

NOTES ON THE EARLY STAGES OF CORETHRA
BRAKELEYI, Coq.

BY JOHN B. SMITH, SC. D.

On June 1st, 1901, while on a mosquito hunt with Mr. J. Turner Brakeley, at Lahaway, we investigated the little pools around the head of a swamp spring. The water was very cold, and our object was, mainly, to ascertain whether *Aedes* larvæ occurred in such localities, where pitcher plants were in the vicinity.

In the course of our dipping I found a very odd little wriggler, altogether different from anything I had ever seen before, and soon Mr. Brakeley found the same thing. We took only a few of them at that time, and from their minute size I assumed they must be very young. I afterward sent a specimen to Dr. Howard, and he appeared as much at sea concerning its location as I was. It seemed to be a Culicid larva, without much doubt; but that was as far as we could get. The specimens were about an eighth of an inch in length, light reddish in colour, and very hairy in appearance. The head was very broad, and from it the body tapered gradually to the short obtuse anal siphon. Mr. Brakeley christened them "bull-heads," and I called them "triangles." They were kept alive a short time only, and during that period proved very sluggish.

July 27th, Mr. Brakeley was at Lahaway, and put in an hour dipping for mosquito larvæ in a lily pond at the foot of the garden. The pond is full of fish, but in the grassy shallows around the edge Culicids breed to a limited extent. Here he struck a little nest of the "bull-heads," and secured two dozen, which he carried to his town house in Bordentown. The little creatures remained almost motionless for hours, some at the surface, some below it at various points. Some had the anal siphon at the surface and the head a little below, the position being intermediate between that assumed by *Anopheles* and that assumed by *Culex*. Two of these little larvæ pupated on July 28th and others on the 29th, 30th, and 31st. On August 1st I went to Bordentown and took charge of the culture, expecting to get out almost anything rather than a Culicid.

The pupa was just as odd as the larva, and reminded me of a Lycænid chrysalis with a pair of breathing tubes. These pupæ were at the surface, and seemed to have little power of motion. They were easily submerged and easily drowned. Though I was as careful as I could well be, the jarring between Bordentown and New Brunswick meant death to several of them.

The first adult emerged August 2nd, a period of $4\frac{1}{2}$ days from the first pupation, and this proved to be very close to the average period.

The insect was a male, very pretty, and utterly unknown to me ; certainly not a long-billed mosquito. Mr. C. W. Johnson, to whom I submitted a specimen, made it Culicid on venation, but could not identify it with any described form.

Later Mr. Coquillett pronounced it a new species of *Corethra*, and, at my request, named it *Brakeleyi*, the description appearing in a recent number of the *Entomological News*.

August 13th, Mr. Brakeley sent me another lot of the larvæ, taken at the same place as the last lot, and stated that some very minute examples occurred, evidently babes.

Other collections were made September 17th, October 14th and October 20th. The latter was made after a heavy frost (min. 21° on the bog close by), and in each case half-grown to full-grown examples were found. No pupæ were found with the larvæ at any time, and no adults were collected.

The life-history is very imperfect : the egg stage is not known, nor the duration of the larval stage. We know that the larva occurs very late in the fall and quite early in spring, and I am inclined to believe that hibernation is in the larval stage ; but I have no proof more positive than I have stated.

The larva was submitted to Dr. Dyar, who separates it from all other Culicid larva because it has the antennæ arising from the dorsal aspect of the head, close together, above the mouth. There is no mouth brush, the eyes are rounded, and the abdominal hairs are unequal.

The pupa is brown in colour, and floats parallel to the surface, with the long slender air tubes slightly projecting. It is entirely different from that of any other Culicid known to me.

The adult has mouth-parts similar to those of some Simuliids that I have seen ; but I have not yet studied them closely.

The larva of this species is not in the least like the descriptions or figures of *Corethra* heretofore published, nor does it accord in any way with what Theobald says of the early stages of this genus. It agrees much better with *Mochlonyx*, except for the unusual position of the antennæ ; but in the pupal stage it is utterly and completely unlike any other Culicid known to me or described by Theobald.

Based upon the early stages, *Corethra Brakeleyi* should form a distinct generic type.