OPERATIONAL AND SCIENTIFIC NOTES

A GYNANDROMORPH OF *CULEX (CX.) PSEUDOVISHNUI* FROM PAKISTAN[1]

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INTRODUCTION. In the genus *Culex* gynandromorphs have been reported from the following species: *Cx. (Cx.) theileri* Theobald (Bedford 1914), *Cx. (Cx.) pipiens pipiens* Linnaeus (Marshall 1938), *Cx. (Cx.) pipiens molestus* Forskal (Marshall 1938), *Cx. (Cx.) pipiens fatigans* Wiedemann (Middlekauff 1944), *Cx. (Cx.) nigripalpus* Theobald (Rings 1946), *Cx. (Cx.) salinarius* Coquillett (Roth 1948), *Cx. (Cx.) coronator* Dyar and Knab (Komp and Bates 1948), *Cx. (Cx.) tarsalis* Coquillett (Keh 1955), *Cx. (Cx.) erythrothorax* Dyar (Blakeslee and Rigby 1965), *Cx. (Cx.) tritaeniorhynchus* Giles (Aslamkhan and Baker 1969), *Cx. (Culiciomyia) cinereus* Theobald (van Someren 1969), and *Cx. (Cx.) fuscocephalus* Theobald (Aslamkhan 1970). This report describes the 1st gynandromorph in *Culex (Culex) pseudovishnui* Colless.

During the course of a study on the ecology of *Culex tritaeniorhynchus* at the suburb Ravi Town of Lahore, from June 30 to July 16, 1976, 117,380 females and 39,325 males belonging to 3 species of *Aedes*, 5 species of *Anopheles*, 7 species of *Culex* and 1 species of *Mansonia* were collected by sweeping, biting at buffalo bait and light trapping. Of these, 1990 females and 283 males were identified as *Culex pseudovishnui*. A total of 1,864 females of *Cx. pseudovishnui* was collected while biting buffaloes including this single gynandromorph collected on July 10, 1976, between 1945 and 2000 hrs. The recorded temperature was 30.6°C and the relative humidity was 88%.

DESCRIPTION OF GYNANDROMORPH. The gynandromorph possessed a typical female proboscis and mouth parts, but the antennae were male while the left palpus was female and the right male (Fig. 1). The unrotated hypopygium was that of a normal male, which assured the correct identification of the species (Fig. 2). Although the wings were typically male, the legs showed sexual characters; the left fore-leg was female in appearance (Fig. 3), whereas the right fore-leg was equipped with well developed, hooked male claws (Fig. 4). The mid-legs were typically female with simple claws (Fig. 5). The hind legs were not identical; the left one possessed more spines than the right one. The abdomen was female in appearance but dissection of the internal organs was not made as the specimen was cleared and mounted on a slide.

DISCUSSION. Gynandromorphs in the Culicidae have been collected in light traps (Rings 1946, Pratt and Sudia 1964, Rigby and Blakeslee 1964, Rigby 1966, Taylor, Meadows and Branch 1966, Meadows 1966, and Minson 1969), in a donkey-baited trap (Komp and Bates 1948), in bird-baited traps (Taylor, Meadows and Branch 1966, and Meadows 1969), on a human host (Lee 1967) and while biting a cow after dusk (Aslamkhan 1970). The present gynandromorph is the 2nd specimen collected biting domestic bovines. While a positive phototropism is shared by both male and female mosquitoes and the motive for entry into an animal baited trap has been questioned (e.g. Aslamkhan and Salman 1969), the collection of gynandromorphs with female mouth parts at human and cattle hosts, while attempting to feed clearly shows conventional female behavior as suggested previously by Aslamkhan (1970). Whether these individuals could have actually imbibed blood and the physiological fate of such blood meal remains unknown.

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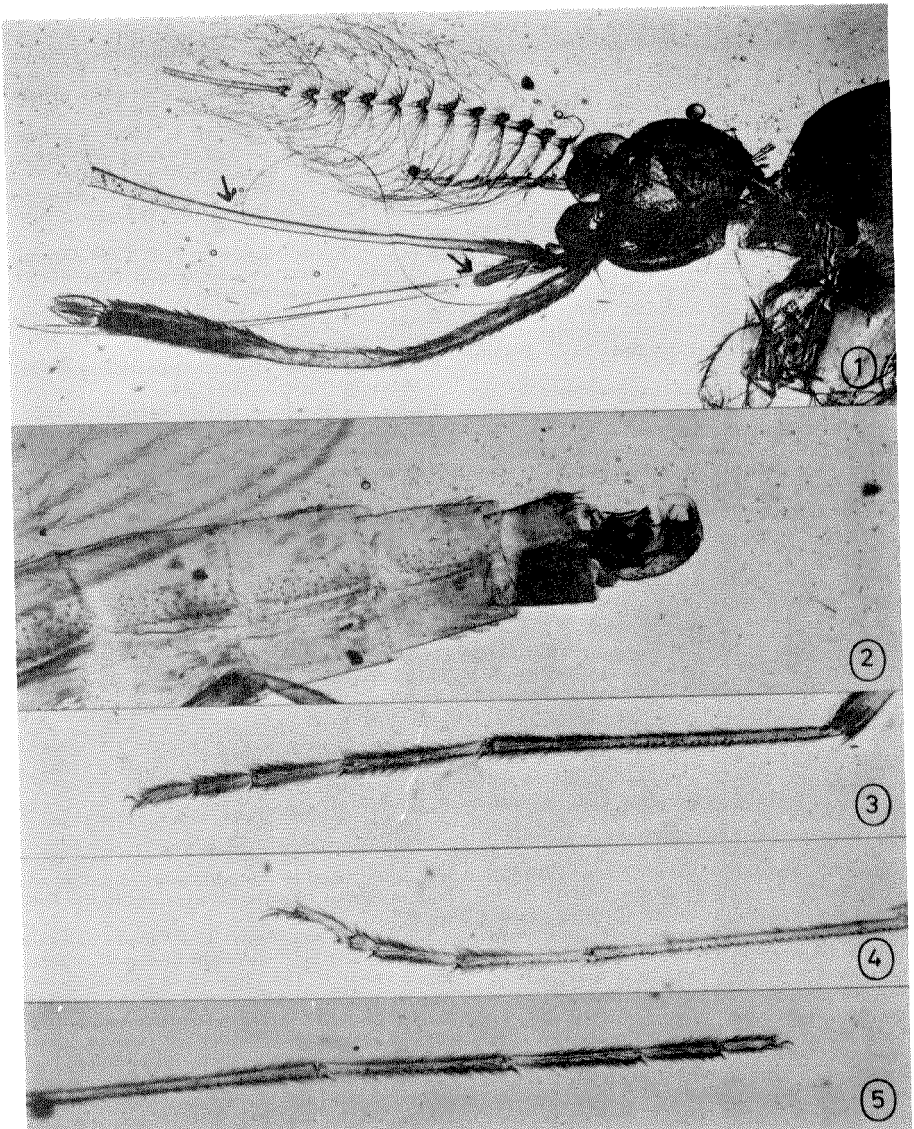
Fig. 1. Head with typical female mouth parts but with male antennae and right palpus (arrow).
Fig. 2. Normal male hypopygium.
Fig. 3. Normal female left fore-leg with simple claw.
Fig. 4. Normal male right fore-leg with hooked claw.
Fig. 5. Normal female mid-leg.



Gynandromorph of *Culex (Cx.) pseudovishnui* Colless

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MODIFICATION OF HOMELITE MIST BLOWER MODEL 24B-4A, SERIAL NO. 311700

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The Orange County Vector Control District has used the Homelite® Model 24B-4A Mist Blower for many of its varied spraying operations for years. These units have performed the mist blower functions admirably over the years, however, wear and tear and lack of available parts have all but curtailed the operation of these units. Homelite Mist Blower Model 24B-4A has been out of production for many years and no parts were available from Homelite Corporation or any other source as far as could be determined. Our problem is engine failure.

Prior to the modification, a study was conducted as to availability of mist blowers and their cost. Upon receiving this information, it was determined that modification could be accomplished at considerable savings to the District.

Modification of the available blower unit was accomplished by installation of a new engine. Research as to the type of engine was conducted and the final selection was the Honda® Model G80 BQ, 8 Hp., 4 stroke heavy duty electric starter engine, which possessed the specifications for this type of application.

The Homelite Engine Assembly was removed from the blower assembly and the Honda Model G80 BQ, 8 Hp engine adapted for blower operation of the mist blower impeller system. The entire Homelite engine was removed with shaft and fan assemblies. The