

# OPERATIONAL AND SCIENTIFIC NOTES

LABORATORY COLONIZATION OF *Culex stigmatosoma*.<sup>\*</sup> The successful establishment of laboratory colonies of *Culex tarsalis* (Brennan & Harwood, 1953; Brennan, Rush & Hubert, 1954; Hubert, Rush & Brennan, 1954) has suggested the possibility that other species of mosquitoes, previously refractory to laboratory cultivation, might be colonized using the same type of technique.

There is apparently no report in the literature of the successful colonization inside a laboratory of *Culex stigmatosoma*. Brookman & Reeves, (1952) according to Trembley (1955), were able to raise *C. stigmatosoma* in outdoor cages, during spring and summer. Brookman, according to a personal communication from R. E. Bellamy (1955), carried a self-perpetuating colony of *C. stigmatosoma* for several months in the summer of 1951 on a screened vestibule adjacent to the laboratory at Bakersfield, but no details have been published. Inasmuch as we have been successful in maintaining *C. tarsalis* in the laboratory for nearly two years under controlled illumination, we decided to apply the same techniques to a colony of *C. stigmatosoma*.

Through the courtesy of Mr. John Shanafelt of the Orange County (California) Mosquito Abatement District, we obtained a number of egg rafts of *C. stigmatosoma* on September 24, 1954. These rafts hatched in the laboratory and the adults produced were placed, on October 10, 1954, in a cage 17½" x 17½" x 36" high and exposed to a lengthened period of daylight of approximately 16 hours, with one hour of twilight, 6½ hours darkness and one-half hour of increasing illumination. After two days of conditioning, 20 female *C. stigmatosoma* along with 10 males were exposed with a canary overnight, but only 2 females engorged. The mosquitoes were again exposed to a canary on the nights of October 13, 16, and 17, but only 2 or 3 more mosquitoes bit, and no egg rafts were obtained.

On November 3, 1954, about 60 *C. stigmatosoma* of both sexes, which had hatched from the rafts collected on September 24, were exposed to 24-hour light conditioning in the same cage as the one used previously. The next night, 20 females bit when exposed with a canary; 2 rafts were found on November 10, 4 on November 12, and 8 on November 14. In all cases, these hatched 2 days after they were laid, and by December 1 had produced a sufficient number of adults for breeding a second generation in captivity.

On this date, about 50 adult mosquitoes were transferred to a smaller cage 12" x 12" x 36"

high and were maintained without controlled illumination in a window-lit laboratory. The adults exposed with a canary on December 1 again produced fertile eggs, with adults emerging on December 19.

As of the present date (April 12, 1955) 3 more generations of *C. stigmatosoma* have been obtained in the laboratory in the smaller of the two cages listed above and without controlled illumination. Laboratory temperature does not drop below 72° C., and a new generation of adults hatches out about 21 days (18-26 days) after the females of the previous generation have taken a blood meal. Fertility is high and there seems to be no reason why the strain should not continue breeding in captivity.

The adaptation of *C. stigmatosoma* to laboratory conditions with successful mating in small cages without controlled illumination is analogous to a similar type of adjustment exhibited in the Rocky Mountain Laboratory colony of *C. tarsalis* (Brennan, Rush & Hubert, 1954; Hubert, Rush & Brennan, 1954). Our own colony of *C. tarsalis*, obtained originally from the Rocky Mountain Laboratory through the courtesy of Dr. Brennan, is being maintained very satisfactorily under these conditions.—Gordon H. Ball & Jowett Chao, Department of Zoology, University of California, Los Angeles.

## Literature Cited

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- HUBERT, A. A., RUSH, W. A., and BRENNAN, J. M. 1954. Simplified techniques for the continuous rearing of *Culex tarsalis* with additional notes and observations. Mosquito News 14:(2) 75-78.
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DO-IT-YOURSELF ENTOMOLOGICAL EQUIPMENT: Net for capturing *Culicoides*, midges, black flies and mosquitoes in flight: Carefully open the back seams of two or three nylon stockings from the heel to the top; then cut the feet off at the desired arc, Fig. 1. Two stockings give a net

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