

510
ECOLOGICAL AND TAXONOMIC STUDIES ON
CERTAIN PARASITES AND PREDATORS ATTACKING
STORED PRODUCT INSECTS

THESIS

*Submitted in Partial Fulfilment of the Requirements
for the Award of the Degree*

Of

MASTER OF SCIENCE

By

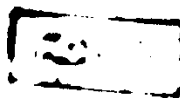
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1976

SUMMARY

The present work dealt with the study of the ecology and taxonomy of certain parasites and predators of stored grain and grain products insects. It included the following:

A: Survey and taxonomy:

A survey of parasites and predators of insects infesting stored grains and grain products was carried out in Cairo, Qalyubia and Giza Governorates throughout the period from October, 1973 to December 1975.

Diagnosis, keys to families, genera and species as well as descriptions accompanied with illustrations were given to the predators and parasites collected.

The predators were restricted to orders: Hemiptera (Fam. Anthecoridae, Joppeicidae and Reduviidae); Coleoptera (Fam. Histeridae and Trogostidae) and Diptera (Fam. Scenopinidae).

The parasites were confined to order Hymenoptera in families: Bethyliidae, Evanidae, Ichneumonidae, Ichneumonidae, Braconidae, Trichogrammatidae and Pteromalidae.



Ecological and biological studies of *Xylocoris flavipes* (Reut.),
a predator of stored grain insects:

1- Efficiency of the predator *Xylocoris flavipes*.

The adult stage was much more efficient than the immature stages in consuming eggs and larvae of stored grain insects. The 5th nymphal instar was more efficient than the other nymphal instars.

2- Development and reproduction on different stored grain insects :

The predator developed faster on Coleopterous preys especially *Tribolium* sp. than on lepidopterous ones. Its longevity was shorter on the latter and the percentage of mortality was much higher than in Coleopterous ones. Feeding on *Tribolium* sp. gave high number of eggs.

3- Development and reproduction under controlled conditions:

The effects of three different temperatures (15 , 25 and 35 $\pm$ 2°C) each combined with three different relative humidities (10, 50 and 80% R.H.) on the development, survival and reproduction of *Xylocoris flavipes* was studied.

4- Occurrence of Micropterous and Macropterous forms :

The micropterous forms were dominating. Few macropterous females and no macropterous males were obtained under the tested conditions.

Mating between different forms produced only micropterous forms of different sexes and different sex ratio.

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والحمد لله رب العالمين
في شهر ربيع الثاني سنة ١٤٢٥
هـ الموافق ٢٠٠٣ م
بمدينة الرياض
محمد بن عبد الله بن عبد الوهاب
مفتي المملكة العربية السعودية
عبد الله بن عبد الوهاب

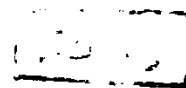
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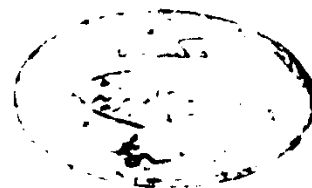
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CONTENTS

	<u>Page</u>
I. INTRODUCTION	1
Aim of the present work	2
II. LITERATURE REVIEW	3
A. Survey and taxonomic studies of parasites and predators of stored grain and grain products insects.	3
B. Ecological and biological studies of the anthocooid predator, <u>Xylocoris flavipes</u> (Reut.).	7
III. MATERIALS AND METHODS	9
1- Source and rearing of stored grain insects and their parasites and predators.	9
2- Maintaining a stock culture of <u>Xylocoris flavipes</u> for experimental use.	11
3- Efficiency of <u>Xylocoris flavipes</u> in biological control.	12
4- Development and reproduction of <u>Xylocoris flavipes</u> on different stored grain insects.	13

	<u>Page</u>
5- Development and reproduction of <u>Xylocoris</u> <u>flavipes</u> under different constant temperatures and relative humidities.	14
6- Investigating the occurrence of Macropterous and Macropterous forms	15
7- Statistical analysis.	16
IV. PRESENT INVESTIGATION AND EXPERIMENTAL RESULTS	17
A- Survey and taxonomy of major parasites and predators of stored grain and grain products insects.	17
1- Order Hemiptera	17
(i) Key to families, genera and species	17
(ii) Family Anthrenidae.	19
(iii) Family Joppeidae.	22
(iv) Family Reduviidae.	22
2- Order Coleoptera	24
(i) Key to families, genera and species	25
(ii) Family Histeridae	26
(iii) Family Trogostidae	28
3- Order Diptera	30
(i) Family Scenopinidae.	30

	<u>Page</u>
(ii) Key to species of genus <u>Scenopinus</u>	31
4- Order Hymenoptera.	33
(i) Key to families	34
(ii) Family Bethyridae	36
Key to genera and species	37
(iii) Family Evanidae	40
Key to <u>Evania</u> species	41
(iv) Family Ichneumonidae	43
Key to genera and species	44
(v) Family Braconidae	48
Key to genera and species	49
(vi) Family Trichogrammatidae	52
(vii) Family Pteromalidae	53
Key to genera and species	54
5- Ecological and biological studies of <u>Xylocoris</u> <u>flavipes</u> (Reut.)	54
1- Efficiency of <u>Xylocoris flavipes</u> in bio- logical control.	58
2- Development and reproduction of <u>Xylocoris</u> <u>flavipes</u> on different stored grain insects	65
3- Effects of different constant temperatures and relative humidities on certain biolo- gical aspects of <u>Xylocoris flavipes</u> .	70

	<u>Page</u>
(i) Longevity of the adult predator (male and female).	70
(ii) Fecundity of the female predator	76
a- Rate of egg laying.	76
b- Total number of eggs laid per female.	79
(iii) Incubation period and hatchability of eggs.	81
(iv) Duration and mortality of the nymphal stage.	84
(v) Total life cycle of <u>Xylocoris flavipes</u>	85
(vi) Occurrence of Micropterous and Macropterous forms.	86
4- Mating between Micropterous and Macropterous forms.	89
V - DISCUSSION OF RESULTS AND CONCLUSIONS.	91
VI - SUMMARY	100
VII- LITERATURE CITED	106
ARABIC SUMMARY.	

I- INTRODUCTION

Several kinds of seeds and grains in Egypt are stored in different types of stores, such as : room type stores, warehouses, mud bins in the villages, "Shouanas", concrete elevators etc. They are deposited in heaps or in large stocks composed of filled sacks side by side; and are subject to different deteriorating factors among which are insects, mites, rodents and moulds.

The damage caused by stored grain and grain products insects only is estimated by thousands of pounds annually. This damage affects not only the farmer, but also, every user or consumer of grain or grain products.

It is therefore agreed that every step that can be taken for their prevention or control is of great value and should be encouraged.

The last few years have witnessed a marked interest in the biological method of insect control. This arose from growing realization that supplements or alternatives to chemical insecticides are needed to overcome some of the faults or weakness now recognized in the chemical method of insect control.