2 ♂♂, University of Arizona, Tucson, 4 ♀♀.

DISTRIBUTION. *Mexico.* Tepoztlán, Morelos, Mexico, 29-VI-49, 5000′ (between Cuernavaca and Cuautla, W. G. Downs), Holotype, ♀, Allotype, ♂, Paratypes, 2 ♀♀ 2 ♂♂.

Arizona. 3 mi. S.W. of Patagonia, Arizona, Santa Cruz County, 18-VIII-64, 4000′, 74 ♀♀ 7 ♂♂ (collected as pupae, J. F. Burger).

Vargas and Downs (1950) state that the area in which the Mexican collection was made was a neotropical region contiguous with the nearctic region in that area.

ACKNOWLEDGMENTS. The author wishes to express his thanks to Dr. Luis Vargas and Dr. W. G. Downs for their information concerning collections of *Ae. kompi* in Mexico, Dr. J. C. Bequaert for assistance in translation, Dr. Alan Stone, U. S. National Museum, for identification of *kompi,* and G. Allen Mail for reviewing the manuscript.

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THE MALAISE TRAP—A SURVEY TOOL IN MEDICAL ENTOMOLOGY

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INTRODUCTION. In a recent issue of *Mosquito News* (Vol. 25, No. 1, March 1965), we reported the performance of the Malaise trap as a mosquito collecting device in connection with TVA's survey of arthropods in the Land Between the Lakes national recreation area of western Kentucky and Tennessee. Subsequent tabulations of other insect specimens have been completed and the richness of medically important species in Malaise collections deserves the attention of medical entomologists.

From April to October 1964, six Malaise traps as described by Townes (1962) were operated at 14 sites as shown in Figure 1. They were placed in habitats favorable to day-flying insects and primarily for the purpose of trapping tabanids, muscoid flies, wasps, and bees. The results of the survey, of interest to the medical entomologist, are listed below.

RESULTS. A total of 291 Malaise trap collections yielded 2,294 venomous wasps and bees; 1,973 mosquitoes (27 species); 7,057 tabanids, including 9 species of deer flies (*Chrysops*) and 29 species of horse flies in four genera (*Tabanus, Hamatabanus, Hybomitra,* and *Leucotabanus*); and 8,500 muscoid flies, including 877 *Stomoxys calcitrans,* 6,917 sarcophagids, and 697 calliphorids. In addition, large numbers of anthomyiids (2,938) and tachinids (7,946) were collected.

The potential use of the Malaise trap as a survey tool is shown by a review of its performance in retrospect. For example, an outbreak of *Stomoxys calcitrans* occurred during the period and was observed firsthand. Later, counts of these

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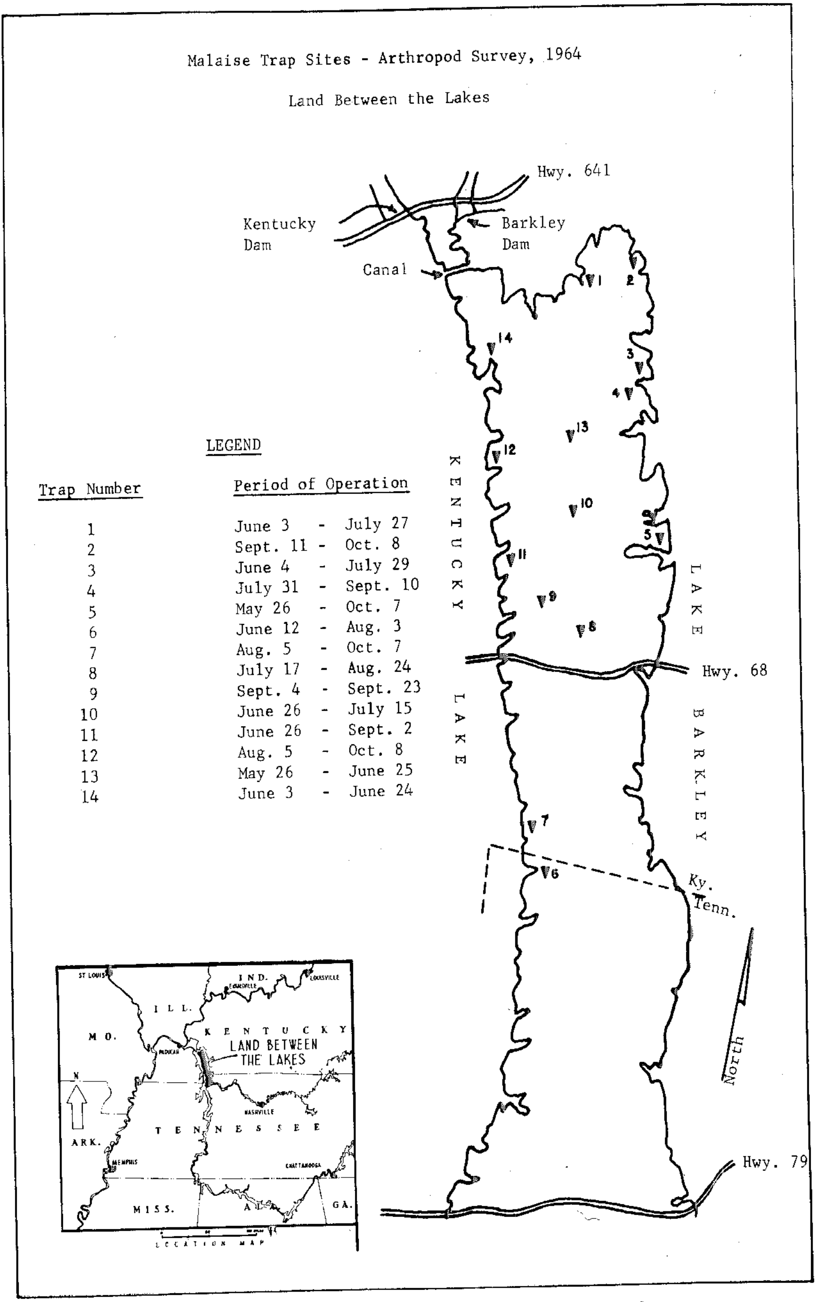

FIG. 1.—The Malaise trap—a survey tool in medical entomology.

flies in the Malaise collections showed that the traps would have detected the outbreak and shown temporal and population limits of its occurrence. Also, the trap would have adequately measured the distribution of the mosquito fauna (Breeland and Pickard, 1965) even in the absence of other standard mosquito collecting devices.

The operation of traps in routine entomological surveys also makes available valuable specimens for taxonomists. For example, Dr. Townes determined over 400 species of ichneumonids from these collections which were easily removed during the summer and shipped to him.

Workers concerned with the measurement of insect faunas of public health significance should include the use of the Malaise trap in their plans.

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CONTROL OF MOSQUITO LARVAE IN WILLAMETTE VALLEY, OREGON LOG PONDS [1, 2]

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Log ponds are a major source of pest mosquitoes in many communities of the Pacific Northwest (Hoffman and Yates, 1956; Lewis and Eddy, 1959; McHugh *et al.*, 1964). At present some control districts annually treat more than 300 surface acres of these impoundments. Current control methods consist of sprays applied with ground equipment or airplanes.

In spraying log ponds with ground equipment, the prime difficulty is in obtaining good coverage, often difficult because of sawmill structures, cold-decks (stock-piled logs), or the nature of surrounding terrain. Similar difficulties are encountered in using aircraft; users are often confronted with the problem of insecticide drift as well as the general hazard to nearby residents, who often complain of the noise involved.

To obtain additional information about other methods for treating log ponds, we have explored two approaches. We ran a series of tests with granules as insecticide carriers and another series with emulsion concentrates incorporated into a small amount of liquid carrier (the resultant formulation was applied to the surface of ponds with a pump oil can). Results are reported here for the consideration of those who may need alternative methods or materials to control mosquito larvae in log ponds.

Materials and Methods. In tests preliminary to those reported here, we found it best to avoid granules with a high specific gravity because they sink rapidly into, and lose much effectiveness in, the oozy bottoms which characterize many log ponds.

In the granular treatments (Table 1), fenthion was formulated on 16-mesh Durham Duratex® H.R. granules manufactured by the Durham Chemical Co. of Los Angeles, Calif. The composition of the granules was not available to us. The Abate® (*o,o*-dimethyl phosphorothioate *o,o*-diester with 4,4′-thiodiphenol) was formulated on 30–60 mesh Pyrax® gran-

[1] Accepted for publication.

[2] Mention of a company or its product does not necessarily imply endorsement of this company or products by the U. S. Department of Agriculture.