

Beyond the above information, the book gives no clue as to where one might obtain a copy. Word from Entomological Reprint Specialists is that they will stock it eventually but have no copies at this writing.

This little carp aside, the book is a gem. The front matter includes a history of the study of South Australian butterflies, short but informative explanations of classification, life histories (and how to study and record them), anatomy, distribution, how to make and keep a collection. In the back of the book is a systematic list of larval foodplants and the butterflies that use them, a lengthy (6 pp.) bibliography, a lengthy glossary (8 pp.), and an index.

The bulk of the book, of course, comprises the species accounts. The butterfly fauna of Australia numbers in all 366 species of butterflies, of which 64 occur in South Australia. Each of them is figured in color, generally both sexes and both surfaces (with full data appended for each figured individual), and thoroughly discussed: references, terse description, larval foodplants, life history, habits, distribution, abundance, seasons of flight. The color photographs of adults are all variously reduced ( $\frac{1}{2}$  to  $\frac{3}{4}$ ), which does not diminish their usefulness except in the smaller species, particularly some of the Hesperidae and Lycaenidae. So much white space surrounds the figures of the latter groups that they easily could have been expanded to life size at no extra cost, and that is unfortunate.

The most outstanding features of this volume, however, are the beautiful black and white illustrations of the living early stages. The photographs are clear and crisp, and unbelievably numerous. As a rough estimate, about 80% of the species are so illustrated, some with supplemental color photographs as well. The figures for each species usually include the egg, larva (often both young and mature), and pupa, in most instances the first published illustrations of them.

The Butterflies of South Australia is clearly aimed at the local collector, who is blessed thereby with a guide that lepidopterists in most other parts of the world would envy: authoritative, detailed, packed with information and good illustrations, stimulating in its frequent mention of subjects still in need of careful study. Mr. Fisher knows and presents his subject well, and I recommend his book heartily to butterfly students, not just in South Australia but wherever they may be, if their interests extend even a little beyond the parochial and the philatelic.

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## BOOK REVIEW

THE BUTTERFLIES OF ORANGE COUNTY, CALIFORNIA, by Larry J. Orsak, 1977. Center for Pathobiology, Museum of Systematic Biology, University of California, Irvine. 349 pp., 7 halftone plates, 56 text figs., 4 maps. Paperback. Price: \$4.00.

This book is more than a regional checklist; it is a treatise on butterflies designed to be independently useful to the beginning collector. The species accounts which form its main body and purpose are preceded by extensive introductory material on classification, variation, structure and behavior; much of it common to most butterfly manuals, but other aspects (e.g., sound production, hilltopping, nectaring) seldom treated outside the periodical literature and consequently less easily available. Several appendices contain additional general information.

In content, therefore, the work is exhaustive and informative. Its organization, however, is another matter. In this respect it suffers certain shortcomings which make its use difficult, especially for one not already familiar with the fauna it covers.

The author evidently enjoyed the luxury of unlimited space. He quotes full label data from Orange County material in several private and institutional collections. Large blocks of these data from the same localities differ only in terms of collection dates and number and sexes of specimens, with the localities repeated in line after line. Surely this could have been condensed with no loss of information.

Text figures, many of them very useful ones of larval foodplants, are often inserted into species accounts with their explanations in the same type face as the rest of the text, so that its smooth flow is interrupted and one must search for the continuation of the main text. This confusing feature could have been eliminated by the use of a smaller type for the figure legends.

But by far the biggest problem is that the genera within each family are arranged alphabetically instead of in scientific order, not only in the main text but in the appended checklist as well. I am entirely unable to comprehend the rationale for this procedure. Thus, in the *Lycaenidae* one finds blues and hairstreaks jumbled together with the coppers in their midst, while among the *nymphalids* such closely related genera as *Cynthia* and *Vanessa* are separated by no fewer than seven others of more distant affinities. The result is a feeling of complete disorientation, making an overall impression of the area's butterfly fauna at a glance very difficult to obtain.

Despite these reservations, all but the last comparatively minor, the book is a mine of information if one is willing to do a little digging, modestly priced and a worthy addition to the literature of the still-rich butterfly fauna of southern California. The author's expressed primary purpose of recording distributions "before habitats are destroyed and the memories of veteran Orange County collectors fade" is very commendable and has been well realized.

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