

AN EFFECTIVE EMERGENCE TRAP FOR THE CAPTURE OF MOSQUITOES

A. AUBIN, J. P. BOURASSA AND M. PELLISSIER
 Département Chimie-Biologie, Groupe de Recherches sur la Démoustication, Université du Québec, Trois-Rivières, Province de Québec, Canada

INTRODUCTION. An emergence trap was needed to obtain adults for ecological and taxonomic purposes in a research program on the ecology of culicidians in Quebec. 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.* (1963) 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 Quebec during summer 1972 and gave excellent results.

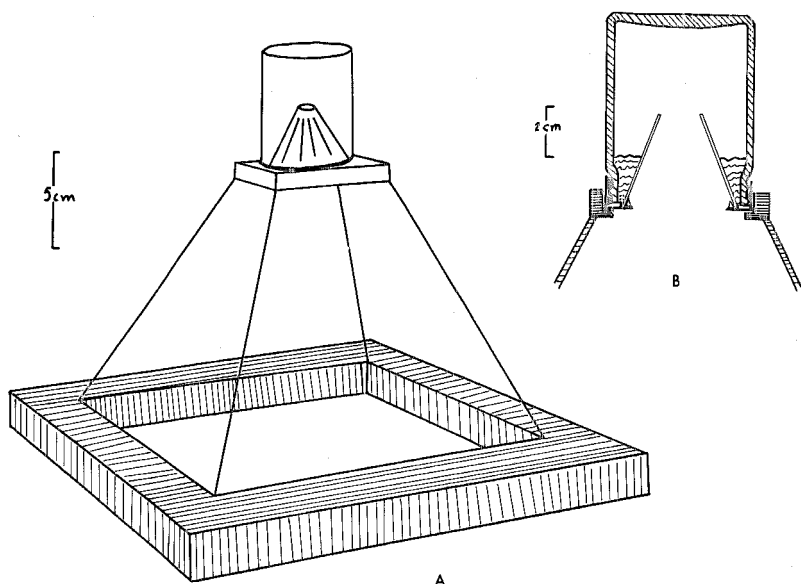


Fig. 1.—A. Emergence trap used for collecting the mosquitoes.
 B. Collecting jar containing the captured mosquitoes.

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.

ACKNOWLEDGMENTS. Many thanks are due to Mr. G. Gagné of the Université du Québec, Trois-Rivières for building the traps and to Dr. L. Pazdernick for reviewing and commenting on the paper.

References

- Borutski, E. V., 1955. A new trap for the quantitative estimation of emerging chironomids (in Russian). *Trudy Res. Hidrobiol. Obshch.* 6, 223-226.
- Morgan, N. C., Waddell, A. B. and Hall, W. B., 1963. A comparison of the catches of emerging aquatic insects in floating box and submerged funnel traps. *J. Anim. Ecol.* 32, 203-219.
- Mundie, J. H. 1956. Emergence traps for aquatic insects. *Mitt. Int. Verein. Theor. Angew. Limnol.* 7, 1-13.
- Mundie, J. H. 1971. A manual on methods for the assessment of secondary productivity in fresh waters. Edited by W. T. Edmonston and G. G. Winberg. Blackwell Scientific Publications.

PYRONYL MOSQUITO ADULTICIDE CONCENTRATE FOR ULV FOGGERS—

contains highly concentrated Synergized Pyrethrins—can be used wherever adult mosquitoes are present—even in residential areas—

Write for details.

PRENTISS DRUG & CHEMICAL CO., INC.
363 Seventh Avenue
New York, N.Y. 10001

LOUISIANA MOSQUITO CONTROL ASSOCIATION

6601 Lakeshore Drive
New Orleans, Louisiana 70126
Glenn M. Stokes—President
Dr. Dayton Steelman—Vice President
George T. Carmichael—Secretary-Treasurer

Annual Meeting October, 1973 New Orleans, Louisiana

Proceedings on the 2nd Gulf Coast Conference on Mosquito Suppression and Wildlife Management available at \$3.00 per copy.