AN EFFECTIVE EMERGENCE TRAP FOR THE CAPTURE OF MOSQUITOES

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INTRODUCTION. An emergence trap was needed to obtain adults for ecological and taxonomic purposes in a research program on the ecology of culicidans in Québec. Several specific features were required for this trap:

1. It had to capture the insects which entered in order to be representative of the natural population of mosquitoes in the area.
2. It had to rapidly kill all insects to prevent them from damaging each other.
3. It had to preserve the dead insects in a good condition for days since they were collected only twice a week.
4. It had to permit easy removal of the insects without damage to them.
5. It had to allow easy removal of the collecting containers since they were numerous.
6. It had to function effectively in shallow water since the depths of the ponds were between 5 and 150 cm.
7. It had to be inexpensive since a great number of them were used in the study.

Emergence traps previously described by Borutski (1955), Morgan et al. (1965) and Mundie (1965, 1971) were designed for the capture of insects other than mosquitoes. They contained some interesting features applicable to our needs but did not entirely fulfill all the conditions required in this study.

DESCRIPTION. The trap shown in Figure 1 covers an area of 1/16 m² and is supported on the water by a belt of styrofoam 4 cm high by 4 cm wide. It is shaped like a truncated pyramid with a base length of 25 cm and a vertical height of 18 cm.

The four sides are made of clear plexiglass 3 mm thick. A small piece of plexiglass is attached to one of the sides so that the trap can be securely positioned in the pond. The top plate is a 8.5 cm square piece of clear plexiglass 10 mm thick. This thickness allows the drilling of a large circular opening so that it is possible to partly insert the cap of a large-mouthed collecting jar. A large hole is drilled in the cap. A plastic funnel is glued to the cap in order to guide the mosquitoes into the jar and to retain the 25 ml of formalin fixative. The collecting jar which fits the cap is made of glass and has a total capacity of 237 ml (8 oz.). The different pieces of plexiglass are assembled with CH₂Cl₂ and permanently glued with plastic cement type PS-30.

CONCLUSION. This trap was used in Québec during summer 1972 and gave excellent results.

Fig. 1.—A. Emergence trap used for collecting the mosquitoes. B. Collecting jar containing the captured mosquitoes.
The stability of the system on the water was excellent even when there were storms, and insects could be captured, fixed and collected.

This system allowed a continuous monitoring and the capture of a greater number of insects which made the ecological study more precise. The condensation of water on the walls that occasionally occurred did not affect the capture of the mosquitoes in the collecting jar in any way.

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References


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