

## BOOK REVIEWS

THE WILD SILK MOTHS OF NORTH AMERICA, by Paul M. Tuskes, James P. Tuttle and Michael M. Collins. 1996. Cornell University Press, Sage House, 512 E. State Street, Ithaca, New York 14850. ix + 250 pages, 30 color plates. Hardcover, 22 × 29 cm., ISBN 0-8014-3130-1. \$75 US.

The Saturniidae, or wild silk moths, have historically captured the attention of lepidopterists and others often attracted by the large size and rich colors of many of these moths that number more than 1200–1300 species worldwide. This beautiful book covers about 70 species in 18 genera that occur within the limits of the continental United States and Canada. The authors' many years of experience with these remarkable insects have been condensed and translated into an easily readable tome replete with black and white photographs, maps, and drawings. Thirty fine-quality color plates illustrate in life-size all adult moths treated and smaller photographs illustrate the last instar caterpillars of all but two species. That the authors were able to rear and photograph so many species of moths reveals just part of the dedication, enthusiasm and labor required to produce this outstanding work.

The authors are well known in the United States for their contributions to saturniid research. Paul Tuskes has published numerous papers on the U.S. Saturniidae; James Tuttle, a police detective-lieutenant, has been an officer of the Lepidopterists' Society, and collects, rears and photographs wild silk moths; Michael Collins is a Research Associate with the Carnegie Museum of Natural History, and is especially interested in speciation and natural hybridization.

The text is divided into two main sections in small print, allowing ample information to be packed in: Part One, entitled Behavior and Ecology, discusses topics such as metamorphosis and development, parasitism, diseases, species concepts and taxonomy, collecting, rearing, and silk moth impact on human culture. Part Two, Species Accounts, contains the color plates, and presents a description of each subfamily (three in U.S. and Canada), genus, and species. Each species receives about one or more pages of coverage, including general comments, adult diagnosis, variation and biology, immature stages and rearing notes. I was gratified to see that the striking photographs of caterpillars were presented in the natural "hanging down" position beneath the limb instead of the reverse, as is often done by other authors. Two appendices list host-parasitoid records and saturniid hybrids. An extensive bibliography of cited literature is especially valuable for the student.

However, there is a tendency to overlook or disregard recent taxonomic opinions and conclusions by other U.S. and international saturniologists. An obvious example is the arbitrary decision to reinstate *Sphingicampa* Walsh, 1864 removing all species from *Syssphinx* Hübner, [1819] except *S. molina*, the type species of *Syssphinx*, on the basis that *S. molina* differs morphologically, including differences in the genitalia, from the other species. The authors "feel that the North American species are phylogenetically closer to each other than to *Syssphinx molina*." This is followed by the statement that "The genus *Sphingicampa* is obviously related to *Anisota* and *Dryocampa* and to the tropical genus *Adelocephala*." *Adelocephala* Duponchel, 1841 is not a valid generic name, because it is a junior objective synonym of *Anisota* Hübner [1820] that occurs mainly in North America. Their provincial approach dismisses or ignores the landmark updated revision of Lemaire (*The Saturniidae of America: Ceratocampinae*, 1988, Museo Nacional de Costa Rica, San Jose, 480 pp., 64 plates) who worked with the much greater number of species found throughout the New World, and the work of Fletcher and Nye (*The Generic Names of Moths of the World*, 1982, Vol. 4, Trustees of the British Museum (Natural History), London, 192 pp.) and others. Thus, this otherwise excellent book is a bit weak in its taxonomic treatment, and will perpetuate some confusion among its readers.

The geographical area covered reflects the focus of many U.S. saturniologists, an area limited to North America north of the Mexican border. This political boundary separates a faunistically extremely rich territory to the south from the rest of North America, and hampers or discourages study of these insects by U.S. investigators. But because more than half of North American silk moth species reside there, I would like to see a book in-

tegrating the saturniid fauna of the entire North American continent. Also, a more complete introductory overview of worldwide Saturniidae and recognition of international saturniid researchers would have been welcome. Nevertheless, for areas north of the Mexican border this book represents an impressive reference work that belongs in the library of every serious lepidopterist.

KIRBY L. WOLFE, 3090 Cordrey Drive, Escondido, California 92029, USA

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INDEX OF ECONOMICALLY IMPORTANT LEPIDOPTERA, compiled by Bin-Cheng Zhang, 1994. CAB (Centre for Agriculture and Biosciences) International, North American Office, 8454 North Park Avenue, Tucson, Arizona 85719. 599 pp. Hardcover, 17.5 × 25 cm, ISBN 0-85198-903-9. \$85 US. Also available on diskette (3.5" or 5.25"), MS-DOS only, with access software provided [CD-ROM version was not available to reviewer]; ISBN 0-0000-254-02. Price for book and diskette together: \$119 US.

This book is a reminder that Lepidoptera comprise not only adult forms of spectacular beauty and fascination, but larval ravagers of the land as well. It spotlights pests of agriculture, horticulture, forestry, and environmental management worldwide. In keeping with "economically important" in the title, beneficial species such as silk moths, scale and mealybug predators, and weed feeders are included also.

As traced in the introduction, the book is a result of mergings, branchings, and expansions of previous indexes and databases going back to 1913. (A systematist might be tempted to use an inverted tree to depict this history.) The introduction reflects the tendency for acronyms to proliferate around large databases: ANI for Arthropod Name Index, RAE for Review of Applied (now Agricultural) Entomology, CABI for Centre for Agriculture and Biosciences International, CAB ABSTRACTS for the Centre's bibliographic database, CABPESTCD for the Centre's pest abstracts on compact disk, and more. CABI maintains ANI in electronic form now as a source of preferred insect names for CAB ABSTRACTS, from which RAE and CABPESTCD are produced. The book is a printed version of the Lepidoptera subset of ANI enhanced with annotations.

The book has six sections. It gets to the point promptly; scarcely four pages among its 599 consist of prose, and these are in the opening two sections: Introduction (two pages), and How this Book is Arranged (two pages). The remainder are workhorse sections: List of Common Crop Names Used (three pages), List of Families and Genera (21 pages), Main Index (469 pages), and lastly, Index of Specific and Intraspecific Epithets (97 pages).

List of Common Crop Names Used provides a key so that short and familiar vernacular names can represent many binomial and trinomial host names in the main index. List of Families and Genera is an alphabetical guide to the supraspecific categories in the book with tallies of the number of species in each category covered in the main index. I counted no less than 81 families. The top three in number of species in the main index are, perhaps predictably, Noctuidae with 1034, Pyralidae with 748, and Tortricidae with 687. Butterfly families and their number of main index entries are Nymphalidae 152, Lycaenidae 95, Pieridae 61, Papilionidae 54, and Riodinidae (absent from the book) 0. It is hard to imagine a more authoritative source for ranking the economic importance of lepidopteran families.

Main Index presents the core information by preferred names of the 6000 or so lepidopterans treated in the book. The arrangement is alphabetical by both preferred and nonpreferred genus and species names; author names are included without parentheses. The nonpreferred genus and species names, which also number about 6000, are cross-referenced by "see" to the preferred names. Cross-referencing is a useful and necessary feature because different names have often been used for the same taxa during the history of ANI and RAE, and different names sometimes still prevail in different parts of the