LIFE TABLE CHARACTERISTICS OF TH FILARIA VECTOR *CULEX PIPIENS* (DIPTERA : CULICIDAE) IN EGYPT

Thesis
Submitted in Partial Fulfilment of the
Requirements For the Degree
of
Master of Science

By
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1990

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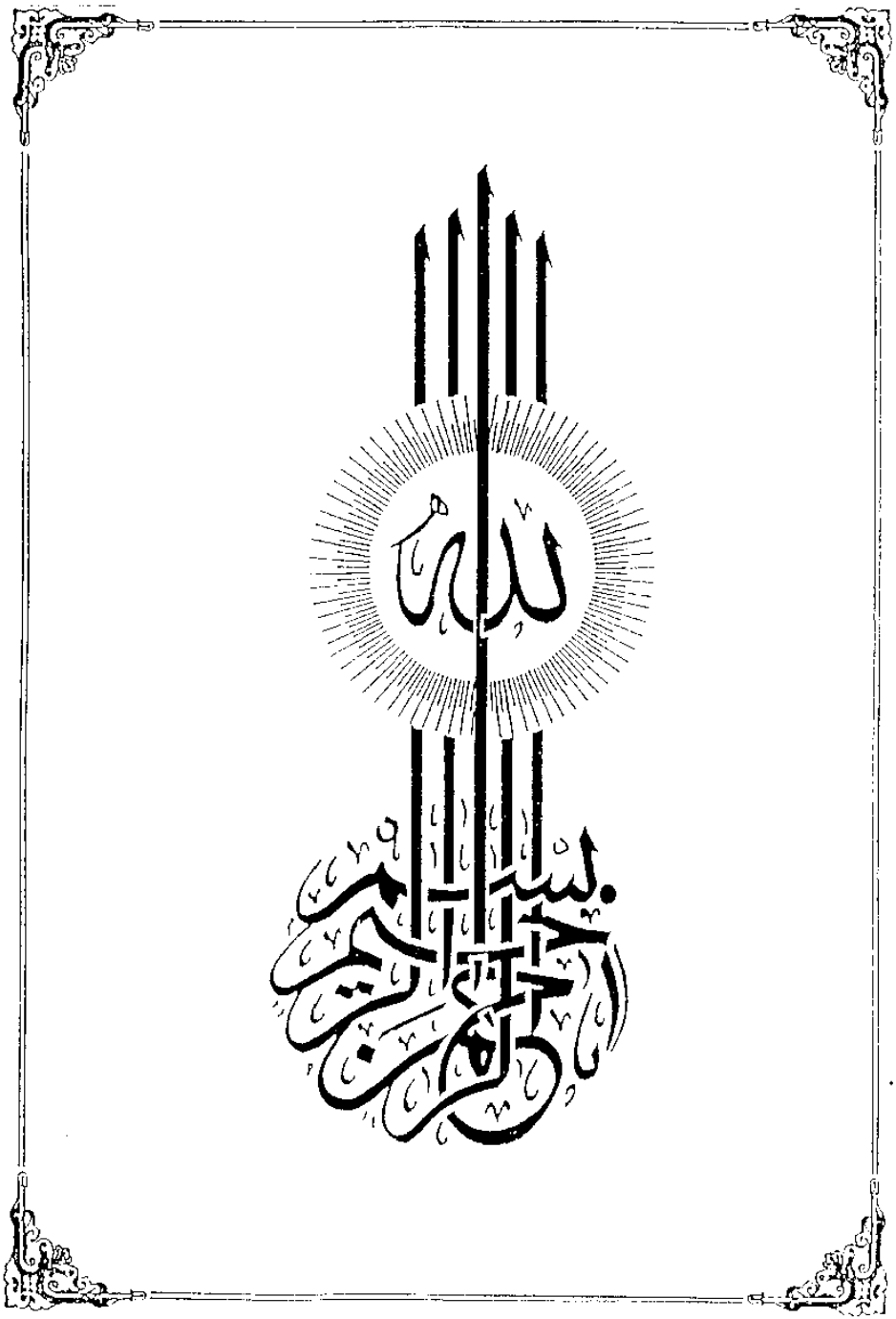

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Courses Studied by the Candidate in Partial Fulfillment

for Degree of Master of Science

Language:

German M.Sc. Course

Examination passed on June, 1985.

Entomology:

1. Environmental pollution.
2. New approaches to insect control.
3. Microbial control of insects.
4. Insect taxonomy.
5. Chemistry of pesticides.
6. Radiobiology.
7. Insect hormones and pheromones.
8. Research subject.
9. Population dynamics.
10. How to write and publish a scientific paper.

Examination passed on September, 1984.

Statistical Course:

Bio-statistics

Examination passed on September, 1984.

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Culex (Cx.) pipiens was incriminated as the filaria vector in Egypt (Khalil et al., 1932). This species has been recorded from all governorates without exception (Kirkpatrik, 1925 and Wassif, 1969) and is widely distributed throughout many villages in the Nile Delta. Therefore, it is considered one of the important public health problems. Human filariasis varies in its endemicity between villages. The importance of filariasis transmitted by Cx. pipiens in Egypt has been growing steadily in recent years and considerable attention has been focused on its control. The present study deals with the life table characteristics of filaria vector Cx. pipiens in Egypt. The life table is a statistical model which can be used in part to characterize a population. A considerable amount of informations about a population can be derived from 2 sets of observations which are age-specific mortality rates and age-specific fertility rates. The life table is widely used in the analysis of human populations (Keyfitz, 1968). Cole (1954) has reviewed and discussed the use of the life table in the study of organisms other than man and has encouraged its wide application in ecological studies.

The application of the life table to the study of mosquito populations, when constructed under insectary conditions, with the requisites of life continually available and the values obtained may approach the maximum expression of the species genetic potential and may be used to study inherent differences in the survivorship and reproductive strategies of different populations evolving under different ecological regimes.

In the present study, the life table approach was applied to the vector of human filariasis in Egypt, in an opportunity to investigate and compare the life table characteristics of four populations of Cx. pipiens representing four geographically and epidemiologically different localities, (filarial and non-filarial foci).

The life table attributes of experimentally infected females with Wuchereria (W.) bancrofti were also investigated, in an attempt to estimate the life expectancy of potentially infective portion of the population and thus understanding its vectorial efficiency.