

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

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

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Acknowledgments

I wish to express my thanks and gratitude to Prof. Dr. Bahira M. El-Sawaf, Professor of Entomology, Faculty of Science, Ain Shams University, for her valuable supervision, encouragement throughout the present study and guidance during the preparation of the final manuscript.

The author expresses his sincere appreciation to Dr. Akila M. El-Shafei, Assistant Professor of Entomology Faculty of Science, Ain Shams University for her kind guidance, support and encouragement during the present work.

Great thanks and gratitude are also due to Dr. Magdi G. Shehata, Assistant Professor of Entomology, Faculty of Science, Ain Shams University for his direct supervision, endless help and valuable advice and comments during this work.

Sincerest gratitude is also due to Dr. Adel M. Gad, Assistant Professor of Entomology, Ain Shams University for his kind assistance in preparing the manuscript.

Thanks are due to Prof. Dr. Adel I. Merdan, Director of the Research and Training Center on Vectors of Diseases, Ain Shams University and Dr. Sherif M. El-Said, Principal Investigator of the project entitled: "Epidemiology and Control of Arthropod-Borne Diseases in Egypt - No.: N01 AI 22667 / NIH-NIAID" for offering facilities.

I would like to acknowledge all staff members of the Research and Training Center on Vectors of Diseases, Ain Shams University for their friendly help and support. Thanks are especially due to Mr. Belal A. Soliman for his sincere and continuous guidance and advice during the present study, Mr. Awadallah A. Razek for helping me during the practical part of this work, Miss Maha Kamal for her aiding in preparing the manuscript and Mr. Sami AbdelFattah for his assistance in preparing the figures.

Deep thanks and gratitude are due to Miss Soad El Taji and Mrs. Ghada El-Ganzoury, Computer Unit, Research and Training Center on Vectors of Diseases, Ain Shams University for their sincere and infinite help in assisting the author during the statistical analysis of the data.

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Table of Contents

I.	Introduction:.....	1
II.	Literature Review:.....	3
	1. <u>Culex pipiens</u> in Egypt:.....	3
	2. Vector competence of mosquitoes to <u>Wuchereria bancrofti</u> :.....	7
	3. Life table characteristics of mosquitoes:...	15
III.	Materials and Methods:.....	29
	1. Study areas:.....	29
	1.1. Filarious areas:.....	29
	1.1.1. El-Kashish:.....	29
	1.1.2. El-Aziziya:.....	29
	1.2. Non-filarious areas:.....	30
	1.2.1. Abu-heif:.....	30
	1.2.2. El-Arish:.....	30
	2. Collection and transportation of mosquitoes:	30
	2.1. Netting technique:.....	31
	2.2. Dipping technique:.....	31
	2.3. Transportation to the laboratory:.....	32
	3. Taxonomic identification of larvae:.....	32
	3.1. Taxonomic key:.....	33

4. Rearing techniques:.....	34
4.1. Larval stages:.....	35
4.2. Pupal stages:.....	35
4.3. Adult stages:.....	35
5. Separation of different <u>Culex pipiens</u> forms:.....	36
6. Experimental infection of <u>Culex pipiens</u> with <u>Wuchereria bancrofti</u> :.....	37
6.1. Source of <u>Wuchereria bancrofti</u> for experimental infection:.....	37
6.2. Parasitological examination of blood samples:.....	37
6.3. Staining and examination of blood samples:.....	38
6.4. Determination of microfilaria level in human volunteers:.....	39
6.5. Mosquito infection:.....	39
7. Life table characteristics of <u>Culex pipiens</u>	43
7.1. Duration of gonotrophic cycle:.....	44
7.2. Incubation period of eggs:.....	44
7.3. Duration of immature stages:.....	44
7.4. Sex ratio:.....	45
7.5. Adult mean life time:.....	46

8. Calculation procedures for life table characteristics:.....	46
9. Statistical analysis of data:.....	49
IV. Results:.....	52
1. Vector competence of <u>Culex pipiens</u> originating from filarious and non-filarious areas:.....	53
2. Life table characteristics of <u>Culex pipiens</u> populations:.....	56
2.1. Gonotrophic cycle:.....	56
2.2. Fecundity and fertility:.....	58
2.2.1. Number of eggs/raft of infected and non-infected <u>Culex pipiens</u> :.....	58
2.2.2. The egg incubation period of infected and non-infected <u>Culex pipiens</u> :.....	60
2.2. . The egg hatching rate of infected and non-infected <u>Culex pipiens</u> :.....	62
2.3. Sex ratio:.....	64
2.4. Mean life time:.....	65
2.4.1. Mean life time of male <u>Culex pipiens</u> :.....	65

2.4.2. Mean life time of infected and non-infected female <u>Culex pipiens</u> :	67
2.5. Net reproductive rate and intrinsic rate of increase:	70
2.5.1. The net reproductive rates of infected and non-infected <u>Culex pipiens</u> :	70
2.5.2. The intrinsic rate of increase of infected and non-infected <u>Culex pipiens</u> females:	72
2.6. Mean generation time:	74
2.7. The birth and death rates:	76
2.7.1. The birth rate of infected and non-infected <u>Culex pipiens</u> females:	76
2.7.2. The death rate of infected and non-infected <u>Culex pipiens</u> females:	78
2.8. The $r_{m/b}$ and b/d ratios:	80
2.8.1. The $r_{m/b}$ of infected and non-infected <u>Culex pipiens</u> :	80

2.8.2. The b/d ratio of infected and non-infected <u>Culex pipiens</u> :...	82
V. Discussion:.....	84
VI. Summary:.....	106
VII. Literature Cited:.....	111
Arabic Summary	

I – *INTRODUCTION*

I. INTRODUCTION

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 (Kirkpatrick, 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.