

SCIENTIFIC NOTES

THE OCCURRENCE OF *Aedes hendersoni*
COCKERELL IN NORTHERN ILLINOISROBERT A. HEDEEN¹

INTRODUCTION. *Aedes hendersoni* was described by Cockerell in 1918 as a variety of *Aedes triseriatus* (Say) from specimens collected in the vicinity of Douglas, Wyoming, and until 1960 it was considered as either a synonym or variety of this species. Breland (1960) elevated *hendersoni* to full specific rank on the basis of certain characteristics of the larva, adult, and chromosome complement that are definitely different from the features exhibited by *triseriatus*. He points out there are certain variations between *hendersoni* from Colorado and those collected in central Texas, and he terms the population from Colorado to be true *hendersoni* and those from Texas to be the *hendersoni* complex. Breland further suggests that *hendersoni* is a western species that is gradually replaced by *triseriatus* in the east.

Ae. hendersoni was first collected in Cook County, Illinois, in the spring of 1963, and additional collections from the same tree hole were made at regular intervals throughout the summer and early fall of that year. As far as can be determined *hendersoni* has not been collected

previously east of a line running northwest from east Texas through central Colorado into Wyoming and Montana.

THE PRESENT STUDY. In May of 1963 the writer made a routine collection of mosquito larvae from a cavity in a white oak tree (*Quercus alba*) situated in a rather dense forest one mile west of the village of Orland Park, Cook County, Illinois. Upon examination of the specimens in the laboratory, the light color of a few of them was immediately apparent. These larvae were studied in detail and were found to be quite distinct from the darker and more numerous specimens in the collection.

The light colored larvae were found to fit the description of *Ae. hendersoni* as given by Breland (*loc. cit.*) almost exactly, and the darker colored specimens were determined as typical *Ae. triseriatus*. Several other features by which larvae of *hendersoni* were distinguished from *triseriatus* were obvious in the specimens examined. *Hendersoni* has the acus detached from the sclerotized portion of the siphon, anal gills of equal length much longer than the saddle, and the individual hair tufts of the ventral brush are usually only 2-3 branched.

Two subsequent collections of *hendersoni* have been made since the original collection. They have been taken from cavities in two bur oak

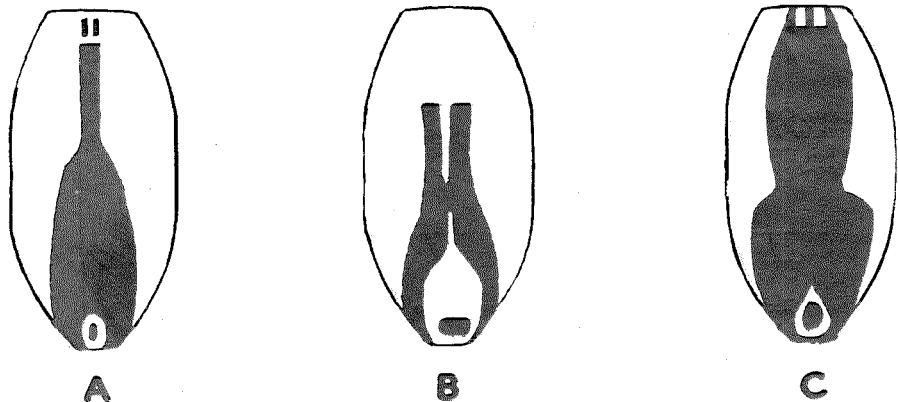


FIG. 1.—Diagrammatic representation of scutal patterns of female mosquitoes showing distribution of white and dark scales: A, *Aedes hendersoni* Cockerell, Orland Park, Illinois; B, *Aedes hendersoni* Cockerell, Boulder, Colorado; C, *Aedes triseriatus* (Say), Austin, Texas (B & C after Breland, 1960).

¹ Manager-Entomologist, The South Cook County Mosquito Abatement District, P.O. Box 30, Harvey, Illinois.

trees (*Quercus macrocarpa*) one of which was located in the immediate vicinity of the original collection, and the other situated in a woods some fifteen miles away near the village of

Thornton. *Ae. triseriatus* has always been found in association with *Ae. hendersoni* in these collections, and no intergradation of larval characters has been observed. Specimens from the same collection were clearly either one species or the other.

The scutal pattern of adults from Illinois that were reared from larvae predetermined as *hendersoni* is intermediate between true *hendersoni* from Colorado and typical *triseriatus* (Fig. 1). The area covered by white scales in Illinois specimens is much more extensive than what is found in *triseriatus*. However, this area is not so large as that exhibited by *hendersoni* from Colorado, and the design of white and black scales is somewhat different. Several male terminalia preparations of Illinois *hendersoni* were studied, and no features of taxonomic importance could be detected. The male terminalia of *hendersoni* appears to be identical with that of *triseriatus*.

This discovery of a member of the *hendersoni* complex in Illinois supports the views of other workers that this is a variable species, and that it inhabits a greater range than was formerly supposed. It appears quite likely that if other collections are made in intermediate areas the variations that exist within the complex will be better understood.

SUMMARY. A member of the *Aedes hendersoni* complex has been collected from two localities in Cook County, Illinois. These collections greatly extend the known range of this species to the east. Larvae of *hendersoni* from Illinois conform to a previously published description, but the scutal pattern of adults is somewhat different from the pattern of true *hendersoni* from Colorado.

Literature Cited

BRELAND, OSMOND P. 1960. Restoration of the name, *Aedes hendersoni* Cockerell and its elevation to full specific rank. *Ann. Ent. Soc. Amer.* 53(5):600-606.

COCKERELL, T. D. A. 1918. The mosquitoes of Colorado. *Jour. Eco. Ent.* 11:195-200.

CRAYFISH MORTALITY WITH BAYTEX

WILLIAM HAZELTINE

Lake County Mosquito Abatement District,
Lakeport, California

During field experiments to control larval stages of the Clear Lake gnat (*Chaoborus astictopus* Dyar & Shannon) an unexpected kill of crayfish was observed. This observation was made on Kelly Lake, east of Watsonville, Santa Cruz County, California.

On August 21, 1963, Kelly Lake was treated with Baytex® ("Fenthion") (O, O-dimethyl O-[4-methylthio-m-tolyl] phosphorothioate) at a dose calculated to give 8 parts per billion. Application was made with a knapsack sprayer; injection of the emulsifiable concentrate was made into the turbulent wake of a power boat. Random courses of the boat were made to achieve uniform distribution. A prior treatment with methyl parathion at 3.3 ppb had been made on July 3, 1963, and subsequent observations of developing gnat larvae showed essentially complete loss of this insecticide at the time of the Baytex treatment.

No adverse effects from any of these experimental treatments were seen on the fish, birds or plankton in the lake. However, examination of the lake 6 days after the 8 ppb Baytex treatment revealed thousands of dead and dying crayfish on the banks and tules. It has not been possible to assess the extent of crayfish mortality or the effect of their loss on the remaining biota of the lake.

The unexpected crayfish mortality points out the need for additional testing of Baytex and related compounds on similar crustacea, particularly in areas where such organisms are an important part of the biota.

UTAH MOSQUITO ABATEMENT ASSOCIATION

Sixty per cent of the people in the state of Utah are now living within the boundaries of organized mosquito abatement districts.

President

HENRY BECKSTEAD
301 So. Main St.
Midvale, Utah

Vice-President

DR. D. ELDON BECK
Dept. of Biology
Brigham Young University
Provo, Utah

Sec.-Treas.

JAY E. GRAHAM
So. Salt Lake Co. M.A.D.
Midvale, Utah

SEVENTEENTH ANNUAL MEETING
MARCH 13, 14, 1964 MIDVALE, UTAH