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THE BUTTERFLIES OF CASCADIA, by R. M. Pyle, Seattle Audubon Society; Cloth ISBN: 0-914516-13-2; Price: $29.95

Bob Pyle has produced another book detailing his love affair with butterflies. *The Butterflies of Cascadia*, is a newly eclosed field guide derived from long rambles in those emerald mountains, boreal meadows, and rocky fields that form the author's back yard, and it radiates the spirit of a butterfly enthusiast and naturalist.

There are three parts. The first contains a short explanation of "Cascadia" and its mosaic of habitats (ecogeographic provinces), a short history of the butterfly pioneers in the Pacific Northwest, followed by a brief 'how to use this book'. The second and most ample part is, of course, the species accounts. Like most field guides, each species is treated in telescopic manner to facilitate field identification and provide a snippet of natural history information. Next to the individual account are color portraits that were photographed in the field. But here the similarity to other field guides ends. Nearly all species accounts are unique by having Pyle's eclectic anecdotes to accompany them. Overall this renders a bucolic flavor such that the reader can almost smell the mold, pine needles or sagebrush of the Pacific Northwest, and take part in its butterfly history. Such *lagniappe*! Moreover Pyle manages to navigate, with considerable élan, the turbid debates over collecting versus watching, and the chloroform of nomenclature squabbles. The excellent color photos from nature and the lucid writing make the book both pleasing to the eye, and readable into the bargain. Well done! The final part consists of a checklist (complete with little boxes to tick off) followed by lists of references, organizations, a glossary, data for each color photo, and an index of butterfly names.

In summary, *The Butterflies of Cascadia* will help ensure that butterflies of the Pacific Northwest stay in the public eye, and it will be an important tool for professional entomologists and conservation biologists. This sturdily bound book deserves to be on the shelves of anyone who is interested in butterflies, the Pacific Northwest, or just fun reading.

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THE SATURNIIDAE OF AMERICA . . . LES SATURNIIDAE AMÉRICAINS. VOLUME 4: HEMILEUCINAE, by Claude Lemaire. 2002. Three parts, hardbound separately, 1388 pages, 140 color plates, 21 cm by 30 cm, ISBN 3-931374-08-4. Published by Goecke & Evers, Sportplatzweg 5, Keltern 75210, Germany; website: www.insecta.de; Price 340 euros (about US$365).

For the specialist, this book will be seen as *the* definitive treatment of the subfamily Hemileucinae; nothing else has ever come close or probably ever will. The Hemileucinae are famous for caterpillars with stinging spines and moths with bright and contrasting colors, often with eyespots, typically represented by species of *Automeris*, and long favored by collectors. Rare and unique moths from southern Chile, the island of Hispaniola, the cerrados of central Brazil, and the high Andes of Peru and Ecuador, are shown in color for the first time. Specimens of some *Automeris* are bigger than our polyphemus moth (*Antheraea polyphemus*) and Europe's peacock moth (*Saturnia pyri*). Serious taxonomic errors, even by recent authors, have been exposed and corrected. Because this work took many years to prepare, many amateur and professional lepidopterists have eagerly anticipated it.

The publication consists of three hardbound books. The text is in English, with a French summary for each genus and species. The smooth covers are a light greenish yellow, with a color image of a different hemileucine on the front cover of each. Since this work is to be cataloged as the "volume 4" continuation of Lemaire's previous three volumes on subfamilies of American Saturniidae (Saturniinae in 1978, Arsenurinae in 1980, and Ceratocampinae in 1988), the present three books are labeled parts A–C, instead of volumes 1–3. These parts cannot be purchased separately, which is entirely appropriate. Part A consists of the preface, foreword, introductory sections, and text treatments of 31 genera including *Lonomia*, *Coloradia*, *Hemileuca*, *Automeris*, *Hylesia*, and several others, running from pages 1–688. The lengthy preface by Daniel Janzen offers biographical notes about Lemaire and some colorful commentary on the multifaceted value of his published works. Part B completes the treatments of the remaining 18 genera, and has an exhaustive bibliography, 185 pages of distribution maps, and 214 pages of drawings showing genitalia, wing venation, antennae, and legs, running from pages 689–1388. Part C contains 126 color plates of pinned

adults (all shown life size), and 14 color plates of immature stages, mostly mature caterpillars, including 23 taxa that occur in the United States. Many of the larvae have colors and patterns as striking as the wings of the moths. The text is printed on thin paper, and the plates are shown on much heavier paper. Overall, the quality of the paper, binding, and color reproduction is of high quality, and attractively presented. The German publishers and the French photographers and computer technologists should be commended for the final results.

One powerful lesson this book provides to lepidopterists in North America is that the Hemileucinae we see in Canada and the United States, or find in our books about Nearctic saturniids, represent only a small part of the diverse hemileucine fauna that exists from Baja California Norte southward. In this work, 46 new species are described and named. As now defined by Lemaire, the subfamily Hemileucinae consists of 49 genera and 670 species. (No Hemileucinae occur in the Old World.) The dazzling genus *Automeris* comprises over 135 species, making it the largest of the subfamily. As I view plate after plate of the not-so-dazzling *Hylesia*, I am amazed that Lemaire was able to sort out such a taxonomic nightmare. Many species of *Hylesia* look alike, and for some species, it was a challenge to associate the males and the females, some of which were assigned different specific epithets by various authors. Some species are wide ranging, others are known from a single collecting site. Many names have been assigned to synonymies, but other *Hylesia* Lemaire found to be long represented in museum collections, yet new to science, including the one that ranges far north in Mexico close to the Arizona border. To me it looked like so many other *Hylesia*, but now when seen on Lemaire's color plates, I just might be able to recognize it in collections or even in the field.

Perhaps only a taxonomist can fully appreciate the Herculean task required to assemble this monograph. In terms of sheer compilation, it represents far more of a final product than most doctoral dissertations. Lemaire has been blessed with a unique combination of accessibility to specimens, both by purchase from dealers and exchange with field collectors, and by frequent visits to the museums that hold the type specimens for the majority of the names in the group. Added to this is Lemaire's ability to access and interpret the historical and current literature in several languages, and a work ethic and dedication to purpose that few taxonomists can match. He also has made several collecting expeditions to South America, especially in the Andes, and has reared numerous Hemileucinae from eggs, so his study goes far beyond analysis of the literature and pinned moths. Lemaire has handled the complex of populations that we call *Automeris io* with great skill, by demonstrating how we are seeing evolutionary processes frozen in time, which sometimes makes it difficult for our artificial classifications (i.e., names) to represent real species and populations within them. The classic treatise by Charles Michener (1952, Bull. Amer. Mus. Nat. Hist. 98:335–501) made subgenera a central theme, affecting almost every genus of Hemileucinae. I was glad to see that Lemaire has recognized the unnecessary complexity of subgenera by not using them, except in the genus *Meroleuca*, which may be provisional until more is known. The fact that some of the *Meroleuca* have wingless females accounts for their rarity in collections. Lemaire's compilation is remarkably free of errors, and I would categorize him as a perfectionist. I should point out here that I reviewed the manuscript of the work and have considered Lemaire a friend for 30 years. But those who may question the objectivity of this book review will agree with the praise recorded here if they objectively examine Lemaire's treatise on Hemileucinae.

For those who collect and rear Saturniidae, this set of books will be indispensable. All known host plants are cited for each species, and the descriptions and figures will enable one to identify virtually any specimen that they acquire. The meticulously assembled sections of "Material Examined" are especially valuable, as they give complete label data for hundreds of specimens, enabling future collectors to know exactly where and when to find each species. Sitting and viewing the dozens of color plates will be an immense pleasure for any saturniid lover, each moth with its story about crypsis, camouflage, mimicry, and/or warning coloration. There are hundreds of species of these moths, dramatically demonstrating the concept that biodiversity is greatest in the tropics.

To summarize, I will end by saying that this is a fine and impressive piece of work, and that Lemaire's taxonomic decisions are all firmly supported. The beautiful plates document the ever-increasing improvements in color technology and reproduction. This work will be the crown jewel of many personal libraries, but it should also be widely available in libraries.

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