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PSOROPHORA HORRIDA IN MICHIGAN[1]

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Two females of *Psorophora horrida* (Dyar & Knab), a new record for Michigan, were collected on August 8 and 31, 1977 in a beech (*Fagus* sp.)-maple (*Acer* sp.) climax forest in East Lansing (T. 3N., R. 1W., sec. 6), during human biting collections.

Ps. horrida is a woodland mosquito. Its immature stages are found in temporary shaded pools following heavy and prolonged rains. Its distribution in the United States is primarily in the Southeast (Carpenter and LaCasse 1955). It is known to occur from Nebraska and Minnesota south to the Gulf states and east to Pennsylvania (Siverly 1972).

Siverly (1972) reported the occurrence of this species in small numbers in most of the counties in the southern third of Indiana. Parsons et al. (1972), in their revised list of the mosquitoes of Ohio, recorded this species as a rare mosquito in that state. This report extends the northward distribution of this species.

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A TECHNIQUE FOR THE COLLECTION OF ENGORGED TABANIDAE[1]

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In the laboratory biological studies of the immature stages of Tabanidae are conducted most efficiently with larvae that have hatched from eggs obtained from identified engorged adults. The usual method is to collect the adults with a hand net at the moment they finish feeding on the bait animal in the field. However, there are several drawbacks to this procedure: (1) the time and labor required to remain with a tethered bait animal during the 2-6 hr or more needed to obtain an adequate number of engorged females; (2) the necessity of changing work schedules in order to collect species at periods of the day that are outside the normal period, for example, at sunrise or sunset; (3) the danger of accidents due to such activities of the bait animal such as kicking; (4) the loss of specimens that escape the net or that feed on areas not easily accessible to collection with a hand net such as the upper inside areas of the hindlegs; and (5) the possibility of dislodging specimens prior to engorgement.

The technique that was devised was as follows: The bait animal was placed in a 12 × 12 × 8-ft screened building (Fig. 1) constructed of eleven 4 × 8-ft and one 4 × 4-ft diagonally braced 2 × 4-inch frames covered with 4-mesh hardware cloth. These frames were bolted together, three to a side. The single opening into the building was located in one corner and was 4 × 4 ft. The top half of the 4 × 8-ft space was closed with the 4 × 4-ft screened frame. The top of the building was covered with a 14 × 18-mesh screen nailed to 2 × 4 lumber on 30-inch centers.

In operation, a haltered bait animal was tied to a cleat in one of the corners away from the door opening. Tabanids that approached the building from any direction flew around the structure and eventually entered. Also, after several test trials, a shiny black ball (9 inches in diameter) was hung in the opening to facilitate the entrance of tabanids into the building.

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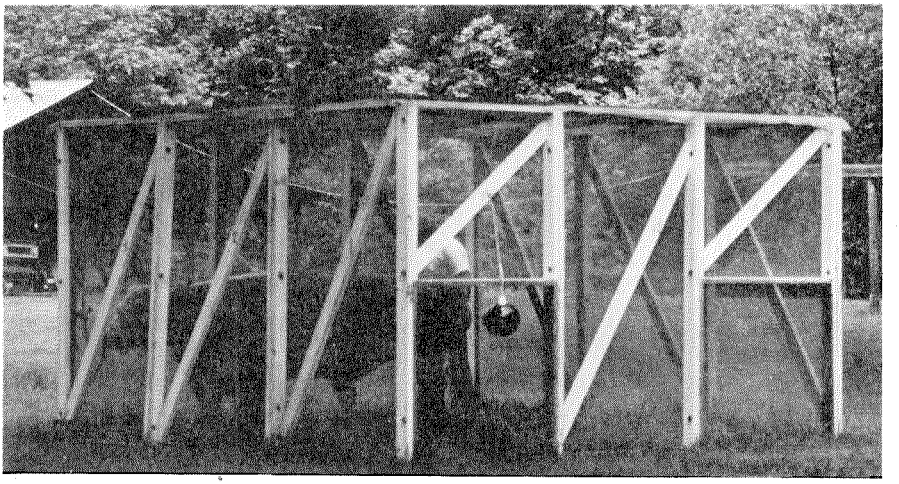

Fig. 1. Screened building for collection of engorged tabanids from a bait animal.

Tabanids that entered the building fed readily on the bait animal and when engorged flew to and rested on the screen where they were easily collected. No particular preference for resting locations by the various species was noted.

Although this technique was used for only a short period in 1975, from early May to mid June, the advantages were quite apparent. The time and labor previously involved in hand collections from a bait animal were reduced up to 90% since it was only necessary to transport the animal to the cage, leave it, and return several hours later. Then the engorged flies were collected in 10-20 min, and the animal was returned to the pasture. Also, any danger of accidents due to the animal were greatly minimized; all specimens were fully engorged; and tabanids that fed on inaccessible areas of the bait animal's body were collected.

During the limited study, over 600 engorged specimens were collected. All species determined to be present in the area by survey traps and by a few comparative hand net collections were collected by this technique.

The technique has the potential for adaptation for other studies. For example, with several such structures, insecticides could be evaluated against tabanids by comparing mortality of engorged flies from treated animals with mortality of those from an untreated animal, or repellents against tabanids could be evaluated by comparing numbers engorged on treated and untreated animals or percentage engorged of all tabanids entering the building over a specified period. Finally, the technique could be used for ecological studies or for comparing the preference of tabanids to various species of animals.

NEW HAUNTS FOR AN OLD FOE

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A new wrinkle appeared on the Morris County mosquito scene in June, 1977. That date marked the discovery of *Aedes sollicitans* larvae in our upland environment. A few stray adults have wandered up our way from tidewater areas (many miles distant) over the years but now we have had a real taste of what many of our salt marsh brethren have long been accustomed to.