

PROCEEDINGS
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A NEW MOSQUITO FROM THE EASTERN UNITED STATES.

BY FREDERICK KNAB.

The new species of *Culex* described below has been recently brought to light by Mr. Herman H. Brehme, well known in connection with the mosquito work in New Jersey.

Culex brehmei new species.

Female.—Occiput clothed with narrow curved scales, white and dense in a median line and along margins of eyes, the others bronzy brown and more sparse, numerous erect forked black scales; cheeks clothed with broader flat white scales. Clypeus dull blackish, nude. Proboscis moderately long and slender, nearly uniform throughout, black scaled, beneath with pale reflection most distinct medianly. Palpi less than one-fifth the length of the proboscis, black scaled.

Mesonotum deep brown, clothed with narrow curved scales, for the most part bronzy brown and rather sparse, the integument showing between them, slightly coarser and denser yellowish white scales along margins, in a pair of dots on the disk, and short broad stripes at sides of antescutellar area. Scutellum with yellowish white scales and three groups of black bristles. Pleuræ brownish gray, pruinose, tinged with greenish below, and with a few small patches of white scales. Postnotum dull yellow-brown, nude.

Abdomen depressed, truncate at tip; dorsal vestiture of dull black scales, the segments with broad yellowish white basal bands, that on second segment slightly produced in the middle, the others produced triangularly at the sides, broadly so and dorsally visible on seventh and eighth segments; venter clothed with dirty yellowish white scales, each segment with a ragged median patch of black scales.

Legs rather long and slender, black scaled, the femora white scaled beneath to apices; knees and tips of tibiæ narrowly white scaled; tibiæ with a line of pale scales along ventral surface, on hind legs continued to ends of tarsi. Claws simple.

Wings hyaline, slightly infuscated; second marginal cell long, about five or six times as long as its stem; second posterior cell distinctly longer than its stem; scales dusky, those on costa, first, third and fifth veins (exclusive of the upper branch of the last named) black, distinctly darker than those on the other veins; outstanding scales very narrow, the appressed scales narrowly elavate, broader and denser on the black veins. Halteres pale, with dusky knobs.

Length: Body about 4.5 mm., wing 5 mm.

Male.—Proboscis straight, with an indistinct pale ring just beyond middle. Palpi acuminate, exceeding the proboscis by more than the length of the last joint, clothed with long dark hairs nearly to base, denser and blacker on the two distal joints; scale vestiture blackish brown, the two distal joints with a patch of white scales dorsally at base and ventrally streaked with white. Antennæ plumose, the hairs brown and black with silky luster. Abdomen long, narrowed near base, depressed and somewhat broadened distally; dorsal segmental white bands broad, the eighth segment nearly wholly white scaled; lateral ciliation fine and abundant, pale brown with silky luster. Wings narrower than in the female, the fork-cells somewhat shorter, the scales sparser. Claw formula: 1.1-1.1-0.0.

Length: Body about 4.5 mm., wing 4.5 mm.

Larva.—Head transverse, bulging at the eyes. Antennæ large and rather stout, with a large tuft from a notch at outer third; shaft spinulose, darkened on outer half. Dorsal head-hairs in long tufts of several hairs. Lateral hairs on abdominal segments 3 to 6 single, subdorsal ones on segments 5 and 6 double. Lateral comb of eighth segment a patch of small very narrow scales. Breathing-tube long and slender, over six times its diameter at base, very gently tapering; pecten of small, very short, evenly spaced teeth, extending over basal fourth; four long tufts of few hairs along postero-lateral aspect of tube, the third out of line and at apical third. Anal segment ringed by the plate, longer than wide; ventral brush well developed, confined to the barred area. Anal gills lanceolate, about as long as anal segment.

Laurence Harbor, Middlesex County, New Jersey (H. H. Brehme).

Type: Cat. No. 20411, U. S. Nat. Mus.

Described from 7 females and 8 males, which issued from pupæ on April 29 and 30, 1916. It gives me great pleasure to dedicate this interesting species to Mr. Herman H. Brehme, who has had no small share in making the mosquito work in New Jersey world-famous. Mr. Brehme has kindly furnished the following notes on the habits of this species:

The larvæ, pupæ and eggs were found in a cold spring in the woods. The first pupæ were taken April 25; temperature of the water 38° F. (4.5° C.). The first males emerged April 29, the first female April 30. The first egg-boat of the new brood was found May 2, and the eggs hatched May 3. The first pupæ of the second brood appeared May 15, adults emerging May 17. A fresh egg-boat was found on May 19. Breeding has been going on steadily to date (July 17) and by all appearances will continue throughout the season. The egg-boat is about the size of that

of *Culex pipiens*. The female is very voracious and the sting is nearly as severe as that of *Psorophora sayi*. From the above data it is apparent that this species commences breeding much earlier in the season than the other species of *Culex*.

The adults of *Culex brehmei* closely resemble *Culex restuans* Theob. (= *Culex territans* Walk.)* and I do not venture to point out any character as diagnostic. The mesonotal scales are a trifle larger in *brehmei*, but the difference is not sufficient to be tangible. Well marked specimens of *brehmei* show a more ornate mesonotum, the lighter colored markings being more extensive and more contrasting on the darker ground. But the ornamentation is variable in both species, with a tendency to disappear, as indeed is the case in many other species. The venation and scaling of the wings is closely similar in the two species. The new species rests essentially upon differences in the male genitalia and larva. The latter suggests *Culex pipiens*, but differs in many details.

* Walker's type of *Culex territans* agrees with *restuans* Theobald and not with the species generally so designated; according to the laws of priority the name *territans* supercedes *restuans*. The species generally known as *Culex territans* should now be called *Culex saxatilis* Grossbeck. (See Howard, Dyar & Knab, Mosq. of North & Centr. Amer. & W. Ind., iii, 300, 1913.)

