A NEW CULEX, *CULEX VOMERIFER*, FROM PANAMA
(DIPT., CULICIDÆ)

BY W. H. W. KOMP¹

Incidental to other duties in connection with malaria investigations in the plantations of the United Fruit Company at Almirante, Panama, the writer made collections of the local Culicidæ as time permitted. Among the many rare and beautiful forms taken a new species of *Culex* was found. It is a *Mochlostyrax*, belonging to the section *Chæroporpa*, and like most of this group, is a small brown unmarked mosquito, not to be differentiated in any way from dozens of other species of the same group. Nothing is known of the life-history or of the immature stages. The description follows:

***Culex vomerifer* sp. nov.**

Female: Unknown.

Male: A small brown *Culex*, with rather wide pale bands at the bases of the abdominal segments. Legs all black. Palpi with the last two joints exceeding the proboscis, and clothed with rather long stiff hairs. Terminalia of male: Side-piece rather conically produced, bearing a lobe. Outer lobe undivided, bearing the following appendages: the most mesial is a long simple filament with a sharply recurved terminal hook. Then in order are a small flattened filament about two-thirds the length of the preceding hooked filament. Next in order is a long, sharply acuminate filament, bent at nearly a right angle at one-half its length; this filament is laterally expanded at the bend, with the edges of the expansion directed inwards, forming a cup-shaped hollow in the angle of the filament. Next in order is a flattened filament, just exceeding the bend of the long preceding fila-

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ment. Then comes a small slightly flattened filament, with tip somewhat broader than the insertion.

Arising from a separate point of insertion in the outer lobe, and most dorsal in position, is a heavily sclerotized appendage, nearly as long as the mesial hooked filament. This appendage is bent upwards from the point of insertion to about one-third its length, then downwards to two-thirds

FIG. 1. *Culex vomerifer* sp. nov., male terminalia, ninth tergite and tenth sternite.

its length, and then is produced in line with its insertion. The tip of this appendage is flattened dorso-ventrally, thick, and bluntly pointed. A thin membranous expansion arises from a point near the insertion of this appendage, and is attached all along the dorsal edge, to a point about two-thirds the length of the appendage. This flattened membrane is somewhat incurved. The outer border of the membrane is sinuous, the edge arising abruptly from the point of attachment at the proximal end of the appendage, to its greatest elevation about one-third of the length, then curv-

ing downwards to form another elevated portion about three-fifths of its greatest height, then curving abruptly down to the distal end of its attachment to the appendage, which is at about two-thirds the length of this appendage. The membrane is an expansion of the dorsal border of the appendage. The appendage, with its membranous expansion, resembles a plough, the heavily chitinated tip forming the share, and the membranous expansion forming the mouldboard. As this is the most prominent and striking feature of the terminalia, I have named the species from this structure.

The inner division of the lobe of the side-piece is undivided, and bears two hooked filaments curved inwards (ventrally) at an obtuse angle. The more distal filament is somewhat longer than the other filament, and is sinuously curved, terminating in an expanded blunt tip. The shorter filament is sinuously curved, following the curve of the distal filament, and terminates in a rather sharper recurved tip. At the base of the inner division of the lobe are two or three setæ arising from conically produced bases.

The clasper is membranous, not much expanded, with pointed tip and appendiculate spine. A small spine arises from a protuberance on the inner aspect of the clasper, about one-fifth the distance from tip to base. The outer edge of the clasper is membranous, with rough torn irregular free margin. Two strong setæ about one-third the length of the clasper, arise from the angle between the clasper and the base of the outer lobe of the side-piece.

The ninth tergites are small, mound-like, rather heavily sclerotized, and are joined by a smooth bar about as long as the width of one of the tergites. The tips of the tergites are smooth, but the bases are clothed with long stiff setæ arising from protuberant bases.

The inner plates of the mesosome are T-shaped, the ends of the cross-pin of the T being produced to form sharp horn-like tips, which are directed mesially. The dorsal tip of the T is longer, thinner, and sharper than the ventral tip. The basal hooks are rather wide and membranous.

The tenth sternites are rather short, with seven or eight blunt teeth, which are long in proportion to the length of the entire sternite.

The type is a male adult, mounted on a double pin mount, the terminalia separately mounted on a glass slide. There are two co-types, also the male terminalia only, mounted in balsam. All have been deposited in the U. S. National Museum.

A NEW CULEX FROM PANAMA (DIPT., CULICIDÆ)

BY W. H. W. KOMP AND D. P. CURRY¹

That the possibilities in the line of discovery of new Culicidæ in Panama are not yet completely exhausted, even after intensive work covering the last 25 years, is demonstrated by the many additions to our knowledge of this group which have been made during the past few years. Among the outstanding accomplishments in this field are the discovery of the larva of *Anopheles (Stethomyia) nimbus* var. *komp*i Edwards, of the larva and adult of *Anopheles (Chagasia) bathanus* Dyar, the separation of *Anopheles (Arribalzagaia) neomaculipalpus* Curry from *A. punctimacula* and *A. apicimacula*, with which it had been confused, the discovery of the occurrence of *Anopheles albitarsis* Arribalzaga, in Gatun Lake, and the separation of *Anopheles tarsimaculatus* Goeldi into two forms, a fresh-water and a salt-water form, *A. aquasalis* and *A. aquacælestis*. In addition to these greater accomplishments, a minor one was incident to certain observations on *Anopheles* made in Mojinga Swamp, at the base of the peninsula whose tip is Toro Point, opposite Cristobal on Limon Bay. Here the authors made incidental collections of male *Culex*. Among the material a new species was found, which is here described.

Culex (Upsiloporpa) haynei, new species

Female: Unknown.

Male: A small brown *Culex*, unmarked in any distinguishing manner. The palpi exceed the proboscis by the length of the last two joints.

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