ISRAEL JOURNAL OF ENTOMOLOGY

Published by the Entomological Society of Israel, P.O.Box 6, Bet Dagan 50200, Israel

EDITOR IN CHIEF

Y. Ben-Dov

Agricultural Research Organization, The Volcani Center, Bet Dagan

EDITORIAL BOARD

A. Freidberg

Department of Zoology,

Tel Aviv University, Tel Aviv 69978.

A.S. Perry

Institute for Nature Conservation Research,

Tel Aviv University, Tel Aviv

H. Podoler

Department of Entomology, Faculty of Agriculture, Rehovot

Publication date: March 1987

ISRAEL JOURNAL OF ENTOMOLOGY

VOLUME XX 1986

THE ENTOMOLOGICAL SOCIETY OF ISRAEL

TABLE OF CONTENTS

ARGOV, Y. and Y. ROSSLER – The introduction of Encarsia lahorensis (Howard) (Hymenoptera: Aphelinidae) into Israel for the control of the citrus whitefly, Dialeurodes citri (Ashmead) (Homoptera: Aleyrodidae)	1
STEINBERGER, Y., MacQUITTY, M., LANGSAM, J. and J.A. WALLWORK — Observations on the fine structure of the cuticle of two desert-dwelling oribatid mites (Acari; cryptostigmata)	7
JÄCH, M.A. – A synopsis of the genus <i>Hydraena</i> (Coleoptera: Hydraenidae) of the Middle East	13
OR, R., KEHAT, M., CHEN, CH., KLEIN, Z. and G. FISHLER — Determining the efficiency of sex pheromones in controlling the pink bollworm, <i>Pectinophora gossypiella</i> (Saunders) (Lepidoptera: Gelechiidae), in cotton fields in Israel	25
SWIRSKI, E., GOKKES, M. and S. AMITAI — Phenology and natural enemies of the citrus red mite, <i>Panonychus citri</i> (McGregor) in Israel	37
KUGLER, J. – The Leptanilliane (Hymenoptera: Formicidae) of Israel and a description of a new species from India	45
YAROM, I., FREIDBERG, A. and L. PAPP – A revision of the genus Mycterella Kertész (Diptera: Lauxaniidae)	59
THEOWALD, BR., and P. OOSTERBROEK — The zoogeography of the Western Palaearctic Tipulidae (Diptera). VIII. Tipulidae of Israel and adjacent regions	71
YATHOM, S., ASCHER, K.R.S., TAL, S. and N.E. NEMNY – The effect of Cyromazine on different stages of <i>Liriomyza trifolii</i> (Burgess) (Diptera: Agromyzidae)	85
OBITUARY	95

The papers published in this journal are abstracted and indexed in the REVIEW OF APPLIED ENTOMOLOGY and in ENTOMOLOGY ABSTRACTS.

PUBLICATION OF THE ISRAEL JOURNAL OF ENTOMOLOGY IS SUPPORTED BY THE H. BYTINSKI-SALZ ENDOWMENT FUND

OBITUARY



HANAN (HANS) BYTINSKI-SALZ 1903–1986

H. Bytinski-Salz, Professor Emeritus of the Tel-Aviv University, passed away on October 25, 1986. He was born on June 24th 1903 in Karlsruhe, Germany. He studied Zoology at the universities of Berlin and Freiburg and received his Ph.D. degree in 1929. Already as a student he joined the Zionist youth movement Blau-Weiss in Berlin, but immigrated to Israel (then Palestine) only in 1939. Till then he worked in several universities and other research institutions in Europe and U.S.A. His first years in Israel were economically very hard for him and his family. The small Hebrew University in Jerusalem at that time, the only university in the country, could not offer him a suitable position. He had temporary positions at the Hebrew University, the Agricultural Experimental Station, Rehovot and at the Kibbutz Teachers Seminary in Tel-Aviv.

After the establishment of the State of Israel in 1948, his economical position improved. He became the chief entomologist at the Department of Plant Protection in Jaffa and head of the quarantine service of the country. In 1954, he began teaching Entomology at the newly founded Tel-Aviv University, where he continued teaching, advising graduate students and doing research until his retirement in 1974.

Bytinski, as we called him, was the first member of the Department of Zoology to receive the rank of Full Professor and was the most versatile teacher. He taught courses in Entomology, Embriology, Histology, Evolution and Paleontology. He was considered by the faculty members, students and all zoologists of the country as a "Walking Encyclopedia", from whom everyone, anytime could receive information and advice. His diverse and wide outlook emerged from the beginning of his research career. In 1929 he began publishing comprehensive papers on the experimental embryology of the amphibians and continued to work in this field for nearly 50 years. In this year he also began publishing papers on experimental development and cytology of Lepidoptera.

Bytinski was one of the first scientists writing about the influence of hormones on the development of insect organs. In 1933 he published a paper about experiments with lepidopteran hybrids (Untersuchungen an Lepidopteren-hybriden II. Entwicklungsphysiologische Experimente über die Wirkung disharmonischer Chromosomenkombinationen. Archiv für Entwicklungsmechanik der Organismen 129:356-387). In his experiments he transferred ovaries from pupae of Celerio euphorbiae to pupae of Celerio galii. He found that the development of the implant was synchronised with the development of the host. If the host is diapausing, the implanted ovaries will also interrupt their development. The ovaries were implanted in the body cavity of the host without direct connection with the host's organs. Bytinski concluded that an impulse from the nervous system of the host may induce in a special gland, the production of a hormone. This hormone when circulating with the haemolymph through the body of the host, may influence the development of the implant.

From 1934, Bytinski began publishing faunistic papers. He wrote on the Lepidoptera of Sardinia, Asia Minor and Iran. After his arrival in Israel, his faunistic studies expanded to different orders and families. The most important are about the Cerambycidae, Sphecidae, Vespoidea and Halictidae of Israel. Other fields of his studies were Zoogeography and Plant Protection. A full list of his publications until 1969 was published in Volume IV (2) (1969) of ISRAEL JOURNAL OF ENTOMOLOGY.

Bytinski was the best insect collector in Israel. Every entomologist was eager to join him on his collecting trips. I remember a trip with him to Ein-Gedi at the Dead Sea in 1957. We had no car, so we travelled by a public bus to Sedom. From there we hitch-hiked on a lorry carrying ice blocks to Ein-Gedi. We sat on the ice and arrived nearly frosen, but Bytinski's enthusiasm for collecting infected me and we had a wonderful trip.

The insect collection of Bytinski is the best private collection in the country. At the age of 80 he donated his collection together with his entomological library to the Zoological Department of Tel-Aviv University. The collection is today an important part of the National Collection of Insects of Israel. In addition to insects Bytinski assembled an important fossil collection.

Besides doing research work, teaching and collecting, Bytinski was very active in the scientific community of Israel. He was one of the founders of the Zoological Society of Israel and of the Entomological Society of Israel, and was for many years a member of their executive committee. He was one of the founders of the Israel Journal of Zoology and the Israel Journal of Entomology, and for many years was a member of their editorial boards. He not only edited the Israel Journal of

Entomology, but supported it financially. This support will continue even after his death, thanks to a generous donation made by him in 1984.

For many years Bytinski was a very active member of the Fauna Palaestina Committee of the Israel National Academy of Sciences and Humanities.

Hanan Bytinski-Salz is a great loss to the scientific community in Israel and the world, and he will be remembered as one of the founders of Zoology and Entomology in Israel.

JEHOSHUA KUGLER Department of Zoology Tel-Aviv University

A LIST OF PUBLICATIONS BY H. BYTINSKI-SALZ AFTER 1969 for previous publications, see ISRAEL JOURNAL OF ENTOMOLOGY Vol. IV (2):210-215

- Bytinski-Salz, H. and J. Gusenleitner. 1971. The Vespoidea of Israel (Hymenoptera). *Israel Journal of Entomology* 6:239-298.
- Bytinski-Salz, H. 1972. On the "Genius Loci". Abstracts of the XIV International Congress of Entomology Canberra, p. 97.
- de Beaumont, J. and H. Bytinski-Salz. 1973. The Sphecidae (Hymen.) of Eretz Israel. III Subfamilies: Astatinae, Larrinae, Trypoxyloninae, Pemphredoninae, Crabroninae, Oxybelinae. Israel Journal of Entomology 8:1-26.
- Bytinski-Salz, H. and A.W. Ebmer. 1974. The Halictidae of Israel (Hymenoptera, Apoidea). II. Genus Lasioglossum. Israel Journal of Entomology 9:175-217.
- Bytinski-Salz, H. 1976. Structural alternations in the epidermis and especially the coverplate in anuran tadpoles after osmotic changes. Sixth European Congress on Electron Microscopy, Jerusalem: 574-576.
- Bytinski-Salz, H. 1976. Production of melanophore-free trails in tadpoles of *Pelobates* (Amphibia: Anura). *Israel Journal of Zoology* 25(4):214.



NOTES FOR AUTHORS

Israel Journal of Entomology 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.
 - Bergman, 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 \mathfrak{P} , Israel, Jerusalem, 14.V.1956, on *Ficus carica*, G. Levi (BMNH). Paratypes, $2\mathfrak{P}\mathfrak{P}$, same data as holotype, (USNM); $8\mathfrak{P}\mathfrak{P}$ 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 (16, 19; BMNH); Israel, Haifa, 20.II.1967, *Pistacia vera*, M. Levi (19; ZTV).

REPRINTS

Senior authors are entitled to 30 copies of their paper free of charge. Additional reprints may be ordered at the time the proof is returned.

CORRESPONDENCE

Manuscripts submitted for publication should be addressed to the Editor in Chief.

t.

SUBSCRIPTIONS

Correspondence for subscription address to: Secretary, Entomological Society of Israel, P.O.Box 6, Bet Dagan 50200, Israel.