

Howard, F.W., Moore, D. Giblin-Davis, R.M., Abad, R.G.: **Insects on Palms.** (Ecological Studies 142.) - CABI Publishing, Oxon - New York 2001. 400 pp., 124 figs., 16 colour plates, 17 tables. Hardback, GBP 65.00, USD 120.00. ISBN 0-85199-326-5.

Palms compose one of the largest botanical families, and include some of the tropical most important economic plants. They include many species that are essential components of the natural ecosystems in tropical and other warm regions. Many palm species are also common outdoor and indoor ornamental plants. A team of scientists (led by Forrest W. Howard, Professor of Entomology at the University of Florida's Fort Lauderdale Research and Education Center) who have long studied pests associated with palms present this most comprehensive reference book on insects on palms with a world-wide viewpoint. The information included in the book is based on the literature published from the early 1800s to the present; the references contain over 1100 entries. In addition to this the text includes many previously unpublished observations of the authors. The book is illustrated by 124 black-and-white drawings, photographs and SM micrographs. A set of 16 colour plates with 92 instructive photographs illustrating most important pests and the damage done by them to the palm trees forms a graphical frontispiece of the publication.

The book reviews the relationships between palms and insects emphasising the similarities in different world regions. The distribution and bionomics of representative insects are discussed according to their feeding sites on palms and their taxonomic groups. The book contains 8 chapters. The introductory chapter serves to familiarise the reader with phytophagous insects and palms as their host plants in general. The author pays a special attention

to ecology, anatomy and taxonomy of the members of palm family, as well as to their economic importance. Following 4 chapters form a substantial part of the book. They are devoted to defoliators (*Lepidoptera*, *Coleoptera*, *Orthoptera*, *Phasmida* and *Hymenoptera*), sap-feeders (*Hemiptera*, *Thysanoptera* and phytophagous mites), insects of palm flowers and fruits, and borers of palms. Host and distribution records for the most extensively represented insect families on palms are presented in the form of tables. Last 3 chapters deal with practical aspects, namely population regulation of palm pests, principles of insect pest control on palms, and field techniques for studies of palm insects. The text is seasoned with a set of 13 boxes containing brief essays, each related to a special topic covered in the particular chapter. It should be noted that the book does not deal only with pests, attention is also paid to the beneficial pollinators and predators and their roles in ecology and biological control of harmful arthropods. The book is well written and produced, and is provided by an extended subject and species index.

Generally, the publication is a comprehensive source of information and essential reference not only to those who are interested in insects, but also to botanists who study broader aspects of ecology of these unique trees. It can be recommended to tropical biologists and agriculturists, as well as to a broader readership including horticulturists, biological conservationists, palm nursery growers and all students of the natural history of warm regions.

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