

most successful collecting period and illustrates the effect of rainfall on the catch as well as the possibility of obtaining a large sample of *Corethrella* virtually free of other insects.

Effectiveness of the combined cassette player and trap without the light bulb was compared with that of the light trap with no sound attractant. On 23 June, the light trap only was operated from 9:30–10:00 p.m. Two *Corethrella* and many other Diptera were collected. From 10:00–10:30 p.m. the trap with bulb removed was operated in conjunction with the cassette player and 28 *Corethrella* were collected. This demonstrates the superiority of using the sound attractant.

In summary, the apparatus described is relatively light, easily transported and highly efficient for capturing large samples of adult female *Corethrella*. Since males are not blood feeders they are not attracted to frog calls.

Only 1 male was caught during 18 collecting periods.

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A SPECIAL LOCAL NEED REGISTRATION FOR GROUND-APPLIED MALATHION ULV CONCENTRATE AT TWENTY MILES PER HOUR

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The Georgia Department of Agriculture issued a Special Local Need Registration (SLN Ga. No. 780023) on June 28, 1978. This supplemental Georgia labeling permits ground ultra-low-volume applications of malathion at a maximum vehicle speed of 20 mph. A corresponding insecticide flow rate of up to 4 gal. per hr. is designated for the control of adult mosquitoes. These modifications maintain the prescribed area concentrations of 0.05 pound malathion per acre assuming a 300-ft swath from the vehicle's path. Further, "all applicable directions, restrictions and precautions on the EPA registered label are to be followed with special emphasis on maintenance of specified particle size droplets at the increased speed." This action is the result of a petition to the State of Georgia Department of Agriculture by

the Chatham County Mosquito Control Commission on February 8, 1978.

The necessary preliminary equipment modifications were made, and data were obtained by the Mosquito Control Commission during the fall of 1977. A 2nd pesticide supply line, including filter, flowmeter, and solenoid valve, was added to one of the Commission's operational LECO (H.D.) ULV units. The unit was then calibrated with each line delivering 3 fluid oz. per min. (the minimum recommended rate) to the common nozzle. The gross flow rate was maintained at 4.5 lb. per in.² The droplets at 6 fl. oz. per min. were collected and were measured (Table 1). The droplet size distribution was virtually identical to the distribution of those units operating with a single 3-oz.-per-min. line. Late in October and again in November the droplet distributions at 6 fl. oz. per min. were rechecked. These results and 1 additional check at 8.6 fl. oz. per min. were identical to the earlier calibration.

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Table 1. Malathion ULV droplet size distribution 20 mph discharge rates.

Fl. oz./min.	P.S.I.	Temp.	Droplet Size (Microns)			Max.
			Mean	-5.85	+23.40	
6.0	4.5	105° F.	10.3	18.2%	1.9%	38.0
8.6	4.5	95° F.	10.5	15.5%	3.3%	35.1

Operational cost per acre was \$0.066 at 20 mph compared to \$0.120 per acre at 10 mph during 1977.

On September 26, 1977, the experimental vehicle, capable of operating at either 20 mph or 10 mph, began regular ULV treatments. Over the next 17 days, this vehicle was utilized on 8 nights, treating 9,814.5 acres. The cost was \$0.066 per acre, or slightly more than half the cost of treating at 10 mph.

The experimental unit was always dispatched to the areas with the highest adult densities because it was assumed that better control would result from treating nearly twice the area during the mosquitoes' peak activity period. All applications were evaluated by the Commission's usual surveillance methods. Good results were noted with sharp reductions in the numbers of biting adult mosquitoes in all treated areas. There were no noticeable differences in the mosquito landing rate counts,

light traps, and complaints between areas treated by the experimental unit and those treated at the normal 10 mph.

This Special Local Need Registration has proven to be very beneficial in controlling mosquitoes in Georgia. Other products labeled for ULV application were less costly to use because their labels permitted speeds greater than 10 mph during application. Malathion is a safe and proven adult mosquito control insecticide. Its continued use as an economical and competitive adult mosquito control measure is now possible in Georgia.

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OBSERVATIONS ON THE BITING BEHAVIOR OF *PROSIMULIUM* SPP.¹, and *SIMULIUM VENUSTUM*^{1,2}

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While evaluating black fly repellents in the Kidney Pond area at Baxter State Park, Maine, during June 1977 and 1978, we observed that certain species of black fly were more aggressive in their biting than others. Both years, *Prosimulium mixtum* Syme & Davies or other species of *Prosimulium* bit repellent-treated skin

¹ Diptera: Simuliidae.

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more readily than did *Simulium venustum* Say, a species complex that comprised about two-thirds of the total population in the area (Schreck 1979; and our unpublished data). DeFoliart (1951), after testing repellents in the Adirondack region of New York, stated, "*Prosimulium hirtipes* (Fries) was apparently repelled for a shorter time than the other species, since the first bites usually were received from it." According to Jamnback (1969), *P. hirtipes* is actually a group of 3 or more very similar-appearing species of which *P. mixtum* is "the first of the pest species to attack man in the spring." He also stated that the other species in