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BOOK REVIEW

SYMONDSON W.O.C. & LIDDELL J.E. (eds): THE ECOLOGY OF AGRICULTURAL PESTS. BIO-CHEMICAL APPROACHES. Chapman & Hall, London, 1996, xiv + 517 pp. ISBN 0-412-62190-8. Price GBP 75.00.

Following an international symposium in Cardiff, September 1994, a collection of reviewed articles were compiled for this book, the 53rd in The Systematics Association Special Volume Series. It focuses information for the technical expertise in three areas – electrophoresis, molecular techniques, and immunological detection systems. The articles show how these techniques may be employed in measuring and understanding interactions between pests, and their hosts, predators, and other organisms. There are examples for solving problems in systematics, population structure, and dynamics.

The scope of the articles, and of the interests of the authors, shows the multidisciplinary of pest management strategies. The immunological techniques enable the biologists (a “green” one, who discovers the problem and collects animals, and a “white” one, who makes the analysis) to solve problems such as the host range in predators of interest and even quantifying predation rate of the target pest. The analysis of DNA may distinguish between sibling species and between subspecific units of pests that may have a different pest status. Most laboratory analyses are followed by phylogenetic reconstruction using cladistics software.

An example is the phylogenetic relationship among populations of the brown planthopper,

Nilaparvata lugens, and related species. DNA analysis, mainly sequencing the internal transcribed spacers between rDNA genes and subsequent phylogeny reconstruction based on parsimony, revealed the monophyly of *N. lugens* and separation of its Asian populations from Australian ones – a possibility for classifying two allopatric species. Moreover, the populations known as pests on rice differed from those living on the wild grass, *Leersia*, in both regions. Thus, the shift in host plant occurred at least two times independently.

The individual chapters are mostly articles in a typical journal structure, with an abstract in the beginning and references at the end, concerning one research item [article numbers 2, 3, 5, 6 (see above), 8, 9, 12, 13, 15, 16, 17, 20, 21]. However, there are review articles useful for general orientation in the area (1, 4, 7, 10, 11, 14, 18, 19). There is a common index, mixed for both taxa and subjects.

Although the book is a collection of high-quality examples of using advanced biological techniques, there remains a question: to whom it should be recommended, to the “white” specialists on the techniques or to the “green” applied field workers, who may need help? For the former ones it may seem too trivial, and for the latter ones too complicated. Anyway, it is clear that the number of studies similar to those presented here will rapidly increase, and those biologists who want to stay in a place must run forward (like the Red Queen of Carroll) with this book on a shelf.

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