

Annals of Entomology
Vol. 40 (02) December 2022

Abstracted/Reviewed in :
U G C approved / Refereed Journal
(Group-II of UGC-CARE list)
Web of Science (Clarivate Analytics)
CAB Abstracts (CABI)
EBSCOhost
NAAS rating for 2022 : 4.22
Indian Science Abstract
Agrindex (FAO)
Current Awareness in Biological Science
Entomology Review (Moscow)
Review of Applied Entomology
CONNECT JOURNALS

JOURNALS PUBLISHED BY US



Publishing - Distribution - Hosting by

CONNECT JOURNALS

D-189, Ramprastha Colony
PO Chander Nagar
Ghaziabad - 201011
INDIA

E : contact@connectjournals.com
W: www.connectjournals.com

www.connectjournals.com/ae

ISSN 0970-3721

Annals of Entomology

(An International Journal of Entomology)

Volume 40

December 2022

No. 02

Included in Group II of UGC-CARE list
(Web of Science (Clarivate Analytics) - Biological Abstracts, BIOSIS Previews, Zoological Record)
NAAS rating (2022) : 4.22



Publishing and Hosting by
CONNECT
Journals
www.connectjournals.com

Annals of Entomology • Vol. 40 No. 2 • December 2022 • 55 - 136

ANNALS OF ENTOMOLOGY

(An International Journal of Entomology)

The journal "Annals of Entomology", was established in 1983 to to promote the research i the field of Entomology. It publishes original research papers, review works and short communications on all fundamental and applied aspects of insects, ticks and mites of agriculture, public health, veterinary, storage, forestry, forensic and biodegradation significance. This bi-annual journal is published in the months of June and December each year, in Print and Online versions.

Editor-in-Chief

Dr. Opendar Koul

Director, IBRC, Jalandhar, 144003, India and

Adjunct Professor, Kasetsart University, Bangkok, Thailand

E-Mail: okoul@koulresearch.org

Editors

Dr. R. A. Balikai

Department of Entomology, University of
Agricultural Science, Dharwad – 580005, India.
E-Mail: rabalikai@gmail.com

Dr. S. K. Das

ICAR-National Organic Farming Research
Institute
Gangtok, Skkim, India
E-Mail: shaon.iari@gmail.com

Dr. Gundappa

Scientist (Agril. Entomology), ICAR- Central
Institute for Subtropical Horticulture
Lucknow-226101, India.
E-Mail: gundu6100@gmail.com

Dr (Ms) Vinay Kalia

Principal Scientist, Division of Entomology,
IARI, New Delhi-110001, India
E-Mail: vkalia@iari.res.in

Dr. M. H. Kodandaram

Principal Scientist (Agric. Entomology), ICAR-
Indian Institute of Vegetable Research, P.O.
Jakhini Varanasi-221305, Uttar Pradesh, India.
E-Mail: kodandaram75@gmail.com

Dr. Hristina Kutinkova

Department of Orchard Management and Plant
Protection

Fruit Growing Institute

Ostromila 12, 4004, Plovdiv, Bulgaria
E-Mail: kutinkova@abv.bg

Dr. K. Ramaraju

Department of Agricultural Entomology, CPPS,
TNAU, Coimbatore, India
E.Mail: kramaraju60@gmail.com

Dr. Srinivasan Ramasamy

World Vegetable Center
60 Yi Ming Liao, Shanhua
Tainan 74151, Taiwan
Republic of China
E-Mail: srini.ramasamy@worldveg.org

Dr. Omer A. Shalaby

Biology Department, College of Medicine,
Imam Abdulrahman BinFaisal University, KSA
E-Mail: oshalaby@aust.edu.lb

Dr. Mukesh K. Dhillon

Division of Entomology
ICAR-Indian Agricultural Research Institute
Pusa, New Delhi 110 012
E-Mail: mukeshdhillon@rediffmail.com

Dr. Kathirvelu Baskar

Department of Ecotoxicology
Ross Lifescience Ltd. - OECD GLP
Pune- 411026
Email: suribaskar@hotmail.com

ANNALS OF ENTOMOLOGY

(An International Journal of Entomology)

Published since 1983

ISSN 0970-3721

About the Journal

The journal **Annals of Entomology**, was established in 1983 to promote the research in the field of Entomology. It publishes original research papers, review works and short communications on all fundamental and applied aspects of insects, ticks and mites of agriculture, public health, veterinary, storage, forestry, forensic and biodegradation significance. This bi-annual journal is published in the months of June and December each year.

The journal is supported by eminent Advisory Board from different universities. All manuscripts are reviewed by experts of the related field. All publication rights have now been taken over by **CONNECT JOURNALS**. The journal will be published in Print as well as Online versions.

Guidelines to the Authors for submission of Manuscript

Manuscript All papers should be in English. Papers should be typed double-spaced with 1-inch wide margins on all sides with full title, abstract, abbreviated title for running headlines (up to 35 characters), 4 to 6 keywords, references and figures. Except for reviews, each paper should be presented in the order of Abstract, Keywords, Introduction, Materials and Methods, Results, Discussion, Acknowledgements, References, Tables and Figure captions. References in the text should follow the Harvard style of article writing.

The title page should include, in addition to the title, the surnames and initials of each author followed by his or her department, institution and address including postal code and country and email address. Please indicate the author for correspondence, whose mobile number and E-mail ID should be included. The present address of authors should appear as a footnote if different. The title page should also indicate the number of manuscript pages, figures and tables.

Keywords Four to six keywords should be listed in alphabetical order at the bottom of the title page.

Abstract This should be no more than 200 words in length, should summarize the significant findings and should not contain any references.

Text headings Text headings should be typed as **FIRST-LEVEL HEADING, Second-Level Heading, Third-level heading.**

References References should follow the pattern given below

For research papers:

Mound L.A. 2005. The Thrips orientalis group from South-east Asia and Australia: some species identities and relationships (Thysanoptera, Thripidae). *Aust. J. Entomol.*, **44**, 420–424.

For Book Chapter:

Miller, G. L. and Foottit, R. G. 2009. The taxonomy of crop pests: The aphids. In: Foottit, R. and Adler, P. (eds.). *Insect Biodiversity: Science and Society*, Blackwell Publishing, Ottawa, pp. 463-473.

For book:

Hoy, M.A. 2003. *Insect Molecular Genetics. An Introduction to Principles and Applications*. Second edition. Academic Press/Elsevier, San Diego. .

Figures All figures should be numbered with consecutive Arabic numbers, have descriptive legends, and be mentioned in the text. Keep figures separate from the text, but indicate an approximate position for each figure in the margin. The quality of line drawings and photographs must be of high enough standard for direct reproduction. Photographs intended for halftone reproductions must be good glossy original prints of maximum contrast. A list of figure legends with relevant figure numbers be typed on a separate sheet and included with the typescript.

Tables Tables should be consecutively numbered with Arabic numbers and have a clear descriptive title at the top. Explanatory table footnotes (designated by superscript lower case letters) typed below the table are acceptable.

Abbreviations and Conventions Use of abbreviations should be as per the Systeme Internationale symbols.

Information for Authors

Submission Manuscripts should be submitted online at <https://publishatcj.com> where further information on the process of submission and registration is available. All Correspondence and Status relating to the submission will be available online on this system. In case of any problem relating to submission, you may write us at info@PublishAtCJ.com.

Plagiarism The papers are required to be plagiarism checked as per International requirements.

Review Policy This is a peer reviewed journal with double reviewing policy. The editorial board members in relevant area of expertise will review the manuscript through *Online Editorial Management System* (OEMS) at <https://publishatcj.com>. The comments of the reviewers are then communicated to the authors. Minor revisions may be handled by the Editorial Office. It is a good idea to get your paper refereed by one of your colleagues before submitting to the Journal. However, the final acceptance of the article will be at the sole discretion of the Chief Editor.

Copyright Submission of a paper will be taken to imply that it represents original work not previously published, that is not being considered elsewhere for publication, and that if accepted for publication, it will not be published elsewhere in the same form, in any language, without the consent of the publisher. It is a condition of acceptance by the editor-in-chief of a typescript for publication that the publishers automatically acquire the copyright of the manuscript.

The statements, inaccurate data, opinions and views expressed by the authors in articles are of their own and not of this journal. The editors or publishers of the journal will not be responsible for the authenticity of data and results drawn by authors.

Proofs: The page proofs to authors will be provided through online platform at <http://publishatcj.com>.

Reprints: The corresponding author will receive an electronic reprint of their paper for non-commercial use.

Paper Processing and Issue Charges: Authors have to pay for Paper Processing and Issue Charges; wherein the paper has been published. To promote the journal, authors must recommend the journal in their institutional library; for greater access and benefit to other researchers, and also to increase citation of the article in the journal.

Subscription details are available at <https://www.connectjournals.com/ae>