradith); March 21, 1953, 3 larvae (D. C. Thurman, Jr.); March 23, 1953, 14 larvae, 1 ♂ reared (D. C. Thurman, Jr.).

This species was first collected July 3, 1952 from a high jungle area in the mountainous region of Northern Thailand. The larvae were collected from elephant-track depressions in a marsh overgrown with luxuriant vegetation where the water was highly polluted with elephant dung and filled with brown algae, and from similar tracks in the edge of the adjacent flowing stream. Movements of the larvae were slow and clumsy. *C. termi* was collected with other culicine larvae, including *Hodgesia malayi*, some species of *Culex* (*Lutzia*), and other undescribed *Culex*. *C. termi* could be readily separated in the field from the others by the length of the siphon. Though *C. termi* seems to fit more closely with the *fragilis* group (Oriental group) rather than the *nebulosus* group (African group) as set up by Edwards (1932), the species is markedly different in all stages from the other species currently recognized in the sub-genus *Culiciomyia*. The unusual length of the siphon, bands on the abdominal segments and the light coloration of the adults, and the structures of the male terminalia are distinguishing features.

It is a pleasure to name this mosquito for Dr. Term Vejarasthira, Malaria Control Officer, Payao, Chiengrai Province, Thailand.

The author is indebted to Mr. Chalao Dangswasti and Mr. Manop Rattanapradith for field and laboratory assistance.

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NOTES ON AMERICAN MOSQUITO PUPAE, I. DESCRIPTION OF AEDES RIPARIUS AND AEDES PIONIPS

(DIPTERA, CULICIDAE)[1]

BY RICHARD F. DARSIE, JR.,[2] *University of Delaware, Newark*

Although a sizable key to American culicine mosquito pupae appeared in Mitchell's "Mosquito Life" (1907, p. 251-258), the first extensive specific descriptions of this stage were published by Darsie (1951). To continue that work, two previously unknown pupae are here described, and their position in the *Aedes* key is shown. The nomenclature of pupal chaetotaxy used here is the same as was used in the 1951 paper. Limits of variation and the modes of setal branching are given in the table at the end of this paper.

Aedes (Ochlerotatus) riparius Dyar and Knab

Cephalothorax.—Setae **1**, 2 and 3 of the ocular sclerite long, usually 2-branched; prothoracic seta **6** short, others long, **4** and **7** generally trifid; **5** with 2 or 3 branches, **6** double to 7-branched; mesothoracic setae long, **8** commonly with 6 slender branches, **9** pedunculate, bifurcate; metathorax, fig. 1, faintly binotate, setae long, slightly plumose, **10** usually 5-branched, **11** and **12** generally double. *Respiratory trumpet*, fig. 3, constricted at base, notched slightly at apex, surface reticulate, except for small tracheoid semicircle at base; averaging 3.59 times as long as the greatest diameter and 6.8 times as long as the pinna.

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