Book review

H. Klomp and J. T. Wiebes (Eds), 1979. Sluipwespen in relatie tot hun gastheren. Centrum voor Landbouwpublikaties en Landbouwdocumentatie (Pudoc), Wageningen. 178 pp., 71 fig. ISBN 90 220 0690 5. Price Dfl. 19.50.

This book comprises seven lectures given during the symposium Biosystematics of Insects and Population Biology' (in Dutch) on December 15 and 16, 1977 at Wageningen, organized by the Foundation for Biological Research. It is not meant to be a standard work on parasitic Hymenoptera but contains the lectures, revised by the speakers, in a logical order.

Chapter 1 (J. T. Wiebes, A. A. Wiebes-Rijks and C. van Achterberg) deals with the phylogeny of Ichneumonidae, Chapter 2 (K. W. R. Zwart) with biosystematics and Chapter 3 (J. van den Assem) with their ethology. Chapters 4 (H. Klomp), 5 (J. C. van Lenteren and K. Bakker) and 6 (K. Bakker and J. C. van Lenteren) are concerned with population biology and provide more extensive information on host-parasite relationships. Chapter 7 (P. Gruys) discusses biological control with the aid of Ichneumons. A glossary, a list of references and a species index complete this book.

Although Ichneumons is a rather specialized subject nowadays, it seems inevitable that even a book of limited scope like the present one is written by a number of specialists. It therefore shows the usual differences in style and quality inherent to such a formula. Nevertheless it clarifies within a small compass that different evolution hypotheses are feasible to explain the present fauna of Ichneumonidae, that our biosystematic knowledge is bound to be still fragmentary, that roughly estimated 40 000 out of 60 000 Ichneumonidae species have not yet been described, that the number of variations in the host-parasite complex is enormous, that very ingenious defense mechanisms exist, which, however, can be overcome by the Ichneumons, and that experienced females, once having encountered unparasitized hosts will not lay their eggs in already parasitized ones. In the Netherlands Ichneumons (especially *Encarsia formosa*) are successfully applied against white fly (*Trialeurodes vaporariorum*) in glasshouses, especially on tomato and egg-plant. More examples of successful application of Ichneumons are given.

Not every chapter has a clear summary. Some of the figures do not have a caption. In these cases one is (not always) referred to the text. If the authors had read each others contributions carefully, perhaps a few inaccuracies would have been avoided in text and tables. Besides supplying a lot of information, the book teaches us two lessons: a. Both the theoretical evolutionary biologist and the practitioner applying biological control need a thorough biosystematic knowledge, something which is easily forgotten by many 'technical biologists'. b. Direct observations of behaviour are very important for the study of ecological processes. Final percentages of parasitization are insufficient data for constructing models.

The last chapter urges in an interesting way for more activity in the field of biological control in Western Europe.

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