



**Bionomics study of the two-spotted spider mite,  
*Tetranychus urticae* Koch and its associated arthropods on  
some important economic plants in Ismailia Governorate**

*A Thesis submitted*

*By*

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*B.Sc. in Zoology, (2008)*

*In partial Fulfillment of the Requirements*

*For the degree of Master of Science*

*(M.Sc.)*

*In*

*Zoology-Invertebrates*

*To*

*Zoology Department*

*Faculty of Sciences*

*Suez Canal University - Ismailia*

*(2016)*

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Fig. (13): Monthly prevalence ( $\pm$ SE) of <i>T. urticae</i> on <i>S. melongena</i> in, Sarabium during a one year survey extending from February 2014 to January 2015	71
Fig. (14): Mean abundance ( $\pm$ SE) of <i>T. urticae</i> on <i>S. melongena</i> in Sarabium during a one year survey from February 2014 to January 2015	72
Fig. (15): Monthly prevalence ( $\pm$ SE) of <i>T. urticae</i> on <i>S. melongena</i> in Wasfia during a one year survey from February 2014 to January 2015	75
Fig. (16): Mean abundance ( $\pm$ SE) of <i>T. urticae</i> on <i>S. melongena</i> in Wasfia during a one year survey from February 2014 to January 2015	76
Fig. (17): Prevalence ( $\pm$ SE) of <i>T. urticae</i> in all sites during a one year survey on <i>M. oleifera</i> in El-Koraim, East side of Suez Canal and Agriculture Research Station during a one year survey from February 2014 to January 2015	83
Fig. (18): Mean abundance ( $\pm$ SE) of <i>T. urticae</i> on <i>M. oleifera</i> in El-Koraim, East side of Suez Canal and Agriculture Research Station of Suez Canal all sites during a one year survey from February 2014 to January 2015	84
Fig. (19): Mean prevalence ( $\pm$ SE) of <i>T. urticae</i> on <i>M. oleifera</i> in El-Koraim during a one year survey from February 2014 to January 2015	87
Fig.(20): Mean abundance ( $\pm$ SE) of <i>T. urticae</i> on <i>M. oleifera</i> in El-Koraim during a one year survey extending from February 2014 to January 2015	88
Fig. (21): Monthly prevalence ( $\pm$ SE) of <i>T. urticae</i> on <i>M. oleifera</i> in East side of Suez Canal during a one year survey extending from February 2014 to January 2015	91
Fig. (22): Mean abundance ( $\pm$ SE) of <i>T. urticae</i> on <i>M. oleifera</i> in East side of Suez during a one year survey extending from February 2014 to January 2015	92
Fig. (23): Monthly prevalence ( $\pm$ SE) of <i>T. urticae</i> on <i>M. oleifera</i> in Agriculture Research Station during a one year survey extending from February 2014 to January 2015	95
Fig. (24): Mean abundance ( $\pm$ SE) of <i>T. urticae</i> on <i>M. oleifera</i> in Agriculture Research Station during a one year survey extending from February 2014 to January 2015	96

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## List of Figures

- Fig. (1): Prevalence ( $\pm$ SE) of *T. urticae* on *C. sativus* in Abu-Sawyer, Sarabium and Wasfia during a one year survey extending from February 2014 to January 2015 41
- Fig. (2): Mean abundance ( $\pm$ SE) of *T. urticae* on *C. sativus* in Abu-Sawyer, Sarabium and Wasfia during a one year survey extending from February 2014 to January 2015 42
- Fig. (3): Monthly prevalence ( $\pm$ SE) of *T. urticae* on *C. sativus* in Abu-Sawyer during a one year survey extending from February 2014 to January 2015 45
- Fig. (4): Mean abundance ( $\pm$ SE) of *T. urticae* on *C. sativus* in Abu-Sawyer during a one year survey extending from February 2014 to January 2015 46
- Fig. (5): Monthly prevalence ( $\pm$ SE) of *T. urticae* on *C. sativus* in Sarabium during a one year survey extending from February 2014 to January 2015 50
- Fig. (6): Mean abundance ( $\pm$ SE) of *T. urticae* in Sarabium on *C. sativus* in Sarabium during a one year survey extending from February 2014 to January 2015 51
- Fig. (7): Monthly prevalence ( $\pm$ SE) of *T. urticae* in Wasfia on *C. sativus* in Wasfia during a one year survey extending from February 2014 to January 2015 54
- Fig. (8): Mean abundance ( $\pm$ SE) of *T. urticae* in Wasfia on *C. sativus* in Wasfia during a one year survey extending from February 2014 to January 2015 55
- Fig. (9): Prevalence ( $\pm$ SE) of *T. urticae* on *S. melongena* in Abu-Sawyer, Sarabium and Wasfia during a one year survey from February 2014 to January 2015 63
- Fig. (10): Mean abundance ( $\pm$ SE) of *T. urticae* on *S. melongena* in Abu-Sawyer, Sarabium and Wasfia during a one year survey extending from February 2014 to January 2015 64
- Fig. (11): Monthly prevalence ( $\pm$ SE) of *T. urticae* on *S. melongena* in Abu-Sawyer during a one year survey extending from February 2014 to January 2015 67
- Fig. (12): Mean abundance ( $\pm$ SE) of *T. urticae* on *S. melongena* in Abu-Sawyer, Sarabium and Wasfia during a one year survey extending from February 2014 to January 2015 68

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## *List of plates*

- Plate (1): The map of the studied areas, Abu-Sawyer, Sarabium and Wasfia for *C. sativus* and *S. melongena* and El-Koraim, East side of Suez Canal and Agriculture Research Station for *M. oleifera* 26
- Plate (2): The studied areas: (A) Abu-Sawyer, (B) Sarabium and (C) Wasfia for *C. sativus* and *S. melongena* and (D) El-Koraim, (E) East side of Suez Canal and (F) Agriculture Research Station for *M. oleifera* 27
- Plate (3): Life stages of *T. urticae*: Egg stage (A), Larvae stage (B) Nymph stage (C) and Adult stage (D). 29
- Plate (4): Infestation of *T. urticae* to different plants (A) *C. sativus*, (B) *S. melongena* and (C) *M. oleifera*. 30
- Plate (5): Predators of *T. urticae* (A) *P. persimilis*, (B) *S. longicornis* and (C) *S. gilvifrons* 31

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Table (12): Monthly prevalence and mean abundance ( $\pm$ SE) of <i>T. urticae</i> on <i>S. melongena</i> in Sarabium during a one year survey from February 2014 to January 2015	70
Table (13): Monthly prevalence and mean abundance ( $\pm$ SE) of <i>T. urticae</i> on <i>S. melongena</i> in Wasfia during a one year survey extending from February 2014 to January 2015	74
Table (14): Correlation between <i>P. persimilis</i> and different stages of <i>T. urticae</i> and other predators in the studied areas during a period extending from February 2014 to January 2015	78
Table (15): Correlation between <i>S. longicornis</i> and different stages of <i>T. urticae</i> and other predators in the studied areas during a period extending from February 2014 to January 2015	79
Table (16): Correlation between <i>S. gilvifrons</i> and different stages of <i>T. urticae</i> and other predators in the studied areas during a period extending from February 2014 to January 2015	80
Table (17): Prevalence and mean abundance ( $\pm$ SE) of <i>T. urticae</i> on <i>M. oleifera</i> in El-Koraim, East side of Suez Canal and Agriculture Research Station during a one year survey extending from February 2014 to January 2015	82
Table (18): Monthly prevalence and mean abundances ( $\pm$ SE) of <i>T. urticae</i> on <i>M. oleifera</i> in El-Koraim during a one year survey extending from February 2014 to January 2015	86
Table (19): Monthly prevalence and mean abundance ( $\pm$ SE) of <i>T. urticae</i> on <i>M. oleifera</i> in East side of Suez Canal during a one year survey extending from February 2014 to January 2015	90
Table (20): Monthly prevalence and mean abundance ( $\pm$ SE) of <i>T. urticae</i> on <i>M. oleifera</i> in Agriculture Research Station during a one year survey extending from February 2014 to January 2015	94

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## *List of Tables*

Table (1): Chemical and physical analysis of the soil in the study areas from a period extending from February 2014 to January 2015	35
Table (2): Determination of available content of heavy metals in the soil of study areas in a period extending from February 2014 to January 2015	37
Table (3): Prevalence and mean abundance ( $\pm$ SE) of <i>T. urticae</i> on <i>C. sativus</i> in Abu-Sawyer, Sarabium and Wasfia during a one year survey extending from February 2014 to January 2015	40
Table (4): Monthly prevalence and mean abundance ( $\pm$ SE) of <i>T. urticae</i> on <i>C. sativus</i> in Abu-Sawyer during a one year survey extending from February 2014 to January 2015	44
Table (5): Monthly prevalence and mean abundance ( $\pm$ SE) of <i>T. urticae</i> on <i>C. sativus</i> in Sarabium during a one year survey from extending February 2014 to January 2015	49
Table (6): Monthly prevalence and mean abundance ( $\pm$ SE) of <i>T. urticae</i> on <i>C. sativus</i> in Wasfia during a one year survey extending from February 2014 to January 2015	53
Table (7): Correlation between <i>P. persimilis</i> and different stages of <i>T. urticae</i> and other predators on <i>C. sativus</i> in Wasfia during a one year survey from February 2014 to January 2015	57
Table (8): Correlation between <i>S. longicornis</i> and different stages of <i>T. urticae</i> and other predators on <i>C. sativus</i> during a one year survey from February 2014 to January 2015	58
Table (9): Correlation between <i>S. gilvifrons</i> and different stages of <i>T. urticae</i> and other predators on <i>C. sativus</i> during a one year survey from February 2014 to January 2015	59
Table (10): Prevalence and mean abundance ( $\pm$ SE) of <i>T. urticae</i> on <i>S. melongena</i> in Abu-Sawyer, Sarabium and Wasfia during a one year survey extending from February 2014 to January 2015	62
Table (11): Monthly prevalence and mean abundance ( $\pm$ SE) of <i>T. urticae</i> on <i>S. melongena</i> in Abu-Sawyer during a one year survey from February 2014 to January 2015	66

IV.2.2.2. <i>S. melongena</i> .....	34
IV.2.2.3. <i>M. oleifera</i> .....	34
IV.3. Available content of heavy metals in the soil of study areas.....	36
IV.3.1. <i>C. sativus</i> .....	36
IV.3.2. <i>S. melongena</i> .....	36
IV.3.3. <i>M. oleifera</i> .....	36
IV.4. Factors affecting the occurrence of <i>T. urticae</i> and its predators on <i>C. sativus</i> .....	38
IV.4.1. Site variations.....	38
IV.4.2. Monthly variations.....	43
IV.4.2.1. Abu-Sawyer.....	43
IV.4.2.2. Sarabium.....	47
IV.4.2.3. Wasfia.....	52
IV.4.3. Correlation between predators and different stages of <i>T. urticae</i> on <i>C. sativus</i> in the studied areas during period extending from February 2014 to January 2015.....	56
IV.5. Factors affecting the occurrence of <i>T. urticae</i> and its predators on <i>S. melongena</i> .....	60
IV.5.1. Site variations.....	60
IV.5.2. Monthly variations.....	65
IV.5.2.1. Abu-Sawyer.....	65
IV.5.2.2. Sarabium.....	69
IV.5.2.3. Wasfia.....	73
IV.5.3. Correlation between predators and different stages of <i>T. urticae</i> on <i>S. melongena</i> in the studied areas during a period extending from February 2014 to January 2015.....	77
IV.6. Factors affecting the occurrence of <i>T. urticae</i> and its predators on <i>M. oleifera</i> trees.....	81
IV.6.1. Site variations.....	81
IV.6.2. Monthly variations.....	85
IV.6.2.1. El-koraim.....	85
IV.6.2.2. East side of Suez Canal.....	89
IV.6.2.3. Agriculture Research Station.....	93
<b>V. Discussion</b> .....	97
<b>VI. Summary</b> .....	110
<b>VII. References</b> .....	114
<b>VIII. Arabic Summary</b> .....	

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## *Contents*

<b>I. Introduction and Aim of the work</b> .....	1
<b>II. Review of literatures</b> .....	4
II.1. Biology.....	4
II.1.1. Stages of development.....	4
II.1.2. Host range.....	6
II.1.2.1. Host plant.....	6
II.2. Dispersal .....	7
II.3. Symptoms description.....	7
II.4. Sites of infection/infestation.....	8
II.5. Damage .....	8
II.6. Behavior .....	9
II.7. Predators.....	11
II.8. Economic plants.....	12
II.8.1.1. <i>Cucumis sativus</i> .....	12
II.8.1.2. <i>Solanum melongena</i> .....	14
II.8.2. Medicinal plants .....	16
II.8.2.1. <i>Moringa oleifera</i> .....	16
II.9. Environmental factors.....	17
II.10. Physical and chemical analysis of soil.....	19
<b>III. Materials and Methods</b> .....	22
III.1. Study areas.....	22
III.2. Leaves sampling.....	24
III.3. Soil analysis.....	24
III.3.1. Chemical and physical properties.....	24
III.3.2. Determination of heavy metals levels.....	24
III.4. The climate of study areas.....	25
III.5. Statistical analysis.....	25
<b>IV. Results</b> .....	28
IV.1. Occurrence of <i>T. urticae</i> life stages and its predators on the studied plants	28
IV.2. Chemical and physical analysis of the soil.....	32
IV.2.1. Chemical analysis of the soil.....	32
IV.2.1.1. <i>C. sativus</i> .....	32
IV.2.1.2. <i>S. melongena</i> .....	32
IV.2.1.3. <i>M. oleifera</i> .....	33
IV.2.2. Physical analysis.....	33
IV.2.2.1. <i>C. sativus</i> .....	33



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## ABSTRACT

Our aim was to investigate the possible effect of site and monthly ‘temperature’ variations on percentage and density of *T. urticae* and its predators on three economical plants. A one-year study, extending from February 2014 to January 2015, was conducted on *Cucumis sativus*, *Solanum melongena* (Abu-sawyer & Sarabium regions, Ismailia, Egypt) and on *Moringa oleifera* (East side of Suez Canal & El Koraim regions, Ismailia, Egypt). Results showed that there were no marked monthly variations regarding the percentage of mites and its predators, where the significant variations were recorded regarding their densities. The highest density of adult *T. urticae* on *C. sativus* and *S. melongena* was recorded in April while, it was recorded in December for *M. oleifera*. The highest density of *T. urticae* stages were recorded in Sarabium region for *C. sativus* and *S. melongena* while, it was recorded in El-Koraim region for *M. oleifera*. Regarding the predators, three predators were recorded on *C. sativus* and *S. melongena* namely; *Phytoseiulus persimilis*, *Scolothrips longicornis* and *Stethorus gilvifrons*. No predators were recorded on *M. oleifera* during the period of study. The density of predators was also affected by the factors considered. Hence, the ability of the plants to resist *T. urticae* may be attributed to certain characteristics of the soils. In conclusion, soil characteristics and monthly variations apparently were key factors affecting mite’s population and its predators and their effects were a host plant dependent.

**Keywords:** *Tetranychus urticae*, density, abiotic factors, host plant, predators