A GENETICAL STUDY OF SOME MORPHOLOGICAL MUTANTS OF *CULEX PIPIENS FATIGANS*, WIEDEMANN

BY

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Thesis submitted for the Degree of Master of Science of the University of Sri Jayewardenepura, Sri Lanka

March, 1979

A B S T R A C T

1. An attempt was made to obtain morphological mutants of Culex pipiens fatigans Wiedemann, the mosquito vector of filariasis, both from wild type populations and from treated and untreated laboratory inbred colonies. There seems to be some controversy with regard to nomenclature, some authors claiming that the name Culex fatigans is synonymous with many others and that the first named is Culex (Culex) pipiens quinquefasciatus Say (1823), but I have used the name Culex pipiens fatigans throughout my thesis. Spontaneously occuring mutants were isolated from two sets of mosquitoes:

(a) from wild mosquitoes collected from Ratmalana and Nugegoda and then inbreeding them for three generations, and

(b) from two laboratory maintained colonies, one maintained in the lab at room temperature and the other 24°C - 25°C (Air conditioned room).

2. In the case of collections from the wild, a female mosquito that had taken a blood meal was collected fortnightly from a house at about 7 a.m. The F_1 generation was observed from larval to adult stages. Ten F_1 females were intercrossed to F_1 males of the same egg raft in ten separate cages. After mating for seven days, the females were starved and a blood meal was given. Ten egg rafts, one from each female was collected separately and the hatchabilities were recorded. The larval to adult stages were observed. The F_2 adults emerging from each such egg raft were then allowed to intercross and their F_3 progeny was very carefully observed from larval to adult stages for morphological and colour deviants after the hatchabilities had been recorded.

C O N T E N T S