OCCURRENCE OF *Aedes atlanticus* DYAR AND KNAB IN INDIANA [1]

R. E. SIVERLY [2] AND JOHN W. HART [3]

Several female mosquitoes, believed to be *Aedes atlanticus* D. and K. were collected as biters in a small, flooded tract of woods south of Mt. Vernon, Indiana, on August 13, 1970. Additional specimens, also tentatively identified as *A. atlanticus,* were collected with a CDC trap baited with dry ice on this same date. The larval populations included: *Aedes vexans* (predominantly), *A. trivittatus, Psorophora confinnis,* and *P. ciliata.* No larvae of *A. atlanticus* were collected.

Larval, and adult collections (biting, CDC trap, and adult resting samples) were made at the same site on September 25, 1970. Again, no larvae of *A. atlanticus* were collected, and no clean, unrubbed *A. atlanticus* females were recovered. However, terminalia of two of the male specimens in the collection of September 25 were positively identified as *A. atlanticus.* These males were collected with a mechanical aspirator from emergent vegetation at the periphery of the flooded area.

The site is located only a few miles from Hovey Lake, close by the confluence of the Ohio and Wabash Rivers. The forest vegetation contains maple, ash, and catalpa, with buttonbush predominant in the shrub layer.

According to the U.S.D.A. Soil Conservation Service, the soil belongs to the Ginat Series, a light colored, very poorly drained soil with a compact fragipan. The floor of the flooded depression was quite firm, and appeared to have a high clay content. The water overlying the depression was quite clear, without turbidity, and immatures could readily be observed.

So far as it is known, this is the first published record of *A. atlanticus* in Indiana. This brings to 51 the number of reported species of mosquitoes from this state.

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[2] Ball State University, Muncie, Indiana.

[3] Hayes Regional Arboretum, Richmond, Indiana.

SUPPRESSION OF MALE CHARACTERISTICS IN *Aedes Schizopinax* DYAR (DIPTERA:CULICIDAE) BY THERMAL STRESS

F. C. HARMSTON [1]

Demasculinization, with varying degrees of feminization, of the male genotype resulting from exposure of developing larvae to abnormally high temperatures has been reported in more than a dozen species of Nearctic *Aedes* mosquitoes. The effects of thermal stress in the affected heterozygous male mosquito are expressed by modification or suppression of male tissues and the development of female tissues that replace those that should have been male. Such effects may be expressed by modification of appendages on the head, thorax, and abdomen including in the latter instance loss of parts of the genital tract and development of supernumerary genitalic structures.

All degrees of intergrades, identified by various authors as "intersexes," may be produced as a function of temperature. At the highest survival temperature, masculinity is completely suppressed and the resulting imaginal form is that of a female. Femininity of the homozygous female genotype is unaffected by thermal stress. Pertinent literature on previous studies dealing with thermal stress and anomalous development in mosquitoes is listed at the end of this report.

The intersex of *Aedes schizopinax* under consideration was among adults reared from first instar larvae collected in a marshy bog near Gunnison, Colorado, on June 2, 1970. Subsequently, the larvae were transported to Fort Collins, Colorado, where they were reared in the habitat water at a temperature of approximately 23° C. Although mortality was high among all larval instars and pupae, the one intersex and a few normal males and females were successfully reared.

Genitalic structures of the intersex (Figures 1–2) differ from those of the normal male (Figures 3–4) as follows: cerci well developed, setaceous, entirely replacing the paraprocts; claspette filament more elongate and of delicate structure; phallosome reduced; basistyle shorter,

[1] Biologist, Fort Collins Laboratories, Ecological Investigations Program, Center for Disease Control, Health Services and Mental Health Administration, Public Health Service, U. S. Department of Health, Education, and Welfare, Fort Collins, Colorado 80521.