RESULTS AND DISCUSSION. The percentages of larval mortality after 4 days exposure to Altosid were 33.2, 36.8, 86.0, and 93.6 in 0.01, 0.1, 1, and 10 ppm, respectively. The greatest mortality was observed in the 10 ppm treatment with 1 ppm giving the next highest larval mortality.

Fewer larvae pupated as a result of exposure to Altosid. The 0.01 ppm treatment resulted in a 20% suppression of pupation (calculated by a modified Abbott's formula, % suppression=% pupated in 0 ppm—% pupated in treatment/% pupated in 0 ppm x 100). Less pupation was observed with higher concentrations.

As a result of exposure to Altosid a high percentage of pupae were found to be abnormal. It was observed that 34.1% of the pupae were abnormal in the 0.01 ppm treatment and 100% were found abnormal in 1 and 10 ppm treatments. One abnormality was the retention of larval characteristics in the pupa, which resulted in a larval-pupal intermediate, a similar condition as that described by Wright and Spates (1971). This larval-pupal intermediate had balloon-shaped wing pads and adult-like mouth parts. Both mouth parts and wing pads were not closely appressed to the body. This form was also characterized by a larval-like abdomen (with a white spot being retained on the last segment) and a pupal-like thorax and head. Other abnormalities observed included retention of the larval proleg on the pupa and malformation of the pupal cocoon. The pupal cocoon is normally a boot-shaped structure; but in this case, it was a narrow band spun just over the thorax of the larval-pupal intermediate.

Last instar larvae were affected by Altosid in three ways. Some remained larvae longer than normal (controls), greater larval mortality occurred as the concentration increased, and a high percent of those that pupated were deformed. No adults were collected because of mortality in the pupal stage.

Altosid caused morphogenetic abnormalities and mortality only when applied in relatively high concentrations. The ineffectiveness of Altosid at low concentrations makes it an impractical control method for last instar larvae of *S. pictipes*.

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A GYNANDROMORPH IN *AEDES HENDERSONI* COCKERELL [1]

PAUL R. GRIMSTAD AND GENE R. DEFOLIART [2]

Records of gynandromorphs in mosquitoes have been summarized by Roth (1948). Subsequently there have been reports of this phenomenon in several *Aedes* species including *A. triseriatus* (Say) (Ezenwa and Venard, 1973). We have not seen reports, however, of gynandromorphs of *Aedes hendersoni*.

A colony of *A. hendersoni* has been maintained at the Department of Entomology, University of Wisconsin through 9 generations by the induced copulation method of Ow Yang, *et al.* (1963). While preparing a number of F_7 males for induced copulation, a gynandromorph was noted. It was not used for induced copulation and it would not probe for blood on a bare arm. This is the only one that has been seen since this colony was begun in the fall of 1972, although approximately 2000 adults have been examined.

The gynandromorph has the typical female body size and wing disposition (large body, wings covering abdomen, Figure 1). The external genitalia, however, are typically male. The left antenna is female while the right is male (Figure 2); however, the right maxillary palp is like that of a normally developed female but the left palp is like that of a male with the terminal segments shortened and malformed. The proboscis is the size

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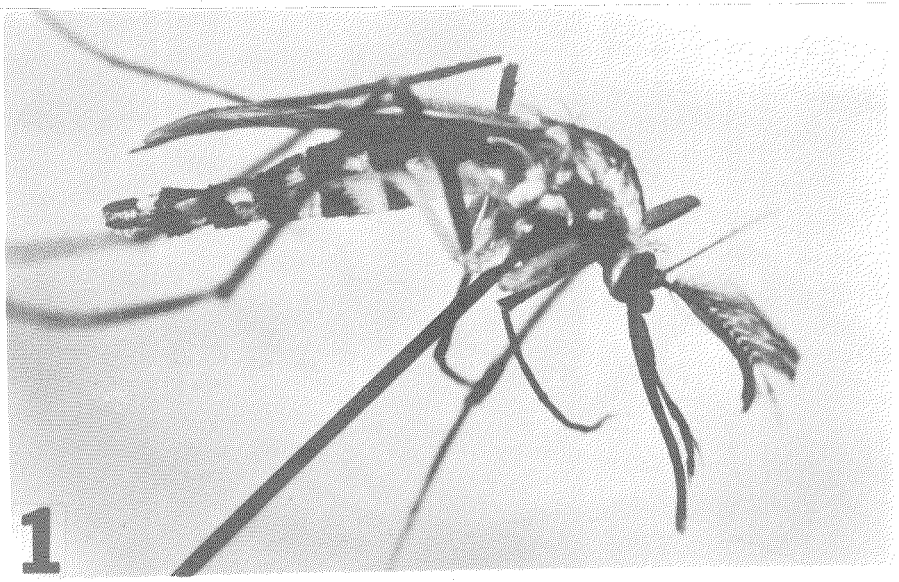

FIG. 1. *Aedes hendersoni* gynandromorph. Note the typical female body size and wing disposition, but male genitalia.

typical of a normal female. The terminal segments of the abdomen were cleared and slide mounted. Spermathecae are not present and the external genitalia are normal.

The specimen has been deposited in the collection of the Department of Entomology, University of Wisconsin.

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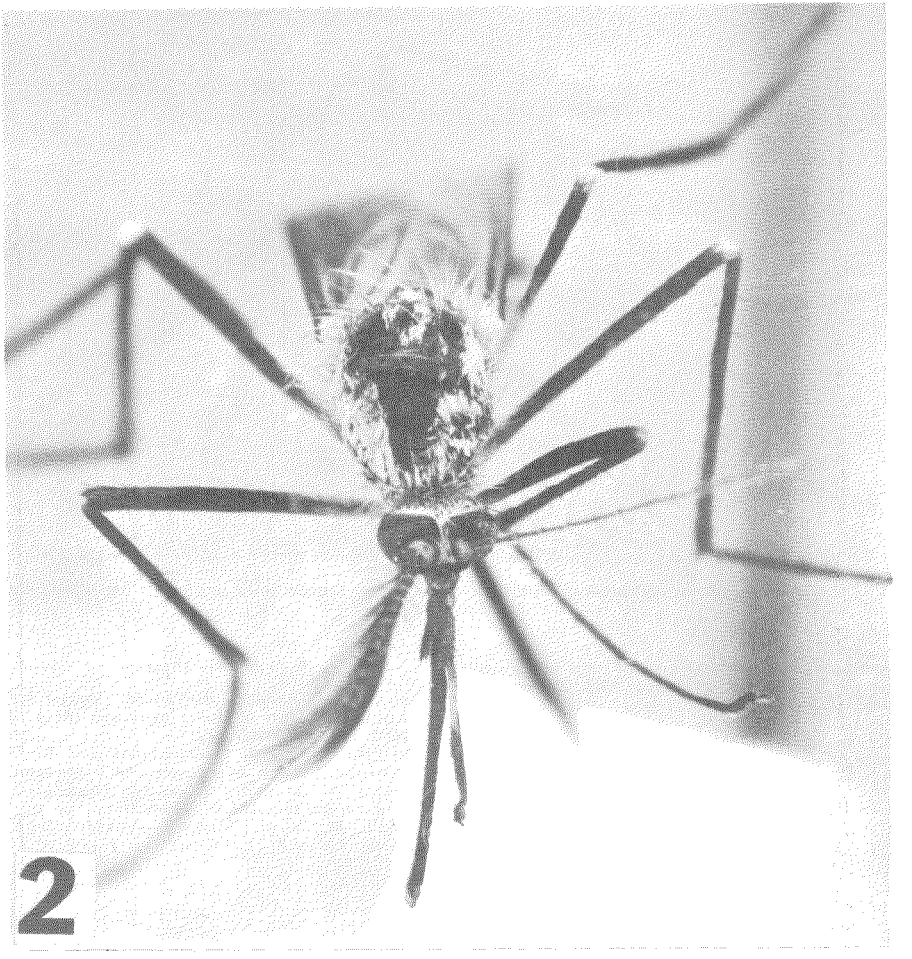

FIG. 2. Antennae and mouthparts of *Aedes hendersoni* gynandromorph.