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BOOK REVIEW

BUTTERFLIES. Text by Jo Brewer, photographs by Kjell B. Sandved. 1976. Harry N. Abrams, New York. 176 pp., ill. Price: hardcover, \$18.95; softcover, \$9.95, U.S.

In the last few years a number of fine popular volumes with exquisitely colored plates have been published, but none has had such an innovative and refreshing approach as this book. Since it is broad in scope and supplies the necessary basic information for the study of Lepidoptera in the clear, concise manner for which Brewer is duly noted, the book should stimulate an interest in and appreciation for the insect group from a technical as well as an aesthetic point of view. It is well illustrated with 245 photographs (133 in color) and additional line drawings and scanning electron micrographs.

The organization of the book is quite a departure from traditional treatments. There is a section on the economic impact of butterflies on man ("Historical Notes on Butterflies, Moths and Men"). The section on "Butterflies in Art, Heraldry and Religion" which chronicles the symbolic impact of butterflies on man in everyday life and in legend is especially noteworthy. The remaining sections delve into those areas which man finds so curiously fascinating: metamorphosis, ornamentation of the wings, the compound eye and protective devices. The section on the wings not only examines the physical aspects in terms of wing scales, pigmentation and wing formation, but also the mechanics involved in temperature regulation and flight, all through the enchanted photographic eye of Kjell Sandved. In "Protective Devices," deception, warning coloration and camouflage are discussed. There is also a brief explanation of Batesian and Müllerian mimicry, along with a discussion of larval specificity on certain toxic hostplants and the important role which these plants play in mimetic associations.

In such a volume which includes an array of photographs, there are some organizational problems in fitting the plates with the appropriate text. The last 25 pages illustrate further intricate designs and structural iridescence, so intriguing to the natural observer. While these are interesting, they seem somewhat superfluous. In a few cases the identifications are incorrect or not in keeping with current literature such as *Thecla syncellus* (= *Panhiades bitias*).

The above points by no means diminish the utility and significance of this book for its intended audience. Its true value will be realized indeed by the enthusiasm and appreciation generated for this diverse biological group in both aspiring and professional lepidopterists alike.

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