Light Traps baited with CO_2 alone, and CO_2 plus light, were 30- and 100-fold higher, respectively, than from CDC Miniature Light Traps baited with light alone.

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OCCURRENCE OF *Aedes dorsalis* (MEIGEN), *A. dupreei* (COQUILLETT), AND *A. punctor* IN INDIANA[1]

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A. dorsalis was collected in Steuben County, in the northeastern corner of Indiana, in a tamarack bog located approximately four miles west of Fremont. Twelve specimens of *A. dorsalis* were in the huge collection, numbering over 9000, in a CDC light trap baited with dry ice. The trap was set in the late evening on June 27, 1969, and recovered the following morning. The remainder of the collection was predominantly *A. vexans* and *Mansonia perturbans.*

No larvae of *A. dorsalis* were collected in a survey of this bog on April 24, 1969. Larvae of other mosquitoes present included *A. abserratus, A. canadensis, A. excrucians,* and *Culiseta melanura.*

Long migratory flights of *A. dorsalis* have been reported (Rees and Nielson, 1947). Migration into the bog might have occurred from other parts of the county, or even from neighboring states. The fact that high winds prevailed and tornado threats existed in northern Indiana on June 27 increased the likelihood of this phenomenon. Further studies are planned at this site.

Two specimens of *A. punctor* were taken in a biting collection on the evening of June 11, 1968. This collection also was made in Steuben County, approximately two miles southeast of Fremont. Other species in the collection were *A. abserratus, A. sticticus* and *A. cinereus.*

A. dupreei occurred in a wet woods in Spencer County, in southwestern Indiana. This woods is located approximately one mile northwest of Grandview. A CDC light trap, baited with dry ice, was set at this site during the evening of July 17, 1969, and recovered the next morning. The entire collection contained 130 specimens, representing 15 species. There were five *A. dupreei* in the collection.

The three species reported in this paper are believed to be rare in this state. This brings to 50 the number of species of mosquitoes reported from Indiana.

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FURTHER RECORDS OF THE MOSQUITO, *Psorophora ciliata* (FABR.) IN THE VICINITY OF LONDON, ONTARIO

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In a previous report (Judd, 1962) an account was given of the occurrence of a single female *Psorophora ciliata* at London, Ontario in 1962, this being the first record of this species from that locality. Six years later, in 1968, four more females were found in widely separated parts of London and its vicinity.

On July 22 an engorged female was found dead in the water dish of a dog on the property of a breeder of husky dogs on Dingman Creek in Delaware Township, about 5 miles southwest of London. On August 19 one was found in the basement of the house at 432 Hibiscus Avenue in the west end of London and was aggressive in following the householder about the basement. On September 21 two were found on the verandah of the house at 438 Briarhill Avenue in the east end of London at about 10 p.m. The householder reported that one of the mosquitoes bit his left hand and that the other was captured while it was circling over his left leg. The four mosquitoes were identified with keys in Carpenter and LaCasse (1955) and Steward and McWade (1961) and are deposited in the collection of the Department of Zoology, University of Western Ontario.

The presence of these four mosquitoes in 1968 indicates that this species was more common than

usual in 1968 in the vicinity of London. Their occurrence in and around houses is in accord with the report of Horsfall (1955) that *P. ciliata* enters buildings and of Headlee (1945) that it is not infrequently sent with house captures.

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Culex pipiens L. FEEDING ON THE OLIGOCHAETE *Aeolosom hemprichi* EHRENBERG

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Most mosquito larvae feed indiscriminately upon algae and small organisms such as rotifers, protozoa, bacteria and fungal spores (Clements, 1963) and a few species, including apparently some filter feeders, are predators (Petersen *et al.*, 1969). Since *Culex pipiens* L. has not hitherto been regarded as being carnivorous on larger, more complex organisms, it is noteworthy that we have observed fourth instar larvae of this species feeding upon the oligochaete worm, *Aeolosoma hemprichi* Ehrenberg.

We suspected that *C. pipiens* might be ingesting the oligochaetes while we were observing the fate of mosquito larvae hatching from egg rafts deposited upon floating patches of decaying algae. Two fourth instar larvae had been collected inadvertently with the algal sample and one appeared to have devoured one of the many oligochaetes that were browsing among the strands of algae.

Ten worms were placed in a small evaporating dish with 5 fourth instar *C. pipiens* larvae. The mosquitoes did not actively pursue the worms but ingested them when they encountered them during normal feeding activities. When mature worms were drawn toward the larval oral cavity tail-first they were sometimes able to escape. On the other hand, worms carried into the oral cavity head-first were always ingested, apparently with ease.

Mature *Aeolosoma* are approximately 1 to 2 mm long and thrive in decaying algae and hay infusions (Ward and Whipple, 1945). They could well be an important item in the mosquito larval diet under certain conditions, especially where organic material is abundant in the water.

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COMPARISON OF THE EFFECT OF SIX PYRETHROIDS AGAINST A BACKSWIMMER, *Notonecta undulata* SAY

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Since 0.0025–0.02 p.p.m. Abate® *0,0*(-dimethyl phosphorothioate *0,0*-diester with 4,4′-thiodiphenol) killed 10–93 percent of the backswimmers, *Notonecta undulata* Say, in laboratory tests after 2 days of exposure (Fales *et al.*, 1968), it was used as a standard to evaluate the effectiveness of six pyrethroids against the same species in laboratory tests.

MATERIALS AND METHODS. The six pyrethroids tested were allethrin, *d-trans*-allethrin, dimethrin, Neopynamin® (2,2-dimethyl-3-(2-methylpropenyl) cyclopropanecarboxylic acid ester with *N*-(hydroxymethyl)-1-cyclohexene-1,2-dicarboximide), S. B. Penick 1382 ((5-benzyl-3-furylmethyl (±)-*cis-trans*-2,2-dimethyl-3-(2-methylpropenyl) cyclopropanecarboxylate), and S. B. Penick 1390 ((5-benzyl-3-furyl)methyl *d-trans*-2,2-dimethyl-3-(2-methylpropenyl)cyclopropanecarboxylate). As in the tests with Abate in 1966 and 1967, the WHO beaker method of determining susceptibilities of mosquito larvae (World Health Organization 1960) was used. However, in 1966, the stock solutions (prepared with acetone) were diluted with acetone and then added to distilled water containing the test insects; in 1967, the dilutions from the same stock solution were made with distilled water and then added to lake water containing the test insects. Since the results were the same for both methods, the tests reported here followed the procedure used in 1967 except that the test insects were placed in distilled water instead of in lake water.