

# Publications of the **BUREAU OF HYGIENE AND TROPICAL DISEASES**

- **Tropical diseases**
  - **Communicable diseases**
  - **Environmental health**
  - **Community health**

Each month the Bureau of Hygiene and Tropical Diseases publishes two complementary journals of selected and critical abstracts of relevant papers published in over 1100 journals, as well as book reviews, authoritative review articles and citations of governmental and other reports.

The Bureau's panel of over 200 abstractors consists mainly of university and research experts, and papers in most languages are abstracted into English. Abstracts are grouped according to organism or theme. Because abstracts of selected papers, often with critical comments, are published, these two journals represent an indispensable guide to the literature.

- **Tropical Diseases Bulletin**

emphasizes those aspects of particular relevance to tropical and subtropical countries and includes sections on medical parasitology, medical entomology, insecticides, venoms and community health, in addition to the main sections of tropical and communicable diseases. About 3000 selected abstracts are published each year.

- **Abstracts on Hygiene and Communicable Diseases**

covers aspects of health and disease of worldwide importance and includes sections on health services, food hygiene and poisoning, environmental pollution, as well as the major sections on bacterial, viral and other communicable diseases. Over 4000 selected abstracts are published each year.

For further information please write to The Director, Bureau of Hygiene and Tropical Diseases, Keppel Street, London WC1E 7HT, England. A free copy of either publication is available on request.

SAVE \$800 BY ORDERING BEFORE 31 AUGUST 1984

# Comprehensive Insect Physiology, Biochemistry & Pharmacology

Editors:

GERALD A KERKUT and LAWRENCE I GILBERT

The most authoritative, up-to-date reference source in Insect Science and its applications ever compiled

To be published Autumn 1984 in 13 volumes

- \* Over 8,000 pages (245 x 190mm) published simultaneously in 13 handsomely and sturdily bound volumes
- \* 40,000 literature references covering the years 1950 to 1983
- \* Detailed subject, species and author indexes in every volume
- \* In addition Volume 13 is a complete index to the material, authors and species in the preceding twelve volumes
- \* Includes 200 articles by 240 of the world's leading researchers and practitioners
- \* Extensively illustrated — over 1400 electron micrographs and photographs + 2000 line illustrations
- \* Special emphasis is given throughout to the control of insects of medical and agricultural importance

An indispensable source of reference for research workers and practitioners in university departments, agricultural and medical institutes, and research laboratories and field testing stations in the agrochemical and pharmaceutical industries.

To be published Autumn 1984

**Special reduced price for orders received before 31 August 1984**

0 08 030763 9 **\$1950.00**

Regular price

0 08 026850 1 **\$2750.00**

Prices subject to change without notice. US dollar prices quoted are valid for all countries except Australia, Austria, Canada, Central and South America, Germany (BRD) and New Zealand. Prices for customers in these countries are available from the appropriate Pergamon office. Sterling prices are available to UK and Eire customers on request.



**PERGAMON PRESS**

Headington Hill Hall, Oxford OX3 0BW, UK Fairview Park, Elmsford, New York 10523, USA

# Insect Science and its Application

The International Journal of Tropical Insect Science

## Aims and Scope

*Insect Science and its Application* deals comprehensively with all aspects of scientific research targeted on tropical insects (and related arthropods), and the application of new discoveries to such diverse fields as pest and vector management and the use of insects for human welfare.

A distinctive feature of the journal is its multi- and interdisciplinary nature, which transcends the traditional boundaries of entomology.

Its second feature is its concentration on the recording and reviewing of the progress of insect science in the tropical and subtropical regions of the world. Thus, without excluding any area of the wide field encompassed by insect science, the journal will accept manuscripts in environmental physiology, the regulation of development and reproduction, population modelling, chemical ecology, natural products chemistry, plant resistance, host/insect relations, behaviour of tropical pest species, epidemiology of tropical diseases, vector biology, pest and vector management research, entomo-meteorology, insects in relation to farming systems, forest entomology, insect pathology, social insects and arthropods, and the use of insects. It is the intention of the Editors to have manuscripts published rapidly, consistent with the needs of quality control.

In addition to articles of original research, the journal also publishes book reviews, announcements and reports of meetings and mini-reviews. Each regular issue of the journal contains a short review article on a critical or rapidly developing area of tropical insect science; normally the Editors will have invited an author to contribute such a mini-review.

## Information for Contributors

1. All papers for publication in *Insect Science and Its Application* should be submitted directly to the Editor-in-Chief, Professor Thomas R. Odhiambo, Scientific Editorial Services, P.O. Box 59900, Nairobi, Kenya. Papers should be mailed in a strong, preferably linen, envelope, as they may otherwise arrive in a damaged condition.
2. Papers should be in English or French and be original contributions in the field of tropical insect science. Each paper should have a summary in the form of an abstract in both English and French.
3. Submission of a paper implies that it has not been published previously, that it is not under consideration for publication elsewhere, and that if accepted for *Insect Science and Its Application* the authors will transfer copyright to Pergamon Press as is customary. Articles and illustrations become the property of the journal. There is no page charge for papers accepted for publication.
4. Manuscripts and illustrations must be submitted in triplicate to ensure efficient refereeing, and the author should retain a copy. In the case of multiple authorship the authors should indicate who is to receive correspondence.
5. Manuscripts must be typewritten with double spacing (including the reference list), and with wide margins on one side of the paper only. Authors are requested to keep their communications as concise as possible. Footnotes should be avoided, and italics should not be used for emphasis. A running head of not more than 30 letters should be supplied.
6. Twenty-five free reprints will be supplied to the first named author of each paper published in the journal. Detailed Instructions to Authors for the preparation of manuscripts are available from the Editor-in-Chief or the Publishing Office.

# Insect Science and its Application

The International Journal of Tropical Insect Science

VOLUME 5 NUMBER 3

1984

## CONTENTS

### SPECIAL ISSUE PERCEPTION AND MANAGEMENT OF PESTS AND PESTICIDES

- |                                     |     |  |
|-------------------------------------|-----|--|
| E. J. TAIT                          | 139 | Foreword   |
| DAVID PIMENTEL and DAVID A. ANDOW   | 141 | Pest management and pesticide impacts  |
| DALE G. BOTTRELL                    | 151 | Government influence on pesticide use in developing countries  |
| TANYA ABRAHAMSE and ANGELA M. BRUNT | 157 | An investigation into pesticide imports, distribution and use in Zambia with special emphasis on the role of multinational companies |
| I. FAGOONEE                         | 175 | Pests, pesticides, pesticide legislation and management in Mauritius   |
| E. M. TUKAHRWA                      | 183 | Pesticides and their utilisation. A profile for Uganda   |
| IQTIDAR H. ZAIDI                    | 187 | Farmers' perception and management of pest hazard. A pilot study of a Punjabi village in Lower Indus Region                          |
| I. FAGOONEE                         | 203 | Pertinent aspects of pesticide usage in Mauritius  |
| OLUWAYOMI D. ATTEH                  | 213 | Nigerian farmers' perception of pests and pesticides   |
| K. L. HEONG                         | 221 | Pest control practices of rice farmers in Tanjong Karang, Malaysia   |
| M. W. SERVICE                       | 227 | Problems of vector-borne diseases and irrigation projects  |
|                                     | 233 | New patents  |

This journal is now listed in  
*Current Awareness in Biological Sciences*.  
Send to your nearest Pergamon office for  
a free specimen copy.

ISSN 0191-9040  
ISIADL 5(3) 139-236 (1984)