

## BOOK REVIEW

THE LIVES OF BUTTERFLIES, by Matthew M. Douglas. 1986. xv + 241 pp. 16 pp. color photographs. University of Michigan Press, Ann Arbor, Michigan, U.S.A. Hard cover. \$45.00.

This attractive book is the product of a scientist and teacher whose enthusiasm is contagious. Its strengths include substantive explanations of many aspects of work on butterfly biology, its discussion of experimental and other evidence for scientific conclusions, and its emphasis on scientific literature. The book is rich in clear, often detailed, explanations of work in several major areas: anatomy, development, and evolution of morphological features of life stages; biophysical, physiological, and ecological constraints on life stages and community structure; behavioral, biochemical and ecological aspects of speciation and coevolution with plants. This exposition is accompanied by many black-and-white diagrams (often from published original drawings or photographs), a section of color photographs illustrating activities and morphological characteristics of life stages, a glossary, several appendices, and a useful index. This combination makes the book an engaging, accessible, self-contained store of information.

In addition, the author enhances the book's informational content in two ways. First, he places specific examples in a conceptual context by discussing considerations that underlie specific hypotheses. Explanations of how observations and experimental data are collected contribute to a clear sense of how scientific questions are raised and examined, and why "answers" may be open to alternative interpretations. This aspect of the book reflects the author's experience as a university professor; many of his discussions would make good lecture notes for an advanced undergraduate course. This bold focus on processes of scientific research may be the book's most important contribution to its educational goals. Second, the book's emphasis on recent research literature provides a resource for further study.

The question of readership presents problems for the book. While ostensibly written for an audience that has some background in biology, its attempt to appeal to both lay and professional audiences sometimes creates disconcerting inconsistencies. For example, the author describes "sex-limited mimicry" as a special case of Batesian mimicry in which one sex mimics unpalatable models; he includes a definition of this term in the glossary. Ten pages later, however, "sex-limited" is used colloquially to describe distribution of a trait whose pattern of inheritance is sex-linked. This colloquial use of a term that has specific meaning in genetics is confusing. Similarly, the author emphasizes his personal research experience in a way likely to engage the interest of lay readers. To a professional readership, however, such emphasis is likely to seem egotistical and annoying.

This book thus attempts the dual challenges of engaging and educating a lay readership as well as concisely reviewing recent literature for a professional audience. This is a rarely attempted goal, and the author presents us with a unique solution. The book's value to its potential professional audience lies in its conciseness and timely review of much recent literature. Its appeal to this audience is uncertain, because professors whose students study these research topics in class may assign the original literature rather than this book. However, the author's contribution to explicating butterfly biology and scientific research for a lay audience is a noteworthy success.

F. S. CHEW, *Department of Biology, Tufts University, Medford, Massachusetts 02155.*