

## BOOK REVIEWS

MICROLEPIDOPTERA PALEARCTICA; VOLUME 2. ETHMIIDAE, by Klaus Sattler. George Fromme & Co., Vienna. In two vols., text xvi + 185 p.; plates, 9 color 97 black & white, each with unnumbered expl. page facing. Dec., 1967. Subscription price: 1,160 Austrian schilling; full price: 1,365 Austrian schilling (about \$58.00). [text in German].

This, the second contribution of the ambitious project which plans to systematically treat and illustrate in color all microlepidoptera of the Palearctic Region, follows the same format set forth in Volume 1, the Crambidae, by the late Stanislaw Blezynski, in 1965. Principles of the project are explained in the forward to Volume 1 (see J. Lepid. Soc., 19: 117-125, 1965).

The treatment of the Gelechioid family Ethmiidae is taxonomically and mechanically accurate and concise throughout. It includes introductory parts dealing with historical development and associated problems in handling material and literature, technical aspects of the work, explanation of taxonomic characters, early stages and bionomics, especially foodplants, and the systematic placement of the family. The systematic portion encompasses 72 species in the genus *Ethmia* in addition to 4 species of uncertain placement and 4 species transferred to other taxa. In synonymizing other previously described genera, Sattler displays a sensible respect for the appreciation of problems of higher category taxonomy on a world basis. He issues a warning that questions of genera should not be answered on the basis of limited knowledge of only the European or other fauna; and he points out that introduction of new generic names inevitably implies distinctions which may not in reality exist. Among 135 species level names, type specimens of 95 were examined during this study; the 76 species which precipitated include 12 previously undescribed, 28 new synonyms, and 5 entities treated as new status at the subspecific level.

Each species is characterized by original citation, type locality, a brief diagnosis of external features and of male and female genitalia, summary of biology and early stages where known, geographical distribution, and other pertinent remarks. Morphological characters are illustrated by excellent drawings, including genital features of both sexes for all species where both are known, and by the incredibly good color paintings done by F. Gregor.

As a matter of format the literature cited is fairly brief. Synonymies consist of original citations only and do not include generic name combination changes. References to subsequent papers are in short form (author-date-page). Not all references are included in the terminal bibliography (e.g., those on p. 19), or else the system is not explained clearly. On the other hand, citations in the terminal bibliography are given in complete form and include reference to the individual species treated.

Geographical distribution summaries are based on specimens examined, with additional information from the literature clearly specified. Moreover, improbable reports are discussed and reports considered clearly false by Sattler are characterized as such. Faunistic compilations are mentioned, but not every local list is recorded.

Similarly, biological information is well documented. Life cycle and hostplant data are summarized (larvae will not be described in any of the volumes according to the preface). In an extensive tabular record of foodplants by *Ethmia* species, Sattler has attempted to verify all doubtful records and has weeded out errors. He emphasizes the need for certainty in identifications of both moth and host in listing foodplant records or other biological features. The widespread practice of uncritical copying of host lists results in a misleading picture when compilations are attempted. He gives the example of 12 citations of *Cerithe* by French, German, and Italian authors causing the impression of widespread use of this plant by *Ethmia pusiella*. In reality the records all trace back to one 1868 observation, and it actually refers to another *Ethmia*. Without Sattler's critical eye the host list would have been

impossible to interpret in assessing biological characteristics of the American fauna. Lepidopterists everywhere should take note of this critical screening of the distributional and biological records, which characteristically are passed down from generation to generation like folklore.

It is surprising that Palearctic ethmiids are so poorly known. One would not have expected a dozen undescribed species of moderate sized moths in a group as colorful as this. The biological scene is very incomplete, and Sattler points out the need for additional knowledge. For example, foodplants are known for only about 23 species (less than 33% of fauna). This is about the same as the state of knowledge in Nearctic and West Indian species, a comparable sized fauna, despite a century or so headstart by European lepidopterists. For many Palearctic species even the generation sequence is not well-known. *Ethmia lybiella* is said to lack the peculiar "anal legs" of the pupa which are characteristic of all Holarctic species groups in the genus, but the 1915 record has not been confirmed. Two species, *E. rothschildi* and *E. pseudoscythrella*, which are exceedingly rare and each known only from one sex, are likely to be diurnal moths which fly in early spring, judging from appearances and what we know of similar species in the western United States. It seems possible that they represent a diversity of overlooked species in arid parts of the Palearctic.

It was a disappointment to this reviewer that the work includes no discussion of possible phylogenetic associations and only cursory treatment of systematic relationships of the ethmiids, a matter which is by no means well defined when one looks at the world fauna of Gelechioidea. However, it can be argued that a faunal study of this nature is not the place for such speculation, and Sattler points out in the introduction that this could not be a detailed monograph owing to its forced scheduling.

An innovation in format which is bound to be well received is the cross-indexing of species references. Each species is assigned a number; there is a systematic checklist in numerical order and an alphabetical list which doubles as an index to species number, page, genitalia figures, and plate numbers. The numbers, given in brackets, also are used to identify foodplant and literature references. There is also an index to geographical places.

A major drawback to the format is the resultant cost. No effort has been made to economize. The quality of materials is excellent, the artwork and reproduction superb, and the high quality binding includes such luxuries as tricolor ribbon-markers. The work is presented in two volumes, which may be advisable for larger groups but was unnecessary for the ethmiids. Evidently in order to justify a separate plates volume, the black and white illustrations are reproduced at a much larger scale than was needed, with much wasted space (sometimes only one genitalia figure per  $10.5 \times 7.5$  inch page), with explanations on a blank opposing page rather than at the bottom of the same page. The 190 pages thus consumed could easily have been reduced to 30–40% that total without any loss of accuracy or clarity to the figures.

Provided that the authorities of Microlepidoptera Palearctica can solicit contributors capable of executing with preciseness comparable to that of Klaus Sattler, they will indeed produce the truly monumental work promised in the forward. Too often in such faunal works temptation to quickly encompass all taxa dictates lax editorial control and selection of specialists of varying ability, resulting in uneven quality from one volume to another. It will be interesting to see if the standard of discrimination and accuracy established in this treatment of Ethmiidae can be maintained.

MICROLEPIDOPTERA PALEARCTICA. VOLUME 3. COCHYLIDAE, by Josef Razowski. G. Fromme & Co., Vienna. In two bound vols.: text, xiv + 525 p.; plates, 27 color, 134 black & white, each with unnumbered expl. page facing. Sept., 1970 (Full price about \$108, subscription price data not available). [text in German]

This volume treats 291 species in 21 genera and 5 species of uncertain placement in the tortricoid family known in the past as Phaloniidae. Although Razowski has published extensively on the group previously and has catalogued the Palearctic species separately in 1970 (*Acta Zool. Cracov.*, 15: 341-399), the present work is said to contain the following nomenclatural additions and changes: 21 new species, 1 new subspecies, 14 new synonyms of genera or new status as subgenera (including 11 Razowski names), 59 new synonyms of species, 7 new status as subspecies, and 39 new combinations.

J. A. POWELL, *Department of Entomology, University of California, Berkeley 94720.*

JAMAICA AND ITS BUTTERFLIES, by F. Martin Brown and Bernard Heineman, illustrated by Marjorie Statham Favreau and others. 1972. xv + 478 p., 11 colored plates. The Curwen Press and E. W. Classey Ltd., London, England. Price: \$44.00 U.S.

This long-awaited work will be a "must" for the amateur of tropical butterflies, for the professional systematist, for those interested in the biogeography of the Americas and for all who delight in a sumptuous natural history, placed in a tropical island setting and illuminated with a wealth of human anecdotes and detailed classificatory and biological information. The book consists of a general introduction, containing historical, environmental and biological background, supplemented by personal reminiscences in Barney Heineman's inimitable style; then there is an extensive account of the biogeography of West Indian butterflies, prepared by Martin Brown, long a student of the area; the body of the book follows, consisting of detailed treatment of the 120 species, with their classification, probable history and biology; the whole is complemented by the set of beautiful and extraordinarily accurate colored plates prepared by Marjorie Statham Favreau and finely reproduced by the Curwen Press. The book as a whole reflects the brilliance and erudition of Martin Brown, the energy and detailed local knowledge of Barney Heineman and the warmly human personalities of both authors.

It would be hard to write a work of this scope without giving some grounds for criticism. To expect an individual with as many competing and compelling interests as Martin Brown, working against a deadline, to write a completely fault-free account of the classification and geography of the Antillean butterflies in the framework of the whole neotropical fauna would be asking a good deal of human nature. A number of errors or questionable interpretations are accordingly evident in the text, though they are far outweighed by the immense value and interest of the material as a whole.

I know less about West Indian butterflies than I did 25 years ago and at the time of writing I lack ready access to a good deal of the literature. Consequently I have not attempted to review the taxonomy and distribution completely, but I feel obliged to pick up a few points.

In the zoogeographic section there are a number of questionable items. The subspecies of *Calisto smintheus* are listed under the Bahaman *C. sibyla*, whose range is given as Cuba. The recent paper by de la Torre y Callejas, who has revised the Cuban populations on the basis of extensive collecting and field work, has been passed over without comment. The statements on the sedentary and forest-loving habits of Satyridae are exaggerated. Several species of *Calisto*, including the Jamaican *C. zangis*, are common in open country and some have been recorded as pests of sugar cane. The continental species of *Hermeuptychia* include forms that are ubiquitous in a wide variety of habitats, and confinement to forests is not a sufficient explanation for their failure to reach the Antilles. Though some of the Hispaniolan species and subspecies of *Calisto* are, as Brown says, closely similar, many of them are very distinct. Most of them are local and as the island has been very