BATTERY-OPERATED LIGHT TRAP, AN IMPROVED MODEL
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In an earlier note (Nelson & Chamberlain, 1955) a miniature New Jersey-type light trap operated on dry cell batteries was described. This model had proved useful in making live mosquito catches for virus isolation studies, and yielded valuable collections from remote areas which could not otherwise have been sampled.

Unfortunately the construction of this trap was complicated, with numerous screws and bolts making dismounting difficult. The rigid catching cage was bulk and fragile. Furthermore, slight changes subsequently made in the manufacturing specifications of the selected motor reduced its efficiency for light trap application.

The present model (Figure 1 and Figure 2) is demountable for easy transport; it weighs only 1 1/4 lbs. and has a collapsible catching bag. The large overhang of the lid protects the operating mechanism even in heaviest rainstorms.

The major changes over the previous model are the detachable flat-topped lid and a miniature ball-bearing motor and dural

Fig. 1.—CDC Miniature light trap, assembled

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ight bulb drawing only 0.15 amperes each, supplied motor-mounting bracket, and operation on 4 volts d.c. A 7.5 ohm resistor in series in the circuit permits use of ordinary 6-volt battery. The trap can be operated on any 6-volt d.c. source, but use of a 20 amp-hour motorcycle battery weighing only about 10 lbs. will give 1 to 5 nights operation without recharging. The motor will give about 15 to 25 nights of service before wearing out. An oiling with light machine oil improves operation.

The present model has been field-tested one year in a south Alabama virus study, and for eight months on the Big Cypress Seminole Reservation, in south Florida. Catches ranged from one-fourth equal to those of New Jersey light traps in the same areas using 15-watt bulbs, with similar species composition. However, a considerably higher proportion of mosquitoes in proportion to "trash" insects was taken in the miniature traps. Cypress and custard-apple swamp sites in the Florida Everglades in summer generally yielded 300-1000 mosquitoes per night, comprising a number of different species. More open areas frequently yielded very large numbers of one or two species. In one instance, 25,000 Paraphora confinis were collected in a single miniature trap in one night. The trap, tested by others, has also been used with success in collecting Culicoides and Phlebotomus.

The body of the trap (3) (Figure 2 and Figure 3) is a piece of 3/4" Plexiglas tubing. A slot on each side permits insertion of the motor support bracket (5) holding the motor (4). The hood support bracket (12) also fits into these slots and is held fast by two wing nuts. The lid (12) is
held in place by the hood ring wing nut \((13)\). Color-coded binding posts \((2)\) and ‘snap-on’ terminals \((20)\) permit easy connection of leads from battery and motor assembly. An elastic band in the neck of the catching bag permits attachment over the cleat \((16)\) on the bottom lip of the trap body.

The motor support bracket is made of 22- or 23-gauge sheet metal and is formed to fit the motor and conform to the circumference of the trap body. On one side, a lip is soldered over the two halves of the motor bracket and is also bent to hold the resistor \((19)\). On the other side, a U-shaped clip \((21)\), unsoldered, is slipped over the bracket halves like a clothespin to hold the motor tightly in place. The bulb bracket assembly \((6)\) is soldered into position on the side of the motor bracket so that the light bulb is centered over the motor. The fan blade \((9)\) is made from a piece of solid Plexiglas rod as hub, which as been slotted to receive two blades of \(\frac{3}{8}\)" Plexiglas and drilled to fit the motor shaft snugly.

The brushes of the motor are held in place by slide-on brass clips. When motors are worn, they can be replaced without resoldering by sliding off these clips and placing them over the brushes of the new motor.

Color coding of wires, terminals and battery connectors will greatly aid in correctly connecting the trap to the battery, since the motor is of the reversible type and reversed connections will cause the fan to blow the wrong way.

Most of the parts can be obtained from a local radio supply house or from a plastics distributor. The Aristo-Rev No. 1 motor \(^2\) is available from local hobby shops. A mimeographed list of parts and suppliers is available from the authors upon request. The total cost of materials used in making a trap, exclusive of batteries and labor, is approximately $10.00.

\textit{Literature Cited}

\begin{itemize}
  \begin{itemize}
    \item A light trap and mechanical aspirator operating on dry cell batteries. Mosquito News 15:1, 0-0.
  \end{itemize}
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\(^2\) \textit{Note:} Trade names are used as a means of identifying the product and their use does not constitute endorsement by the Public Health Service.

\section*{IMPORTANT NOTICE}

MEMBERSHIP DUES WILL BE $8.00 FOR 1963. SUBSCRIPTIONS TO MOSQUITO NEWS WILL ALSO BE RAISED TO $5.00 STARTING JANUARY 1, 1963.

Supplying four issues of Mosquito News each year since 1949 for $2.00 has been an outstanding accomplishment of the Association. Only dedicated effort by the membership made this possible but the continued pressure of rising costs and increased time to prepare and mail the Journal finally dictated that a change was inevitable. The present rates could be continued by cutting back on the content of Mosquito News, however this retreat evaporated as it was voiced. By unanimous vote of the members attending the 1962 annual business meeting, approval was given to advancing the dues to the still very nominal sum of $8.00.

Along with the change in membership dues and Mosquito News subscriptions to $8.00 annually, other changes starting January 1, 1963 will be: Life Membership, $150.00; single copies of Mosquito News $2.25 and Mosquito News reprints 50 percent above the present schedule. Life Membership payments received before December 31, 1962 will be honored at the present figure of $100.00.