

Table 1. Laboratory tests of resmethrin (SBP-1382) alone and with various synergists against caged adult *Aedes taeniorhynchus* (Wied.) and *Culex nigripalpus* Thob.

Synergist	Ratio	Test year	Milligrams a.i. per milliliter			
			<i>Aedes</i>		<i>Culex</i>	
			LC ₅₀	LC ₉₀	LC ₅₀	LC ₉₀
None	...	1971	0.370	1.33	0.0425	0.142
None	...	1975	0.445	1.50	0.0420	0.150
Hexanediol	1:3	1975	0.405	1.03	0.0360	0.150
Omite	1:3	1975	0.341	1.10	0.0245	0.0975
Sulfoxide	1:3	1975	0.0475	0.170	0.0153	0.0780
Piperonyl butoxide	1:3	1975	0.0355	0.108	0.0155	0.0473

6-in. diameter screen cages, each containing ca. 25 female *Aedes taeniorhynchus* or *Culex nigripalpus*, to .5 ml of an acetone solution of each dosage of each toxicant sprayed at 15 psi in a wind tunnel at an air velocity of 3 mph. Eight to ten replications or cages were exposed individually to 4 or 5 concentrations of each toxicant plus a check of acetone only. The LC₅₀ and LC₉₀ dosages were obtained from curves of the average percent mortality at each concentration corrected for check mortality which averaged 1% for *A. taeniorhynchus* and 2% for *C. nigripalpus*.

As shown in Table 1, there was no difference between the results of tests of resmethrin without synergist conducted in 1975 and those conducted

in 1971. Resmethrin-hexanediol (1:3) was no better than resmethrin alone against either mosquito species. Resmethrin-omite (1:3) was only slightly better than resmethrin alone against *C. nigripalpus*, but no better against *A. taeniorhynchus*. Resmethrin-sulfoxide (1:3) and resmethrin-piperonyl butoxide (1:3) were about 10 times more effective than resmethrin alone against *A. taeniorhynchus* and 2 to 3 times against *C. nigripalpus*. In general, resmethrin alone and with any of the synergists was more effective against *C. nigripalpus* than against *A. taeniorhynchus*, but the addition of piperonyl butoxide or sulfoxide greatly increased its toxicity to *A. taeniorhynchus*.

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A LIGHT TRAP FOR COLLECTING AQUATIC ORGANISMS

CHARLES S. APPERSON AND DENNIS G. YOWS

Lake County Mosquito Abatement District,
Lakeport, CA 95453

Light traps have been used for sampling aquatic organisms from the littoral areas of lentic habitats. Various trap designs have been utilized (Baylor and Smith, 1953, Bertram et al. 1970, Espinosa and Clark 1972, Erwin and Haines 1972, Hungerford et al. 1955, Husbands 1967, Washino and Hokama 1968, Zismann 1969); however, these have been either too large for sampling in shallow water or expensive to construct since some require special tools or materials. To sample aquatic organisms in shallow pond or lake habitats, we have developed a simple and inexpensive light trap which contains some features of published designs (Baylor and Smith 1953, Hungerford et al. 1955, Husbands 1967).

Dimensions of the trap (fig. 1) can be varied as to need. The sample container consists of a

glass quart jar. A polyethylene funnel (O.D., top, 80 mm) is held in the jar mouth by a brass screw ring. Sides of the jar are painted black so that light is oriented down through the funnel. A plastic bowl, with a circular hole in the bottom, is used to anchor the flashlight to a styrofoam float (30 x 30 cm). When the collection jar is placed in the float the flashlight is forced upward against the bowl. Wire hooks attached to the float are fitted over the rim of the brass ring holding the entire unit firmly together. After sampling, the trap is removed and a brass canning lid is used to seal the sampling jar. If the float is not desired, the wire hooks can be attached directly to the plastic bowl. The trap can then be suspended from a wooden or metal pole pounded into the lake bottom.

We have collected a variety of organisms with

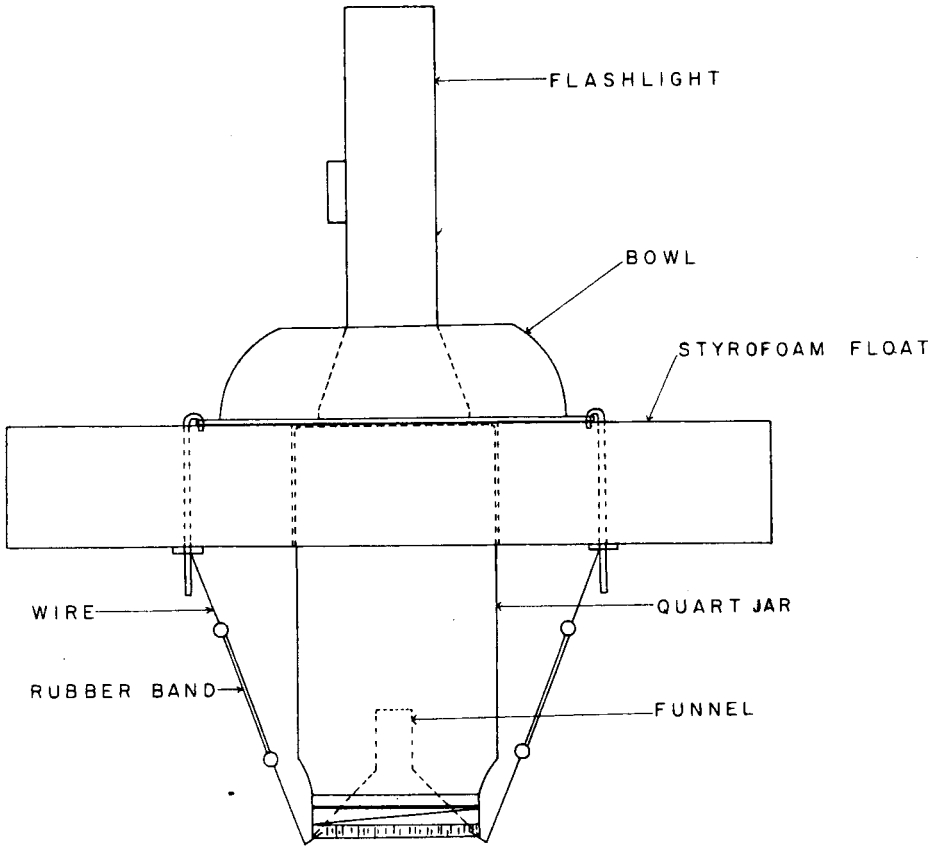


Fig. 1. Diagram of aquatic light trap.

this trap. These include various Diptera larvae, Hemiptera nymphs and adults, Coleoptera larvae and adults, and a variety of copepods and cladocerans.

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