

BOOK REVIEW

Ecology of Aphidophaga. Proceedings of the 2nd symposium held at Zvikovské Podhradí, September 2-8, 1984. I. Hodek (Ed.). Series Entomologica 35, Dr W. Junk, Dordrecht, The Netherlands and Academia, Prague, Czechoslovakia, May 1986, 562 pp. Dfl. 300.00/£stg 83.25/US\$127.50/A\$169.25.

"Ecology of Aphidophaga" is a publication of the proceedings of a symposium, held at Zvikovské Podhradí, Czechoslovakia, in 1984, to confer on the effectiveness of aphidophagous parasites, predators and pathogens in controlling aphid pests, and on means for their successful manipulation. This was the second symposium of its kind. The first was held at Liblice, Czechoslovakia, in 1965. Most of the 72 participants listed were from Europe, and 5 attended from Australia.

The 85 papers presented appear under 5 convenient headings: Food Ecology/Ethology (18); Diapause/Life Cycle Strategies (18); Distribution in Habitats (14); Evaluation of Effectiveness (28); and Natural Enemies of Aphidophaga (6). Five of the papers are termed "minireviews" and 5 are intended as summaries. A quarter of all the contributions report on natural enemies in general, with emphasis on predators. More than half are concerned exclusively with Coccinellidae (Coleoptera). The parasitic Aphidiidae (Hymenoptera) merit a dozen papers, the Syrphidae (Diptera) 3, and some other aphidophages and attendant ants only one each.

It is not possible to comment on all of the topics covered. Most interesting is the short report by Němec and Starý that a polyphagous species of Aphidiidae may show different enzymatic frequencies when reared from different aphid hosts, a further indication of the existence of host-specific genotypes within polyphagous populations. And Mackauer and Kambhampati, in the only invited paper listed, tell the story of the decline in the incidence in North America of the parasite *Aphidius smithi* Sharma and Subba Rao, introduced there as a biological control agent of *Acyrtosiphon pisum* (Harris). They suggest that the decline could be due to displacement by *Aphidius ervi* Haliday, a subsequent introduction. Milne describes the successful establishment and spread in New South Wales of *A. ervi*, introduced into Australia to combat *Acyrtosiphon kondoi* Shinji on lucerne, and Wellings seeks to show experimentally that *A. ervi* has the potential to be a useful control agent of *A. kondoi* (though the interested field observer needs no convincing). Surprisingly, under the experimental conditions, *A. kondoi* performed better on 2 tolerant lucerne cultivars, CUF 101 and Siriver, than on the susceptible cv., Hunter River.

Good coverage is given to foraging behaviour in predators and to the significance of palynophagy, mycophagy and sibling egg cannibalism in the subsistence of so-called aphidophagous coccinellids. The enigma of diapause is, inevitably, considered at length, especially in coccinellids and in association with their migratory and aggregative behaviour; but the enigma remains, amidst lack of clarity as to what constitutes diapause and what is dormancy. The knowledge of Australian coccinellids in these respects is detailed by Anderson and Hales. Ružička and Hagen report on the markedly reduced flight capabilities of the coccinellid *Hippodamia convergens* Guérin when parasitised by 1st instars of the braconid *Perilitus coccinellae* (Schrank).

Because of the overlapping nature of generations of aphids, and the large numerical fluctuations consequent upon their extraordinary environmental responsiveness, any assessment of the impact of their natural enemies is extremely difficult. The large "heterogeneous assemblage" (page 345) of contributions on distribution and evaluation of aphidophages reflects this difficulty. Dixon in his summing-up calls for less confirmatory fact-collecting in favour of a more analytical approach, and more research on the less easily studied adults, which, for example, are so important in host location and progeny placement. Why, for instance, have the obviously effective Syrphidae been so neglected? Mackauer wants a reappraisal of how populations interact and van Lenteren recommends in the meantime a continuation of the trial-and-error method of biological control. Their calls should be heeded. Perhaps the next symposium (to be held in Spata, Poland, 31 August-5 September 1987) could address itself primarily to the problems of standardisation of evaluation methods, and to the possibilities of large scale collaboration and resource-pooling, so as to avoid the present piecemeal, non-comparable approach so clearly evident in this volume.

Although scientifically sound, "Ecology of Aphidophaga" is a publication to be deplored. The title promises comprehensiveness and one is disappointed. Contributions of variable quality have been collected together, dressed up in a costly jacket, given negligible editing, and not-so-speedily published on blotting type paper at a prohibitively expensive price. Some have been or are to be published elsewhere; some are little more than abstracts; others lack the detail and credibility that characterise papers in refereed journals. For instance, methods used are rarely described in sufficient detail. Names of relevant Orders and Families do not appear in the titles and, sometimes, not even in the text, e.g. in the paper reporting on generalised predators. Inconsistencies occur in the provision and presentation of authorities of species' names. (Why not include them once in the Index, and thus avoid the necessity of repetitive inclusion in the texts?) Misspellings, and instances of lazy and unscientific expression are common. Some figures are indecipherable. I suppose that Zvikovské Podhradí is in Czechoslovakia. The book does not tell me so, and I could not find it in my atlas.

To end on a pleasant note—as did the book—pictures are plentiful—though of the participants only!

MARY CARVER

Division of Entomology, CSIRO
Canberra, A.C.T. 2601.