

OSAWA N. 1989: Sibling and non-sibling cannibalism by larvae of a lady beetle *Harmonia axyridis* Pallas (Coleoptera: Coccinellidae) in the field. *Res. Pop. Ecol.* **31**: 153–160.

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BOOK REVIEW

QUINTERO D. & AIELLO A. (eds): INSECTS OF PANAMA AND MESOAMERICA: SELECTED STUDIES. Oxford University Press, Oxford, 1992, 692 pp. ISBN 0-19-854018-3.

This collection, containing mainly systematic and ecological works on insects inhabiting the southern part of Central America, is the first book on this topic since Godman and Salvin's *Biologia Centrali-Americana* (1879–1915). In 42 chapters, 52 contributors from eleven countries introduce the geology and biogeography of the region and the taxonomy and natural history of 20 insect orders (or their divisions) and of springtails (Collembola).

Some orders, especially the smaller ones, are completely elaborated, with a summary of their taxonomy, morphology, biology, biogeography, and ecology. Identification keys, numerous excellent drawings, and black-and-white photographs are included. In some chapters, new species are described as well.

The taxa extensively elaborated here are: Collembola, Ephemeroptera, Odonata, Plecoptera, Embioptera, Orthoptera (Tettigoniidae, Gryllidae, Gryllotalpidae), Isoptera, Zoraptera, Dermaptera, Psocoptera (Psocidae: Thyrsopterinae), Thysanoptera, Homoptera (Psylloidea-larvae), Heteroptera (Gelastocoridae, Gerridae, Mesoveliidae, Saldidae, Veliidae), Coleoptera (Pselaphidae, Passalidae, Chrysomelidae: Cassidinae, Strepsiptera), Neuro-

ptera, Megaloptera, Hymenoptera (Mutillidae, Formicidae: *Cyphomyrmex*, Apidae: Meliponinae), Trichoptera, Lepidoptera (Hedylidae, Nymphalidae), Mecoptera (Bittacidae), Diptera (Pantophthalmidae, Asilidae, Pipunculidae: *Cephalosphaera*).

Some chapters of the book present selected ecological studies on Panamanian insect fauna, such as behavioral ecology of Pseudostigmatidae (Odonata), the distribution and seasonality of Cicadoidea (Homoptera), host plant relationships in Membracidae and Nicomiidae (Homoptera) and in Attelabidae (Coleoptera), reproductive behavior and food plants of Uraniidae (Lepidoptera), sound production in *Hamadryas*, and dry season strategies in *Anartia* and *Pierella* (both Lepidoptera: Nymphalidae).

Although the book is far from comprehensive in its coverage of the larger insect orders, it represents a useful guide for scientists, students and interested laymen who want to know where to locate some familiar groups and how to identify the species, and to learn about their natural history. Information about the life of the most diverse animal class helps us to appreciate and to want to protect a unique marvellous ecosystem – the tropical forest.

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