

# A COLLAPSIBLE TRUCK-BOAT TRAP FOR COLLECTING BLOOD-FED MOSQUITOES AND TABANIDS<sup>1</sup>

C. D. STEELMAN,<sup>2</sup> C. G. RICHARDSON,<sup>2</sup> R. E. SCHAEFER<sup>2</sup> AND B. H. WILSON<sup>2</sup>

The use of non-attractant truck traps for collecting adult mosquitoes and tabanids has proven valuable in Louisiana. However, due to the extensiveness of the areas sampled by this collecting technique along with the need for operating the trap on more than one type of vehicle, the trap used by Provost (1952, 1955, 1957) and Bidlingmayer (1966) was modified to allow more flexible utilization.

The framework of the trap is constructed of lightweight angle aluminum and is screened with fiberglass screen. The weight of the trap is 35 lbs. and it measures 6 ft. 6 in. in length. The front opening is 4 ft. x 40.5 in. with a rear opening of 6 x 7 in. The approximate cost of the trap is \$35.

It may be disassembled in approximately 15 minutes by one man and transported to the collection site in two pieces. The design allows one man to assemble and operate the trap on boats of varying size,

International Scouts,<sup>3</sup> and pickup trucks equipped with campers or bed covers.

**MATERIALS AND METHODS.** Materials required for construction of the trap are listed below.

- 1—1 x 1/8 in. angle aluminum 14 feet long
- 1—1 x 1/8 angle aluminum 26 inches long
- 4—5/16 x 2 in. machine bolts
- 36—1/4 x 1 in. round head stove bolts with lock washers and wing nut
- 1—set of car-top carrier racks
- 1—5 x 4 x 8 inches sheet metal funnel
- 4—1/2 in. x 6 ft. conduit tubing
- 24 ft. of fiberglass screen (18 x 16 mesh)
- 60 in.—1 x 1 1/4 in. angle iron
- 26—number "O" grommets
- 26—1/4 in. flat washers
- collecting bags

The trap is made in the following manner: Construct a 3 x 4 ft. rectangle from the 14 ft. angle aluminum by cutting 45° angles at appropriate intervals with a hacksaw, heating the metal just enough to allow it to be bent to 90° angles and weld-

<sup>1</sup> This study was partially supported by Agriculture Research Service, U. S. Department of Agriculture, Grant #12-14-100-9128(33), administered by the Entomology Research Division, Beltsville, Maryland.

<sup>2</sup> Assistant Professor, Associate, Graduate Assistant and Associate Professor respectively, Department of Entomology, Louisiana State University.

<sup>3</sup> International Scout. Mention of this trade name does not imply endorsement by Louisiana State University.

ing the open end. Construct a 6 x 7 in. rectangle from the 26 in. angle aluminum by the same technique.

Build a rear stand from four pieces of 1 in. angle iron by welding together a 20 in. piece at the bottom, two 16 in. pieces for the sides and a 7 in. piece at the top.

Cut four pieces of  $\frac{1}{2}$  in. conduit tubing 6 ft. long. Flatten about 2 in. on each end of each tube; these ends will be bent so that they can be attached to corresponding corners of the large and small rectangles forming the frame of the trap.

Construct a screen funnel of the 18 x 16 mesh fiberglass screen with a 3 x 4 ft. front opening tapering to a 4 x 5 in. rear opening. Sew a 2 in. binding around the large opening so that small grommets can be placed in at 6 in. intervals. Attach the screen to the large aluminum rectangle with  $\frac{1}{4}$  in. round head stove bolts and flat

washers (this will be permanent) and attach the large rectangle to one of the car top carrier rack sections with two  $\frac{5}{16}$  in. machine bolts.

Center and attach the angle iron stand on the other section of the car top carrier rack with two  $\frac{5}{16}$  in. machine bolts.

Construct a 5 x 4 x 8 in. rectangular sleeve from a piece of light gauge sheet metal. Cut a  $\frac{1}{2}$  in. splice at each corner of one end of the sleeve so that it fits snugly against the inside angle of the rectangle, and rivet the two pieces together. Attach the small aluminum rectangle with the metal sleeve to the angle iron stand with two  $\frac{1}{4}$  in. round head stove bolts. Attach the four conduit tubes to the large and small rectangles by using a  $\frac{1}{4}$  in. round head stove bolt and wing nut at each end of the tube. The frame is then completed. The screen funnel is placed



FIG. 1.—Trap mounted on cover of pick-up bed.



FIG. 2.—Trap mounted on boat.

inside the frame. The small end of the screen funnel is extended through the metal sleeve and the end is folded back over the metal sleeve and secured with a large rubber band. A collection bag is placed over the open end of the metal sleeve and secured with a rubber band.

The trap is secured to the Scout by the hooks and straps provided on the car top carrier rack. When mounted on the pick-up bed cover or camper the trap is secured by attaching sash cord to the hooks on the car top racks and eye screws mounted at the base of the camper (Fig. 1). The trap is mounted on the boat by securing the car top racks to the front and sides with sash cord (Fig. 2). Foam rubber pads are placed under the racks to prevent damage to the boat or trap.

To disassemble the trap, remove it from the vehicle. Remove the four stove bolts

holding the four conduit tubes of the frame. The screen funnel is removed from the metal sleeve, rolled up and left attached to the large rectangle. Each section of the car top carrier rack is left intact. When the trap is disassembled for carrying or storage there will be two sections of the car top carrier and the four conduit tubes (Fig. 3).

At the start of each run a collection bag made of nylon organdy approximately 18 in. in length is attached to the trap. A bag of this length folds sufficiently when the vehicle is stopped to prevent captured specimens from escaping.

#### *Literature Selected*

BIDLINGMAYER, W. L. 1966. Use of the truck trap for evaluating adult mosquito populations. *Mosq. News*, 26(2):139-143.

PROVOST, M. W. 1952. The dispersal of *Aedes*

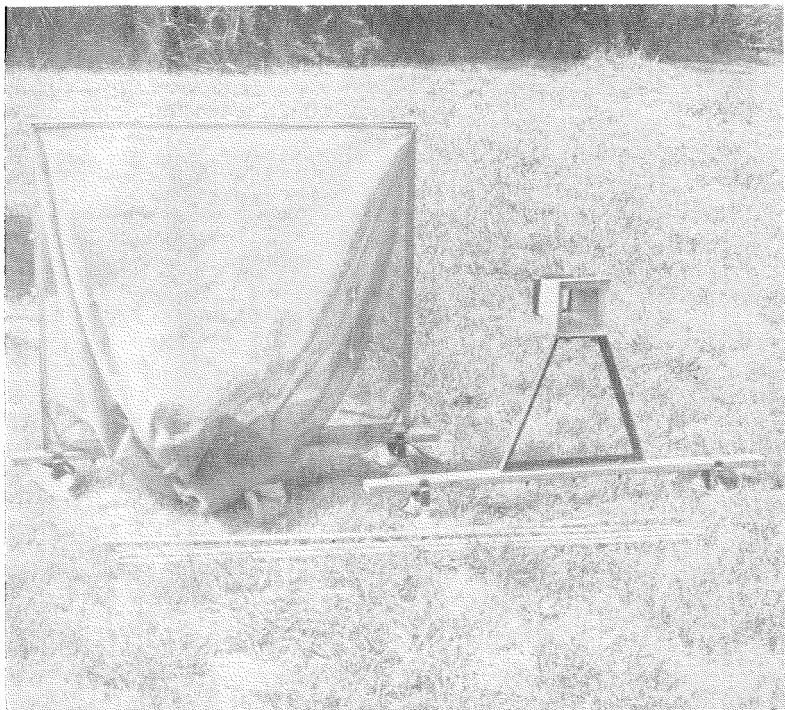


FIG. 3.—Trap disassembled, showing the 2 sections and the 4 conduit tubes.

*taeniorhynchus*. I. Preliminary studies. Mosq. News 12:174-190.

PROVOST, M. W. 1955. Leesburg mosquito-sampling studies in 1954. Fla. Anti-Mosquito

Assoc. Rpt. 26th Ann. Mtg. pp. 112-119 (mimeo.).

PROVOST, M. W. 1957. The dispersal of *Aedes taeniorhynchus*. II. The second experiment. Mosq. News 17:233-247.