SPIDERS INCIDENCE IN PARKS AT CAIRO AND GIZA GOVERNORATES

By

MARYHAM ADEL REZK SAWERS

B.Sc. Agric. Sci. (Plant Protection), Fac. Agric., Cairo Univ., 2004

THESIS

Submitted in Partial Fulfillment of the Requirements for the Degree of

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(Agricultural Zoology)

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APPROVAL SHEET

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M.Sc.Thesis
In
Agric. Sci. (Agricultural Zoology) (Spiders)

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ABSTRACT

Incidence research conducted to give a broad scope of the Egyptian spiders' fauna. This study considered as the real seasonal study of spiders' population inhabiting the ornamental plants in four public parks in two governorates; Zohria and Horreya (Cairo Governorate), Orman and the Zoo (Giza Governorate). 20 plants were examined monthly (five plants were chosen from each park) to evaluate the spider population on each plant. The study was carried out during March 2013 to February 2014. Temperature degrees and Relative Humidity were reported depending on the dats from the Central Laboratory for Agriculture Climate (CLAC), A. R. C.. Collecting methods were beating net (branch shaking) and hand sorting. All the collected specimens transferred to the laboratory for counting and identification. Results revaled that the total number of the spider population were 4,184 individuals during the study, from them, 21 families, 31 genera and 24 species were identified. The largest number of spiders species were belonging to the following families: Salticidae, Gnaphosidae, Theridiidae and Oonopidae. Generally, Zohria Park showed a high population of spiders especially in spring, followed by Orman Park. Biological studies on the common spider species, *Theridion melanostictum* Cambridge, 1876 (family: Theridiidae) was carried out in an incubator 25±1^{o}C and 60-70% R.H.. The movable stages of two-spotted spider mite *Tetranychus urticae*, the adult of fruit fly, *Drosophila melanogaster* and the 1st, 2nd and 3rd instars larvae of cotton leaf warm *Spodoptera littoralis* were used as prey. The incubation period averaged 13.3 ± 1.9 and 15.0 ± 2.0 days when fed on *T. urticae* & *D. melanogaster* and *S. littoralis*, respectively. Male lived shorter than female. , longevity averaged 25.2 ± 1.2 & 48.0 ± 1.0 and 25.2 ± 1.4 & 47.9 ± 1.2 days when fed on the adult of the fruit fly *D. melanogaster* and the third instar of *S. littoralis*, for male and female, respectively. Also, results indicate that keeping egg sacs in low temperature elongate the incubation period.

Key words: Incidence, Spiders, Zohria, Horrey, Orman, the Zoo Park, Ornamental plants, Cairo, Giza Governorates, *Theridion melanostictum*, Theridiidae, Biological studies.

DEDICATION

I dedicate this work to my parents who taught me the purpose of life and have willingly helped me out with their abilities. Also, I would like to dedicate it to my brothers, sister and sisters in law that I could never have done this thesis without their support and constant encouragement.

Thank you for teaching me to believe in myself and in my dreams.

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INTRODUCTION

Parks considered as an important resources for ornamental plants are often grown for their flowers, foliage, or overall appearance and the attractive plants uses for decorative purposes, shade, windbreak, and beautifying places, in addition to their visual appeal, acting as natural air filters because they are create oxygen during photosynthesis. Plants take in carbon dioxide as food and release clean oxygen that we needed. Parks and agricultural systems support a community of pests and their natural enemies. Natural enemies are a component of integrated pest management. They provide benefits to farmers and gardeners by keeping pests below damaging levels. Natural enemies are particularly important in low input and organic systems, where their populations can increase in the absence of conventional insecticides. They are also important in conventional farming systems, where broad-spectrum insecticides can kill pests and beneficial insects, with their natural enemies gone, pests can rebound quickly, and increase to levels higher than before the insecticide application.

Spiders are beneficial arthropods that survive by feeding on insects. Oftentimes they are the most important biological control of insect pests in parks, fields, forests, and homes. Spiders are ancient animals with a history going back over many years. They are abundant and widespread in almost all ecosystems and constitute one of the most important components of global biodiversity.