

**ENVIRONMENTAL STUDIES ON CERTAIN LAND  
SNAILS UNDER DIFFERENT CONDITIONS AT  
SHARQUIA GOVERNORATE**

**Submitted By**

**Shimaa Mohamad Fathy Elsayed**

B.Sc. of Agricultural Sciences, Faculty of Agriculture, Zagazig  
University, 2003

A Thesis Submitted in Partial Fulfillment  
Of  
The Requirement for the Master Degree  
In  
Environmental Sciences

Department of Environmental Agricultural Sciences  
Institute of Environmental Studies and Research  
Ain Shams University

**2018**

APPROVAL SHEET

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**2018**

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

# قَالَ مَوْلَا

لَسِبْنَا نُنْكِرُكَ يَا عَلِيمَ لَنَا  
إِلَّا مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ  
الْعَلِيمُ الْعَظِيمُ

صدقة الله العظيم

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## Abstract

The present work was carried out to study ecology, food consumption and bioassay of using several plants parts, biocides and chemical compounds on land snails infesting some field, vegetable and horticultural crops at Sharquia Governorate. Ecological studies indicate that three species belonging to three families of order: Stylommatophora were identified on field, vegetables and horticultural crops. Survey revealed that the identified species varied in their incidence and level of infestation according to locality and host plant type. *Monacha cartusiana* snails have the superior on snail's incidence compared to other species; it was recorded in all surveyed localities. The population dynamics of *M. cartusiana* carried out throughout two growing seasons at three districts, belonging to Sharquia Governorate. On some field and vegetable crops indicated that Egyptian clover highest numbers followed by cabbage, while onion was the lowest one in this respect. Importance value of land snail species can be arranged discerningly at Sharquia Governorate as follows: *Monacha cartusiana* > *Succinea putris* and *Eobania vermiculata*. On the other hand, food consumption of the snail, *M. cartusiana* and *E. vermiculata* under laboratory conditions showed that the highest values of feeding damage on lettuce and cabbage for *M. cartusiana* and *E. vermiculata* respectively. The lowest value (0.014 gm) was recorded on *M. cartusiana* when fed on Egyptian clover. Conversely, *E. vermiculata* consumed the lowest value (0.031 gm) when feeding on wheat leaves. Concerning with general mean it can be arranged food consumption for *M. cartusiana* and *E. vermiculata* as a follow (lettuce, 0.09, 0.318 gm), (cabbage 0.086, 0.272 gm), (wheat 0.038, 0.031 gm), (broad bean 0.033, 0.043 gm) and (Egyptian clover 0.014, 0.079 gm), respectively.

The effect of several plants parts, biocides and chemical compounds as poisonous baits under laboratory and field conditions was investigated against *M. cartusiana* and *E. vermiculata*. Results revealed that, the plant parts results showed that the cactus (*Alo*

*vera*) and blue scarlet pimpernel (*Anagallis foemina*) sighted molluscicidal activity against *M. cartusiana* snail. This effect increase by increasing concentration.

The cactus and blue scarlet pimpernel hadn't any molluscicidal activity against *E. vermiculata* snail.

Regarding chemical effect compounds against *M. cartusiana* snail, Neomyl was the most compound against which gave mortality percentage 100% after 7day for five concentrations followed by Gastrotax. In the last Urea recorded the same results where no mortality 0% was recorded to the end of experiment when three lower concentrations were used (0.5, 1 and 2 %) and recording 26.6 and 46.6% mortality for highest concentrations (3, 4 %), respectively

Neomyl was the most compound against *E. vermiculata* which gave mortality percentage 100% after 7day for five concentrations followed by. Gastrotax in the last urea recorded some result where no mortality 0% was recorded to the end of experiment when three lower concentrations were used (0.5, 1 and 2%) recording 13.3 and 33.3% mortality percentage for highest concentration (3, 4%) respectively.

As for biocides they were also arranged descending as follows: Biomectin, Biover and Protecto.

## Contents

subject	Page
LIST OF TABLES	III
LIST OF FIGURES	VI
INTRODUCTION	1
AIM OF THE STUDY	4
REVIEW OF LITERATURE	5
<b>1- Ecological Study</b>	5
<b>2- Food consumption study</b>	19
<b>3- Bioassay of the tested pesticides</b>	26
MATERIALS AND METHODS	36
1-Survey of land snails infesting different crops at Sharquia Governorate	36
2-Population dynamics of land snails infesting different crops at Sharquia Governorate	37

subject	Page
3-Effect of host plants on food consumption of <i>M. cartusiana</i> and <i>E. vermiculata</i> snails under laboratory conditions 4-Toxicity studies of the tested pesticides	38
RESULTS	51
1. Ecological studies on certain land snails attacking different crops at Sharquia Governorate	51
2. Food consumption under laboratory conditions	93
3. Toxicity studies the tested pesticides	96
DISCUSSION	112
SUMMARY	126
REFERENCES	133
ARABIC SUMMARY	1

## LIST OF TABLES

No.	Title	Page
1	English and Scientific name of certain plants parts for molluscicidal activity against land snails	43
2	Survey of land snails and level of infestation on different crops at certain districts at Sharquia Governorate during the period from 2016-2017	54
3	Population dynamics of <i>M. cartusiana</i> snail infesting some crops at Hussien Timour village, Hehia districts at Sharquia Governorate during two successive seasons (2015/2016) and (2016/2017)	65
4	Correlation between temperature, relative humidity and population density of <i>M. cartusiana</i> on different crops at Hussien Timour village, Hehia districts Sharquia Governorate.	69
5	Population dynamics of <i>M. cartusiana</i> snail infesting Egyptian clover at Kafr Aioub village, Blbies districts at Sharquia Governorate during two successive seasons 2015/2016 and 2016/2017	75
6	Correlation between temperature, relative humidity and population density of <i>M. cartusiana</i> on different crops at Kafr Aioub village, Blbies districts at Sharquia Governorate	79
7	Population dynamics of <i>M. cartusiana</i> snail	85

No.	Title	Page
	infesting broad bean in Manshiet Abou Al-Akhdar village, zagazig districts at Sharquia Governorate during two successive seasons 2015/2016 and 2016/2017	
8	Correlation between temperature, relative humidity and population density of <i>M. cartusiana</i> on different crops at Manshiet Abou Al- Akhdar village, zagazig districts at Sharquia Governorate	89
9	Population dynamic of <i>S. putris</i> snails on Egyptian clover at two districts in Sharquia Governorate during 2015/2016 and 2016/2017	91
10	Correlation between temperature, relative humidity and population density of <i>S. putris</i> on Egyptian clover at Sharquia Governorate	92
11	Daily food consumption (gm) of <i>M. cartusiana</i> snails under laboratory conditions	94
12	Daily food consumption (gm) of <i>E. vermiculata</i> snails under laboratory conditions	95
13	Mortality percentages of two natural plants extracts against <i>M. cartusiana</i> and <i>E. vermiculata</i> snails under laboratory conditions	98

No.	Title	Page
14	Molluscidal efficacy of two tested natural plant extracts at highest concentration 40% when used as poisonous bait under field conductions	99
15	Toxicity of some biocides as baits against <i>M. cartusiana</i> under laboratory conditions	101
16	Toxicity of some biocides as baits against <i>E. vermiculata</i> under laboratory conditions	103
17	Efficacy of some biocides compounds against <i>M. cartusiana</i> under field conditions	105
18	Toxicity of some chemical compounds as poison baits against <i>M. cartusiana</i> under laboratory conditions.	107
19	Toxicity of some chemical compounds as baits against <i>E. vermiculata</i> under laboratory conditions.	109
20	Efficacy of some chemical compounds against <i>M. cartusiana</i> snails under field conditions-	111

## List of Figures

No.	Title	Page
1	Shell of adult stage	41
2	Shell of land snail <i>Eobania vermiculata</i>	42
3	<i>Anagallis foemina</i> (Blue scarlet pimpernel)	43
4	<i>Alo vera</i> (cactus)	44
5	Shell of adult stage of <i>M. cartusiana</i> (A: dorsal and B: ventral view)	52
6	Shell of <i>S. putris</i> snail (A: dorsal and B: ventral view)	52
7	Shell of adult stage of <i>E. vermiculata</i> (A: dorsal and B: ventral view)	53
8a	Damaged caused by <i>M. cartusiana</i> and <i>S. putris</i> snail on Egyptian clover	56
8b	Manifestion injury by <i>M. cartusiana</i> snail on broad bean	56
8c	Manifestion injury by <i>M. cartusiana</i> snail on lettuce leaves	57
8d	Manifestion injury by <i>E. vermiculata</i> snail on palm tree	57
8e	Manifestion injury by <i>E. vermiculata</i> snail on mint	58

No.	Title	Page
	leaves	
8f	Manifestion injury by <i>M. cartusiana</i> snail on cabbage	58
8g	Manifestion injury by <i>M. cartusiana</i> snail on onion	59
8h	Manifestion injury by <i>M. cartusiana</i> snail on garlic	59
8i	Manifestion injury by <i>M. cartusiana</i> snail on wheat	60
8j	Manifestion injury by <i>E. vermiculata</i> snail on naval orange.	60
9	Population dynamics of <i>M. cartusiana</i> snail infesting Egyptian clover in Hussien Timour village, Hehia districts at Sharquia Governorate during two growing season 2015/2016 and 2016/2017	66
10	Population dynamics of <i>M. cartusiana</i> snail infesting broad bean in Hussien Timour village, Hehia districts at Sharquia Governorate during two growing season 2015/2016 and 2016/2017	66
11	Population dynamics of <i>M. cartusiana</i> snail infesting wheat in Hussien Timour village, Hehia districts at Sharquia Governorate during two growing season 2015/2016 and 2016/2017	67

No.	Title	Page
12	Population dynamics of <i>M. cartusiana</i> snail infesting cabbage in Hussien Timour village, Hehia districts at Sharquia Governorate during two growing seasons 2015/2016 and 2016/2017	67
13	Population dynamics of <i>M. cartusiana</i> snail infesting onion in Hussien Timour village, Hehia districts at Sharquia Governorate during two growing seasons 2015/2016 and 2016/2017	68
14	Temperature and relative humidity during two growing seasons 2015/2016 and 2016/2017	68
15	Population dynamics of <i>M. cartusiana</i> snail infesting Egyptian clover in Kafr Aioub village, Belbies districts at Sharquia Governorate during two growing seasons 2015/2016 and 2016/2017	76
16	Population dynamics of <i>M. cartusiana</i> snail infesting broad bean in Kafr Aioub village, Belbies districts at Sharquia Governorate during two growing seasons 2015/2016 and 2016/2017	76
17	Population dynamics of <i>M. cartusiana</i> snail infesting wheat in Kafr Aioub village, Belbies districts at Sharquia Governorate during two growing seasons 2015/2016 and 2016/2017	77
18	Population dynamics of <i>M. cartusiana</i> snail infesting cabbage in Kafr Aioub village, Belbies districts at Sharquia Governorate during two	77