I. A BIBLIOGRAPHY OF THE MEXICAN BEAN BEETLE

*Epilachna varivestis* Mulsant (Coleoptera: Coccinellidae)

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Distribution of Mexican Bean Beetle

_Episelia variicrata_

Prepared by Economic Insect Survey and Detection
Plant Protection Division
Agricultural Research Service USDA
September 17, 1972
The Literature of Arthropods Associated with Soybeans

I. A BIBLIOGRAPHY OF THE MEXICAN BEAN BEETLE, *Epilachna varivestis* Mulsant (Coleoptera: Coccinellidae)

M. P. Nichols and M. Kogan

The organization of a center to search out, store, and retrieve the literature on insects associated with soybeans is part of a broad program of research and information on soybean entomology at the Illinois Natural History Survey and the University of Illinois (Kogan & Luckmann 1971).

In establishing this center the main objective was to assemble, for easy and rapid access, the vast mass of data on soybeans that is scattered throughout the entomological literature. Furthermore, it was decided to develop this center as a service-oriented unit to support the Illinois Soybean Entomology Team and its cooperative research and extension personnel. Three parallel activities are under way: (1) Establish and maintain a collection of scientific reports and extension publications, computerized for rapid retrieval; (2) make bibliographic surveys and provide specialized bibliographies to workers in soybean entomology; and (3) compile and publish bibliographies on species or subjects of key importance to soybean entomology.

A bibliography of the Mexican bean beetle—*Epilachna varivestis* Mulsant (Coleoptera: Coccinellidae)—was originally compiled to provide information on nutrition and host selection of soybean insects in support of ongoing research at the Natural History Survey and the University of Illinois. The interest in, and economic importance of, this species in many soybean-producing areas of the United States prompted us to expand the original scope of this literature file and present this as the first of a series of bibliographies of insects associated with soybeans.

The Mexican bean beetle is considered in many soybean-producing areas of the United States as one of the most serious pests of the crop. Research on chemical control of the beetle and breeding for plant resistance is being conducted in several institutions. The species is also a convenient laboratory animal for basic research. Its oligophagous relationship to certain genera of Leguminosae has prompted its use in studies of host plant selection. It has become a standard test animal in pesticide toxicology since its metabolism of DDT was studied and reported in a classical work in toxicology (Sternburg & Kearns 1952).

This bibliography is not limited to papers dealing with the Mexican bean beetle on soybeans. Many of the listed references do not even mention soybeans. It is intended, however, that the bibliographies in this series be as complete as possible; consequently, they will be of interest beyond the scope of soybean entomology.

The nearly 800 titles in the present list were obtained primarily from standard reference sources and current references. In addition, a questionnaire was sent to 120 institutions in the United States requesting information on past and current use of the Mexican bean beetle in local research programs. Other references were secured through replies to this questionnaire.

There was little deliberate screening of references for this bibliography in contrast to other entomological bibliographies that have appeared in recent years. Books on general and applied entomology were deleted, as were certain outdated articles of a popular nature on plant damage and insecticidal control. Many short notes and extension type publications, however, were included as they may have some value in tracing the dispersal of the Mexican bean beetle and the evolution of its economic role.

References to the species in brief paragraphs which are parts of annual reports (mostly by agricultural experiment stations) are included as an appendix to the literature and were not tabulated or numbered. The year that appears in this list is that covered by the report and not necessarily the year of publication. It was not intended that this appendix of annual reports be complete, but that it serve primarily as a guide.

In addition, interested researchers are urged to consult the USDA Cooperative Economic Insect Report, the USDA Insect Pest Survey Bulletin, and the Canadian Insect Pest Review for further information concerning the Mexican bean beetle.

The references are numbered and tabulated (see table following the appendix) by subject and periods of publication. Each reference appears only once in the tabulation, under the subject to which it seemed to the authors to make the most significant contribution. However, in the case of those articles which deal with soybeans, the references are listed under the heading SOYBEANS, as well as under one other subject heading. Those interested in more complex areas are advised to peruse also related subjects (e.g., biology and life history, ecology, and distribution). The paucity of references in certain areas led us to combine subjects such as morphology and taxonomy, and physiology and anatomy. The tabulation is offered, therefore, as a simplified subject index to serve as a preliminary key to the literature.

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This paper is published by authority of the State of Illinois, IRs Ch. 127, Pat 38:21. M. P. Nichols is a Research Assistant in Agricultural Entomology at the University of Illinois College of Agriculture and the Illinois Natural History Survey. Dr. M. Kogan is an Associate Entomologist at the Survey and Assistant Professor at the College of Agriculture.
Abbreviations used in the reference entries appear in full in a listing at the end of the paper.

This bibliography is part of Illinois' contribution to the regional USDA project S-74, "Biology and Control of Arthropods on Soybeans."

Mrs. Nancy DeWitt did portions of the search. Mr. Ray Kotek worked in the organization of the files and provided general technical assistance, and O. F. Glissendorf edited the manuscript. Their collaboration is gratefully acknowledged.

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Appendix—Annual Reports


Colo. State Entomol.


Conn. State Entomol.


Entomol. Soc. Ont.


Ga. State Entomol.


Ind. Agr. Exp. Sta. (Purdue)

Ind. Dep. Conserv.

Iowa Agr. Exp. Sta.

Iowa State Entomol.


Maine Agr. Exp. Sta.


N. Y. Agr. Exp. Sta. Cornell


N. C. Agr. Exp. Sta.

N. C. Dep. Agr.

Ohio Agr. Exp. Sta.


S. C. Agr. Exp. Sta. (Clemson)


Va. State Entomol.


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**PERIODICAL ABBREVIATIONS**

Agr. Leaders Dig. Agricultural Leader's Digest.
Econ. Geogr. Economic Geography.
Fla. Entomol. Florida Entomologist.
Grain Dealers J. Grain Dealers Journal.
Indiana Agr. Exp. Sta. Circ. Indiana Agricultural Experiment Station Circular.
Mo. Farmer. Missouri Farmer.