

BOOK REVIEW

Mosquitoes and their control

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Several excellent treatises have dealt with European mosquitoes on a country or regional basis, but this is the first continent-wide treatment of the subject. It is also one of the few attempts to bring together such wide ranging aspects as mosquito systematics and mosquito control.

A minor criticism of this beautifully presented book is the title that gives the impression that it deals with these blood-feeding insects globally. What it does do in an admirable way is to concentrate, in detail, on their presence in the continent of Europe. In that respect it fills a most valuable role and will be appreciated by everyone involved in the study and control of mosquitoes throughout Europe and beyond. It will also be an invaluable addition to the bookshelves of all general entomologists, and will become a standard text for university courses focussing on insect vectors in the continent.

Mosquitoes and their control is an authoritative account of both the biology and control of European mosquitoes and contains a multitude of information on the bionomics, systematics, ecology and options for the control of both nuisance species and disease vectors occurring throughout this continent. The material is presented in an easily readable style providing essential information and practical guidance to specialist and general entomologist alike.

Ninety-two species and subspecies belonging to eight genera and eighteen subgenera established in Europe are considered in this book. The importance of mosquitoes in Europe is emphasised, both as causes of human suffering and of economic loss. Although malaria was eradicated from Europe more than half a century ago, the vectors are still present and they must be considered, especially with ever increasing numbers of imported cases of malaria. Recent outbreaks of West Nile fever in parts of Europe also highlight the need to fully understand this important group of insects. The management and control of mosquitoes is essential in many areas of Europe and this aspect is fully discussed.

Following a short introduction setting the scene for those not familiar with this family of insects, the general section contains chapters on mosquito systematics, biology, medical importance with special reference to malaria and arboviruses, and research methods from egg collecting to molecular systematics. It concludes with a chapter on morphology of the immature and adult stages containing clear line diagrams of salient features.

The second section presents fully illustrated morphological identification keys to females, male genitalia and fourth instar larvae, presented for genera and for species within each genus. Commendable features of these keys are the detailed illustrations of diagnostic characters, which leave no room for ambiguity.

The third section is devoted to the morphology, ecology and distribution of each of the European species. It considers in turn details of the diagnostic characters of the female, male and fourth instar larva of each species, together with biological notes and details of distribution. Notes on systematics are given where necessary. The authors have adopted a cautious stance with taxa of uncertain or controversial status awaiting resolution by modern investigative methods, which will undoubtedly prove to have been wise. Indeed, since this book went to print the Far Eastern *Ochlerotatus japonicus* has been found in western Europe and DNA sequencing has necessitated relegation of the taxon *subalpinus* to synonymy with *Anopheles melanoon*, with radical change in the recorded distribution of this species. Other changes are pending and there can be little doubt that the stories of the *Anopheles maculipennis* and other species complexes are far from over. The book presents a valuable baseline from which to measure future acquisition of knowledge.

The fourth and final section is devoted to mosquito control and is essential reading for Public Health, Animal Welfare and Tourist Industry personnel as well as the general reader. All aspects are covered in detail: biological, chemical, physical and integrated control with a chapter on personal protection. The final chapter in this section contains accounts

of recent and ongoing control projects, the methods, equipment and funding arrangement in a number of countries throughout Europe. Most importantly, costs of control in different situations are discussed as a basis for funding arrangements.

Mosquitoes and their control is a valuable tool for vector ecologists, entomologists, and all those involved with mosquito control, biology, ecology, and systematics. It will especially benefit the students and professionals dealing with mosquitoes and their control. Society as a whole stands to gain from improved, environmentally responsible mosquito management programs designed on the basis of the detailed understanding of mosquitoes and their control provided in this book.

The book may be ordered from Kluwer Academic Publishers, Order Department, P.O. Box 322, 3300 AH Dordrecht, The Netherlands or, in the United States, from Kluwer Academic Publishers, Order Department, P.O. Box 358, Accord Station, Hingham, MA, 02018-0358, USA.

Further information on *Mosquitoes and their control* and many other books can be obtained by visiting the publisher's website (www.wkap.com).

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