

vegetation satisfactorily. In recent tests granulated insecticides have been found to give good control.

Granulated BHC applied at the rate of 2 pounds of gamma isomer per acre gave excellent control of the larvae for 12 weeks. A sharp increase in larval abundance occurred after 16 weeks, and little or no control was indicated at 20 weeks.

Granulated dieldrin applied at the rate of 1.25 pounds of dieldrin per acre gave excellent control for 24 weeks.

An aerial spray in which BHC was applied at the rate of 2 pounds of gamma

isomer per acre gave some control for weeks but little or none thereafter.

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## A GYNANDROMORPH OF *CULEX PIPIENS MOLESTUS* (FORSK.)

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The gynandromorph described was found among a laboratory strain of *Culex pipiens molestus* maintained in the Department of Parasitology of the Hebrew University. The mosquito emerged on 29-IV-1951 and was among a group removed from the cage on 2-V-1951. Following discovery of the gynandromorph, all mosquitoes which had emerged on the previous day and for several days thereafter were examined without finding other aberrant forms. The specimen is pinned and the genitalia mounted on a slide. The left side of the specimen has male, the right female characteristics.

*Description:* Antennae: male, whorled hairs not quite so dense as in normal male, segmentation normal, female with hairs slightly longer than in normal female, segmentation normal. Palpi: distal hairs on male side slightly longer than on normal male, female palpus normal. Proboscis: almost intermediate but more closely resembling that of female. Female eye larger than male; anterior-posterior distance across the

vertex of the head greater on female side than on male. Thorax: dorsum with uniform scaling and chaetotaxy pleurae with equal scaling and chaetotaxy on both sides; tarsi: left front tarsus with two equal sized toothed claws, right front tarsus as in normal female, left mid-tarsus with one large and other smaller toothed claw, right mid-tarsus as in normal female, hind tarsi as in normal male and female respectively; wings: male wing not quite 4mm in length, female wing 4.75mm, width of female wing greater, both wings normally scaled; abdomen: tergites dark brown with pale scales basally, tergites five to eight with the pale scales extending laterally almost to the apical edge of the tergite on the female side, pale scales not thus extended on the male side; genitalia: (see fig. 1) left side nearly as in normal male except that the basal plate is not present in normal form but probably represented by a large rod-like structure displaced below the base of the paraproct, right

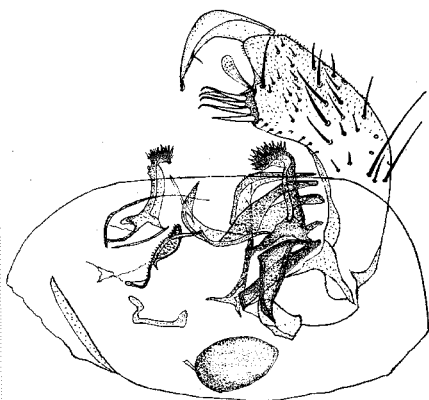


FIG. 1. *Culex pipiens molestus*. Genitalia of gynandromorph.

side with paraproct of nearly normal size present and in addition a rudimentary process at the inside of the paraproct which may represent the not fully developed ventral arm of the mesonome, the cercus on the female side is possibly represented by a small protuberance at the lower inner side of the paraproct; one spermatheca is present of the normal number of three.

Four gynandromorphs of *C. pipiens molestus* have previously been described, one by Marshall (1938, pp. 312-313), and three by Gilchrist and Haldane (1947). Roth (1948) reviewed the literature on gynandromorphs up to that date aggregat-

ing about twenty cases. Also in addition to the records reviewed by Roth, Weyer (1938) described a gynandromorph of *Culex pipiens* and Smyly (1942) one of *Aedes aegypti*; Bates (1949, pp. 65 and 79) refers to two gynandromorphs of *Haemagogus spegazzinii* and one of *Culex coronator* found in the course of his work in South America. Considering the enormous number of mosquitoes which have been examined, it appears that the occurrence of gynandromorphs and sex mosaics among the Culicidae is quite rare.

The specimen herein described has been deposited in the collection of the Department of Parasitology of the Hebrew University, Jerusalem.

The author gratefully acknowledges the aid and advice of Professor O. Theodor of the Department of Parasitology, Hebrew University, in the preparation of this paper.

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