SYRPHID FLIES (*Ischiodon scutellaris* (Fabricius)) AS BIOLOGICAL CONTROLLER OF APHIDS (*Myzus persicae* (Sulzer)) IN PECHAY (*Brassica campestris* ssp *sinensis* (Linnaeus))

A Thesis
Presented to the
Faculty of the Graduate School
University of San Carlos

In Partial Fulfillment
of the Requirements for the Degree
Master of Science in Biology

---

by
Jesus M. Lanuza, Jr.
July 1985

APPROVAL SHEET

This thesis entitled SYRPHID FILES (Ischiodon scutellaris (Fabricius) AS BIOLOGICAL CONTROLLER OF APHIDS (Myzus persicae (Sulzer) IN PECHAY (Brassica campestris ssp sinensis (Linnaeus) prepared and submitted by Jesus M. Lanuza Jr., in partial fulfillment of the requirements for the degree of MASTER OF SCIENCES IN BIOLOGY has been examined and is recommended for acceptance and approval for ORAL EXAMINATION.

Thesis Committee

CRISTOBAL G. PLATEROS, M. S.
Adviser

EXUPERANCIO A. MONTECILLO, M.S.
Member

ROSALINDA C. MENDOZA, ICM, PhD
Member

ALICIA J. TAN, Ph. D.
Member

PANEL OF EXAMINERS

Approved by the Committee on Oral Examination with a grade of Passed.

ALICIA J. TAN, Ph. D.
Chairman

CRISTOBAL G. PLATEROS M.S.
Member

EXUPERANCIO A. MONTECILLO M.S.
Member

ROSALINDA C. MENDOZA, ICM, Ph.D.
Member

Accepted and approved in partial fulfillment of the requirements for the degree of MASTER OF SCIENCE IN BIOLOGY.

Comprehensive Examination Passed: July 30 1983.

ALICIA J. TAN, Ph. D.
Dean

ABSTRACT

In this biological control method experiment, three organisms were used: pechay plant (Brassica campestris ssp sinensis (Linnaeus), the experimental plant, aphids (Myzus persicae (Sulzer), the selected pests, and syrphid flies larvae (Ischiodon scutellaris (Fabricius), the biological controllers.

The experimental set-up was arranged in this manner: thirteen potted pechay plants in cages were divided intro three groups. Group One (Cages 1 to 4). Pechay plants and aphids only. This determined the damage the pests could do to the plants. Group Two (Cages 5 to 8). Pechay plants and syrphid flies only. This determined if syrphid flies would damage the plants in the absence of aphids. Group Three (Cages 9 to 12). Pechay plants, aphids, adult syrphid flies and larvae. This determined the efficiency of syrphid flies larvae in controlling aphids' infestation on pechay.

All plants in Group One died most likely due to aphids' infestation. All plants in Group Two reached maturity but all syrphid flies larvae died of starvation, no aphids in these cages, their food. All plants in Group Three survived, syrphid flies mated and produced larvae that fed on aphids. However, the larvae were not able to kill all the aphids but were able to bring down their infestation to the lower level of the infestation scale used in the experiment. When the number of syrphid flies larvae was high, aphids' infestation was low. When the number of syrphid flies larvae dropped, aphids' infestation tended to increase. From these observations, it can be concluded that syrphid flies larvae could be used to control infestation brought about by aphids on pechay.

ACKNOWLEDGMENTS

The researcher would like to thank Prof. Cristobal Plateros, his adviser; Sr. Julita Ruelo, SSps, Ph. D.; Sr. Rosalinda Mendoza, ICM, Ph. D.; and Prof. Exuperancio Montecillo, for their valuable suggestions;

Special thanks to Lloyd Knutson, Director of Biosystematics and Beneficial Insects Institute and F. C. Thompson, Research Entomologist of Systematics Entomology Laboratory, United States Department of Agriculture, for their help in identifying the species of the syrphid flies used in the experimental study;

Fr. Theodore D. Murnane, SVD, Presidential Assistant for Research and Faculty Development of the University of San Carlos, for his assistance in the acquisition of financial support;

The Administrator of the Divine Word University of Tacloban, for allowing the researcher to use the University facilities and part of the campus for the study;

Ms. Evelyn Andrada, for helping in the editing and typing of the manuscripts; and

Others who did not hesitate to extend their helping hands when they were needed.

j. m. l.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES