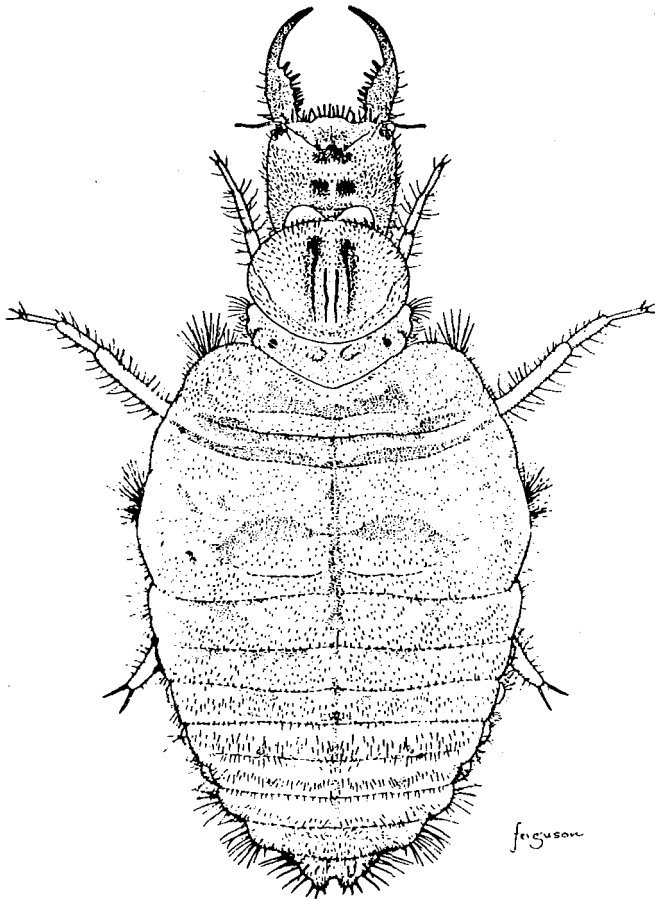


# ISRAEL JOURNAL OF ENTOMOLOGY

VOLUME XIX 1985



THE ENTOMOLOGICAL SOCIETY OF ISRAEL

## ISRAEL JOURNAL OF ENTOMOLOGY

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COVER: *Nophis teillardi* Navás is a psammophilous ant lion, whose larva lives concealed in open sandy areas, without constructing a pitfall. The biology of the 3rd instar larva was studied in the Coastal Plain of Israel, and is reported in this volume. (Drawing by Walter Ferguson, Department of Zoology, Tel Aviv University.)

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***AND PERSONAL DONATIONS BY MEMBERS OF THE SOCIETY***



PROFESSOR JEHOShUA KUGLER – 70 YEARS

Professor Jehoshua Kugler was born in Chortkov, Galicia (now within the USSR) on February 1, 1916, and grew up in Czernowitz (then in Rumania, today in the USSR). Shortly after matriculating he emigrated to Palestine in 1934. In the same year, almost without any knowledge of Hebrew, he began his studies at the Hebrew University of Jerusalem. In four years, and while struggling with the language, he completed his studies toward an M.Sc. degree in zoology, with botany and geology as minors. Kugler's M.Sc. thesis, on the Vespiformes of Jerusalem, prepared under the supervision of the late Prof. F.S. Bodenheimer, won the prize of the Science Society of Tel Aviv.

In 1939, in addition to his M.Sc. degree, Kugler also completed his studies toward a teaching certificate. From 1939 to 1947 he taught biology at the Agricultural High School and from 1947 to 1960 he taught zoology at the "E. Shein" Teachers' Training College, both near Kibbutz Giyat Hashlosha.

From 1956 to 1960 Kugler worked on a dissertation entitled "A taxonomic and faunistic study of the tachinid flies of Israel", for which he gained his Ph.D. degree. The dissertation was prepared at the Hebrew University of Jerusalem under the

supervision of Prof. O. Theodor. Two years before starting his Ph.D. studies, Kugler joined the small staff at the Department of Zoology of the newly-founded Tel Aviv University, and was appointed a lecturer in zoology. In 1962 he was promoted to senior lecturer; in 1969 to associate professor and in 1979 to full professor. His previous broad experience in teaching also contributed to his activities in the university, and between 1956 and 1969 he taught methodology for high school teachers of zoology in the University's Department of Education. The list of courses he taught since becoming a lecturer at the Department of Zoology, has probably surpassed that of any other faculty member. It ranges from such general courses as introduction to the invertebrates, general and faunistic entomology and introduction to taxonomy, to more specialized courses such as social insects, Diptera, aquatic insects and many others.

Kugler began to publish scientific papers rather late in his career and his list of publications (see below) is not very long. However, the list of entomological topics and groups dealt with by him is astonishingly wide and seldom attempted by scientists nowadays. The greater part of his research work, since his Ph.D. studies, was devoted to the taxonomy and biology of one family of parasitic flies, the Tachinidae. Before Kugler began his studies, the list of locally known species of this dipterous group contained some 30 names. As a result of his work (published in about a dozen papers) the list has grown to make it one of the largest families in Israel's fauna, numbering about 300 species. Fifty new species and 9 new genera of Tachinidae have been described in the course of this study. After the Tachinidae, the Chironomidae formed the second group of interest for him. An interesting outcome of the chironomid study was the demonstration of an unusually high frequency of Afrotropical elements in the fresh waters of the northern Jordan Valley in Israel. This reaches 48% in Lake Kinneret, and 60% in the Hula Nature Reserve, thus demonstrating the unique zoogeographical location of Israel. Kugler's own interest in Diptera was not restricted to the above-mentioned families. In 1969 he published a comprehensive list of the Muscidae of Israel, a group of considerable economic and medical importance, and in 1978 he published a monograph on the Rhinophoridae of Israel, a small group of parasitic flies of great scientific interest. Twenty-two species were recorded in the latter paper, making Israel one of the richest countries in rhinophorids. Twelve species and 3 genera were described as new.

His work on the Tachinidae and other groups served as a model to several graduate students who for almost 20 years, under his supervision, surveyed various taxa of insects in Israel, increasing manifold our taxonomic and faunistic knowledge about them. These taxa are caddis-flies (Trichoptera), may-flies (Ephemeroptera), ant-lions and their like (Neuroptera), termites (Isoptera) and several families of flies (Chironomidae, Tephritidae, Syrphidae, and Chloropidae).

Other areas covered by his research and publications were biology of parasitic wasps, biology of phytophagous insects that feed on weeds, and biology of social wasps. Kugler has always had a special interest in social insects, resulting both in scientific work and in a course on this subject which he teaches intermittently with great success. This interest also led him, about five years ago, to shift from Diptera, until then the focus group of his studies, to taxonomic and faunistic research on the ants of Israel. Several articles on the taxonomy of ants have been, or are about to be, published since then. Among them, the revision of the males of the genus

*Cardiocondyla* has a much greater importance than just for the local fauna. Most of Kugler's scientific publications were written in English. However, his proficiency in several European languages allowed him to write several publications in German and French. Despite his initial difficulties in mastering the Hebrew language, he subsequently published many articles, reports and encyclopedia items in Hebrew. These latter publications reflect, once again, his orientation towards the education of the general public.

Kugler's major interest in the faunistics of the insects of Israel, combined with the work of his many students, resulted in a dramatic increase in our knowledge on this subject during the last two decades, and has put him among the top figures associated with this field in Israel and elsewhere. During this period he contributed to, and was responsible for, the expansion of the entomological collection under his supervision, in such a way that this collection has become the best and largest in the Near East. It was therefore chosen as the site of the National Collection of Insects under Kugler's directorship. In recognition of his contributions to the taxonomic study of insects, many species have been named after him.

Kugler has always been involved in various activities both within and outside the university. His interest in the higher level of education made him, for more than a decade, the chairman of the committee for graduate studies of the Department of Zoology, during which period he came in contact with scores of students and their problems. This led him, in 1973, to become the chairman of the faculty committee for M.Sc. studies, a position he held until 1976. In addition, during 1973, he served as deputy dean of the faculty. He also participated and served on other departmental committees, and his voice was always heard when matters of principle arose.

Among his other activities, one may mention the chairmanship of the Israel Society of Zoology (1970-1972), membership of the Fauna Palaestina Committee of the Israel Academy of Sciences and Humanities (from 1971 to date), membership of the International Advisory Committee of the journal "Entomologica Germanica" (1974-1984) and, since 1984, director of the "National Collection of Insects".

Kugler devotes most of his time to university work and to entomology. However, his free time is divided among a diversity of interests no less varied than those associated with his work. He is a dedicated reader, in several languages, of which Yiddish is a favourite; he enjoys poetry as well as prose and is also a keen theatre buff. He is interested in internal and foreign affairs, and based on his broad historical knowledge and perspective, he usually expresses strong opinions concerning political events and developments, both in Israel and abroad. Jehoshua has a kind personality, sometimes masked by superficial brusqueness. His broad knowledge and wit make him enjoyable company, and this is augmented by his endless capacity for telling jokes appropriate to every situation.

As one of his students and colleagues, and at present the editor of this journal, I feel that Kugler's personality, activities and scientific work more than deserve attention and respect by the members of the Entomological Society of Israel. When I approached scientists from Israel and abroad with the request to contribute manuscripts for this "Festschrift", I was not surprised by the general broad positive response. This issue, with its 22 articles dedicated to Prof. Kugler, is the largest ever published by the Journal during the 19 years of its existence. Moreover, the diversity of the topics dealt with by the contributors supremely reflects the versatility of the

scientist in whose honour they are dedicated.

This year, Jehoshua Kugler will retire, but as expected from a person of his calibre, he will continue his scientific and educational work as a Professor Emeritus in the Department of Zoology. This issue also marks Jehoshua's 70th birthday. We wish him many more years of good health and success and congratulate him and his entire family on this occasion.

Amnon Freidberg

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LIST OF NEW TAXA  
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## EDITOR'S NOTE

With the publication of the present volume of the *Israel Journal of Entomology*, I return the office of Editor-in-Chief to Dr. Yair Ben-Dov, from whom I received it four years ago. Serving as editor for the past four years was both an interesting experience and a challenge. The job included seeing the manuscripts through all the stages from their receipt, through the review process, and up to the final printing. This was very time consuming, but also very rewarding. I wish the new editor the same satisfaction that I derived from this job.

When I accepted the post, my hope was to further improve the quality of the Journal. A complete peer review process was therefore strictly applied to the 55 manuscripts that were published during that period, resulting in considerable improvement of content. This procedure owes its success to the assistance of numerous scientists in Israel and abroad. Anonymously, and for no personal gain, they did an excellent job in reviewing the manuscripts. My sincere thanks are extended to all of them.

I would also like to thank the scientists on the editorial board, and in particular Dr. Ben-Dov, who were always ready to help in all matters. My job as an editor was made much easier by the constant help, both secretarial and editorial, that was given to me by Mrs. Fini Kaplan and Mrs. Tova Feler, and I am very grateful to them.

The Journal always faced financial difficulties that at times threatened its very existence. This threat was removed with a generous endowment from Professor (Emeritus) Chanan Bytinski-Salz. Professor Bytinski-Salz has always maintained close connections with the Journal (both as an editor and as a contributor of articles), and his endowment will secure the future of the Journal. On behalf of all the members of the Entomological Society of Israel, I express my sincere thanks and appreciation to Professor Bytinski-Salz for this outstanding donation.

## NOTES FOR AUTHORS

*Israel Journal of Entomology*, a peer-review journal, will publish original contributions in all aspects of Entomology. Authors are entirely responsible for statements, whether of fact or opinion.

### MANUSCRIPTS

Manuscripts, in English only are considered on the understanding that their contents would not be published elsewhere. If a preliminary announcement relating to the contents of the paper has already been published, this must be stated.

Papers should be concisely written. The "Style Manual for Biological Journals" contains much useful guidance. Manuscripts in triplicate must be typed on a regular type writer, doubled spaced, on one side of a page of white quarto paper. The title of the paper should be informative, but preferably not exceed twenty words. An abstract provided at the beginning of the paper, will indicate the main aspects of the subject, to be followed by 5-7 key words. Words which are to be italicized in print, Latinized genus — and species-group names, should be underlined with a single, solid line. No more than three categories of subheadings are allowed; footnotes to text should be kept to a minimum.

### SPELLING

Spelling and terminology should be consistent throughout. Scientific names should be underlined and followed by the name of the first describer, written out in full. Names of localities in Israel will be given as they are transliterated in the latest issue of "List of settlements, localities and antiquity sites, Survey of Israel, Ministry of Labour". Regions in Israel and nearby areas should follow the "fauna Palaestina" map (as in Theodor, O. 1975. Fauna Palaestina, Insecta I: Diptera Pupipara. The Israel Academy of Sciences and Humanities, Jerusalem).

### TABLES

Tables should be kept to a minimum and must be typed on separate sheets; their approximate position being indicated in the manuscript. The same data should not be given both in tables and graphs.

### REFERENCES

1. In the text, reference to the literature should conform to the "name-and-date" system, e.g. — Williams (1929); (Bodenheimer, 1938); Jones and Smith (1950). Unpublished references are to be cited as author followed by either (personal communication), (unpublished) or (in press). Only the latter category will appear in the list of references, together with the title of the periodical to which it was submitted for publication.
2. When reference is made to taxonomic descriptions, or to quoted passages — the relevant page-number(s) should follow the year, e.g. Brown (1939:25).
3. Where three or more authors are concerned, reference is made only to the first, followed by "et al." and the date: Thomson *et al.* (1945).
4. The list of references will be given at the end of the article, according to the following forms, *with the titles of all periodicals unabbreviated.*  
Bergnan, E.D. 1976. The future of insecticides — a problem of human environment. *Israel Journal of Entomology* 11:5-14.  
Taylor, L.R. and J.M.P. Palmer. 1970. Aerial sampling. *In: Aphid Technology.* Edit. H.F. van Emden. Academic Press, London.  
Wigglesworth, V.B. 1972. The Principles of Insect Physiology. 7th edition. Chapman and Hall, London.

## ILLUSTRATIONS

Only high quality photographs and drawings will be accepted. Each figure and photograph should be identified on the back, in pencil, with the author's name and figure number. Photographs should be submitted on glossy paper, not smaller than 6x9 cm. Drawings should be prepared as to allow a maximum of 30-50% reduction.

## TAXONOMY

1. Comprehensive treatments of taxa (genera, families, etc.) will receive higher priority over partial treatments. Partial lists of species or faunistic lists, not accompanied by proper keys or references to such keys will receive lower priority.
2. Authors must comply with the requirements of the International Code of Zoological Nomenclature and with the published Opinions of the International Commission.
3. The following abbreviations should be adopted in the text: *n.gen.* — new genus; *n.sp.* — new species; *n.nom.* — new name, used once to introduce a name replacing a junior homonym; *n.comb.* — new combination of names; *n.syn.* — denotes synonymy established for the first time, *n.stat.* — will be used to indicate a new change in rank of a name; *nomen nudum*, *nomen dubium* are not abbreviated.
4. In treating the taxonomy of a described taxon, the following form is essential for the beginning of a chapter.

### *Filippia olea* (Costa, 1832) (Fig. 1)

*Coccus oleae* Costa, 1832:21; Green, 1868:42 (biology)

*Lecanium oleae*. Smith, 1892:15 (list); Brown, 1899:20 (description)

*Filippia oleae*. Fernald, 1903:13 (Catalog); Hall, 1943:50 (hosts list)

The full references to the above citations should be given in the REFERENCES section at the end of the article.

5. New taxa must be distinguished from related taxa.
6. In describing new species, the complete data of the type-series, together with the collection(s) in which it is deposited will be recorded in the original description as follows:

MATERIAL EXAMINED. Holotype ♀, Israel, Jerusalem, 14.V.1956, on *Ficus carica*, G. Levi (BMNH). Paratypes, 2♀♀, same data as holotype, (USNM); 8♀♀' Tel Aviv, 3.V.1962, *Acacia* sp., G. Brown (ZTV).

7. Records of described species will be listed at the end of each relevant chapter in the following form:

MATERIAL EXAMINED: Sinai, Dahab, 13.V.1958, ex. *Phoenix* sp., D. Cohen (1♂, 1♀; BMNH); Israel, Haifa, 20.II.1967, *Pistacia vera*, M. Levi (1♀; ZTV).

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