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# Molecular Identification of Mosquito Vectors and Their Management

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Highlights various methods to identify mosquito vectors of public health importance

Discusses effective strategies for mosquito control including biocontrol's and nanotechnology

Elucidates the use of microbial agents and phytochemicals as insecticides for the management of mosquito vectors

Emphasizes the advent of nanotechnology in the field of mosquito biology and their management

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## About this book

This book summarizes the recent advancements in identifying the mosquito vectors and discusses various strategies for their control.

The book describes various molecular taxonomic methods, including DNA barcoding and single nucleotide polymorphism-based machine learning approach, which are used for the identification of mosquito vectors.

It also presents the various mosquito control methods, namely, phytochemicals, *Bacillus thuringiensis* toxins, nanotechnology, biological control agents, and environmental management strategies. It also highlights the importance of various repellents that are used for protection from different kinds of mosquito vectors.

Finally, the book offers a comprehensive yet representative description of challenges associated with mosquito vector-borne diseases. The book is a useful resource for medical entomologists, health workers, and researchers working in mosquito-control and vector-borne diseases.

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## Keywords

**Mosquito vector identification** **Nanotechnology** **Biological controls**

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## About the editor

**Dr. Tapan Kumar Barik** is working as an Assistant Professor in the Post Graduate Department of Zoology, Berhampur University, India. He has received Ph.D. from the Center for advance study in Zoology, University of Delhi, New Delhi, India. Previously, he has worked as a Project Coordinator at the National Institute of Malaria Research, an ICMR Institute to coordinate the research activities of World Bank-funded projects on mosquito biology. He was awarded Raman post-doctoral research fellowship by the University Grants Commission (UGC), Govt. of India. His research interests are focused on Entomology, Molecular Biology, Radiation Biology and Nanotechnology. He has contributed 13 book chapters in the national and international books and published 42 research/review papers in National and International journals of high repute. He is an editorial board member of several scientific journals, namely Advances of Entomology, Discourse Journals, Immunology and infectious diseases etc. He is a member of many international and national scientific societies and organizations, importantly, American Nanosociety and National Academy of Vector-Borne Diseases, India.

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