

spot plate that each contained one fourth instar *Anopheles barberi*. After one hour, 51 of the 90 *C. p. quinquefasciatus* had been devoured; after 16 hours, 86 of 90 had been consumed.

A fourth instar larva of *Anopheles barberi* was then placed in a small container with many first instar larvae of *C. p. quinquefasciatus* and observed for one hour under a stereoscopic microscope. This one *Anopheles barberi* consumed 25 larvae in the first 20 minutes, 31 in 30 minutes, 37 in 45 minutes, and a total of 46 in 1 hour. The first *C. p. quinquefasciatus* consumed passed through the digestive tract of the predator in 7 minutes, one or two were subsequently passed every 1 to 2 minutes, and 31 passed through in 1 hour. In another observation a fourth instar *Anopheles barberi* devoured 34 larvae and passed the first in 13 minutes and passed 19 in 30 minutes. Generally the fourth instar larvae of *Anopheles barberi* were observed to consume 14 to 18 first instar *C. p. quinquefasciatus* as rapidly as they could catch them; thereafter, they consumed larvae only after they had eliminated previously eaten larvae. However, several *Anopheles barberi* continued to catch and kill large numbers without consuming them after they had consumed about 15.

Fourth instar larvae of *Anopheles barberi* were also observed to consume a few second instar larvae of *C. p. quinquefasciatus*, but they were much less efficient predators of second instar than of first instar larvae. Moreover, third instar larvae of *Anopheles barberi* that occasionally attempted to prey on first instar larvae of *C. p. quinquefasciatus* were always unsuccessful.

Thus, fourth instar larvae of *Anopheles barberi* are predacious and probably consume large numbers of early instar mosquito larvae and various sized larvae of *Culicoides* spp. that breed in tree holes.

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An *Aedes vexans* GYNANDROMORPH

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When he compiled his list of gynandromorphs, Bates (1949) commented that they were "probably very rare" in proportion to the vast numbers of mosquitoes that had been examined up until that time. Brust's (1966) appended list, Taylor et al., (1966), and Meadows (1966), along with

a few more descriptions of individual specimens, substantiate the relatively infrequent occurrence of such anomalies in nature. The total number of reported gynandromorphs, and particularly the limited variety of species represented, remains small.

As a severe pest mosquito resulting from flood waters, *Aedes vexans* (Meigen) has received much attention from mosquito workers, but no sexually aberrant types have been described in the literature.

An antero-posteriorly differentiated form of *A. vexans* was collected in Salt Lake County 21 June 1968, in a New Jersey type light trap hung 5 feet above the ground in a grape arbor surrounded by shrubs and trees. The head of the specimen was entirely male with normal antennae and palpi. The tarsal claws appeared to be male. The terminal abdominal segments were characteristically female. Two ovaries were present, with no yolk in the oocytes. There was a bursa copulatrix, accessory gland, and three spermathecae. The hind gut contained six rectal papillae indicating a female digestive tract.

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NOTES ON THE BIOLOGY OF *Culex territans* WALKER¹

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In the summer of 1968 an attempt was made to colonize *Culex territans* Walker. From mid-June to late July, 8,000 fourth instar larvae were collected and identified. The identified larvae were placed in enamel pans (9" x 15" x 4") containing filtered lake water and food (Takata and Harwood, 1964) in an outdoor cage measuring 6' x 4' x 6', which had a 1/2" plywood top and bottom, was covered with white netting, and had a polyethylene sheet over one side and the top for protection from wind and rain. Frogs and 10 percent sucrose were provided. The mosquitoes blood-fed readily and laid egg rafts, but did not

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