

Book review

The bugs are coming — a book of Miridae

Wheeler, A. G., Jr. 2001: *Biology of the Plant Bugs (Hemiptera: Miridae)*. — Cornell University Press, Ithaca, New York. 507 pages. ISBN 0-8014-3827-6. Price \$95 (Cloth : alk. paper).

Alfred Wheeler has accomplished writing a comprehensive work on Miridae, a very large and agriculturally important group of insects found all over the world. Having about 10 000 described species, Miridae are considered the largest heteropteran family. In the foreword of this book, Sir Richard Southwood discusses why mirids have been so neglected compared with other comparably abundant groups and believes that the comprehensive account of their biology given will surely increase interest in them. As facultative predators, most of the mirid species are difficult to fit in simplistic models of predator-prey systems in theoretical ecology. This has probably limited the interest of ecologists in this group. Also, difficulties in handling and breeding them in laboratory conditions have limited their success as experimental animals. Therefore, it is surprising that the few successful recipes of rearing mirids on artificial food have only been discussed in two short paragraphs even though the feeding habits of mirids takes two hundred pages.

The book is divided into five parts, starting with background information on mirids and on their higher classification and gives a historical sketch on their feeding habits and host plants. In the second part, the author gives an overview of family characteristics and identification and discusses the ecology, behaviour, morphology and

physiology, and reports thoroughly on the behaviour of mirids in relation to plant feeding. Furthermore, the relationships of mirids to plant diseases are also treated. Wheeler also suggests that as a highly diverse insect group, mirids have a high indicator value to conserve biodiversity.

The third and fourth parts deal with the feeding of mirids on both plant and animal matter. From the agricultural point of view, the plant bugs may be both pests of crops and natural enemies of plant pests and also possible biological control agents of weeds. Plant feeding is grouped according to crop; mirids are significant pests of many globally important crops, such as cotton, alfalfa, cocoa, coffee, fruit trees, ornamentals, etc. Because of this high economic significance, it is understandable that feeding habits are the main focus of the book with colour plates illustrating symptoms of feeding injury. Conclusions and future research needs are then given and discussed in the last part. Both basic and applied studies are needed. At the end of the book, some appendices containing name lists of mirids and plants mentioned in the text, a glossary, and a bibliography containing more than one hundred pages of references (not even publications in the German language are overlooked) are given.

The book contains a huge amount of knowledge and is valuable especially to both general and applied entomologists. The author quotes R. H. Arnett, Jr.: "It takes a long time to write a book, but it takes even longer to decide what is to be included ... and what is to be left out." This must have been very true when making this book. This long awaited book was definitely worth waiting for.

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