

A SURVEY OF MOSQUITOES IN CABELL COUNTY, WEST VIRGINIA

DEAN A. ADKINS

Department of Biological Sciences, Marshall University, Huntington, WV 25701

ABSTRACT. A survey of the mosquitoes of Cabell County, West Virginia is presented. Nine species have been found to date, eight of which are new county records: *Culex pipiens*, *Cx. territans*, *Cx. restuans*, *Aedes vexans*, *Ae.*

canadensis, *Ae. sticticus*, *Ae. triseriatus* and *Anopheles quadrimaculatus*. *Cx. pipiens*, *Cx. restuans* and *Ae. vexans* are the most abundant in comprising over 50% of both larval and adult samples.

INTRODUCTION

During the summer of 1976, the Cabell-Huntington Department of Health established a mosquito control project on an interim basis. Mosquito samples taken from various sources were identified as *Culex pipiens* L. by the West Virginia State Department of Health. After the project became permanent it was decided that a more complete survey was necessary. Amrine and Butler (1978) published an annotated list of the mos-

quitoes of West Virginia, and other records have been provided by Fletcher (1957), Dyar (1922, 1928), Carpenter (1950) and Zavortink (1972). A survey was conducted from April 30 to October 1, 1978, to determine which species of mosquitoes are present in Cabell County, West Virginia.

MATERIALS AND METHODS

Along with treatment of various mosquito breeding sites, sanitarians took lar-

val dip samples at each station before treatment. Each sample was labeled with the date and site of collection and was submitted to the entomological consultant for identification.

Most adult specimens were collected once a week with New Jersey light traps and CDC miniature light traps (Sudia and Chamberlain 1962) supplemented with dry ice (Newhouse et al. 1966), although occasional specimens were collected by hand.

SURVEY RESULTS

A total of 212 larval samples were submitted containing 2,588 individuals of 9 species. Table 1 contains a species list indicating the numbers of each species identified for each of the standard weeks during the sampling period. It is apparent that the numbers of *Cx. pipiens*, *Cx. restuans* Theobald and *Aedes vexans* (Meigen) are relatively large. Others appear in small numbers and constitute a rather small proportion of the mosquito population of Cabell County. Some species might appear in greater numbers if the sampling techniques were slanted more toward breeding sites other than ditches, ponds and sewage treatment plants. The commonest 3 species utilize the widest variety of aquatic habitats and so are always well represented. Five county records: *Cx. pipiens*, *Cx. restuans*, *Cx. territans*, Walker, *Ae. vexans* and *Anopheles quadrimaculatus* Say appear in the larval samples.

Hand capture and traps resulted in 280 adult mosquitoes being identified. Due to malfunctioning equipment and an inadequate amount of time to sort and identify the specimens, adult trapping was discontinued very early in the study. Table 2 indicates the results of the adult captures, but since it was only for a short period of time it is not a true indication of the adult mosquito fauna of Cabell County. Three county records: *Ae. canadensis* (Theobald) *Ae. sticticus* (Meigen) and *Ae. triseriatus* (Say) were found among the adults.

Of the adults, *Ae. vexans* was the most

Table 2. Adult Mosquitoes.

| Species | Number | % |
|------------------------|--------|------|
| <i>Culex territans</i> | 10 | 3.6 |
| <i>Cx. pipiens</i> | 38 | 13.6 |
| <i>Cx. restuans</i> | 20 | 7.1 |
| <i>Cx. sp.</i> | 28 | 10% |
| <i>Aedes vexans</i> | 73 | 26% |
| <i>Ae. canadensis</i> | 40 | 14.3 |
| <i>Ae. triseriatus</i> | 30 | 10.7 |
| <i>Ae. sticticus</i> | 40 | 14.3 |

abundant (Table 3), largely due to ease of identification of worn specimens. *Cx. pipiens* and *Cx. restuans* would rank higher if worn specimens could be identified, and along with *Ae. vexans* they constitute over 50% of identified larval and adult specimens.

Table 3. Ranking of larvae and adults by relative abundance.

| Larvae | Adults |
|-------------------------------|---------------------------|
| 1. <i>Cx. pipiens</i> | 1. <i>Ae. vexans</i> |
| 2. <i>Ae. vexans</i> | 2. <i>Ae. sticticus</i> |
| 3. <i>Cx. restuans</i> | 3. <i>Ae. canadensis</i> |
| 4. <i>Cx. territans</i> | 4. <i>Cx. pipiens</i> |
| 5. <i>An. punctipennis</i> | 5. <i>Ae. triseriatus</i> |
| 6. <i>Cx. sp.</i> | 6. <i>Cx. sp.</i> |
| 7. <i>Ae. sp.</i> | 7. <i>Cx. restuans</i> |
| 8. <i>An. sp.</i> | 8. <i>Cx. territans</i> |
| 9. <i>An. quadrimaculatus</i> | |

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