

At the end of the book is a list of new names and other nomenclatural changes in the work. The new genus described here is *Sibatinozephyrus* Inomata, of which the type species is *Zephyrus fujisanus* Matsumura, 1910 (Lycaenidae: Theclinae). Its distribution is confined to Japan. Finally, an extensive section in Japanese presents locality data for the specimens in the 86 color plates. A complete index to Latin scientific names and to Japanese names is also included.

As treated in this book, the Japanese butterfly fauna includes 19 species of Papilionidae, 30 Pieridae, 77 Lycaenidae, 2 Libytheidae, 22 Danaidae, 63 Nymphalidae, 29 Satyridae, and 37 Hesperidae. The rich Japanese fauna of 279 species of butterflies is therefore comparable to what occurs in large mountainous temperate-zone sections of western North America, such as the states of California or Colorado. The remarkable richness of the Lycaenidae and the Satyridae in Japan is especially notable. The *Atlas* authors and illustrators have made it possible for workers in the Palearctic and the Nearctic to learn much about their favorite groups by the study of this incredibly complete and magnificently wrought volume and its accompanying plates.

Even for the marvelous books on butterflies now being published around the world, this volume from Japan sets a new standard to which publishers may aspire. While the extremely high price puts the volume out of reach of most individual lepidopterists, the work definitely should be purchased by institutional libraries and museums around the world to make its uniquely complete coverage of the Japanese butterfly fauna generally available to researchers and students of Lepidoptera.

THOMAS C. EMMEL, *Division of Lepidoptera Research, Department of Zoology, University of Florida, Gainesville, Florida 32611.*

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BUTTERFLIES OF LAOS, by Akira Motono and Noriko Negishi (supervised by Tadahiro Takakura). 1989. Kiri-hara Shoten, 2-44-5, Koenj-minami, Suginami-ku, Tokyo 166, Japan. 215 pp., numerous text figs., 6 color plates, 118 half-tone plates. Hard cover, in slip case, 20 × 27 cm. No ISBN number. \$50.00 (seamail), \$60.00 (airmail) from publisher.

In recent years, a number of books and other publications have appeared on the butterflies of various countries in Southeast Asia. Several good books are available on butterfly faunas of Taiwan, India, Malaysia, Thailand, and most recently Nepal. Additionally, Karal Spitzer and his colleagues in Czechoslovakia have been publishing notable papers on butterfly communities in southern Vietnam from 1983 to date. The accumulating data on faunistic composition and habitat preferences in the tropical habitats of these areas are providing important information on the evolution and ecology of tropical Lepidoptera, in particular pointing out the importance of contiguous undisturbed forest tracts for some species, and the role of fragments of forests (or natural clumps of trees and shrubs) as the main and constant sources of species diversity in some of the Southeast Asian biomes, including even open savanna (Spitzer, K., J. Leps & T. Soldan, 1987, *Acta Entomol. Bohemoslov.* 84:200-207). Thus, besides providing richly illustrated catalogs of these highly diverse tropical butterfly faunas, these publications are beginning to play an important role in conservation biology.

Now Japanese lepidopterists once again have proven that their intensive field work throughout Southeast Asia in pursuit of Lepidoptera, combined with the outstanding quality of printing offered by a number of Japanese publishers, can produce superb references on Southeast Asian butterflies. This book by Motono and Negishi is the first significant work on Laotian butterflies, supplementing the substantial work already published on the butterfly faunas of adjacent Thailand and Vietnam. The *Butterflies of Laos* illustrates and describes very briefly 512 species, including color plates of some of the larger and more common butterflies of Laos. The text and monochrome plates include

44 species of Papilionidae, 39 Pieridae, 20 Danaidae, 123 Nymphalidae, 38 Satyridae, 9 Amathusiidae, 4 Libytheidae (this must be a record for the number of snout butterflies found in one fairly small geographic area!), 6 Riodinidae, 131 Lycaenidae, and 98 Hesperidae. Of these, 62 are pictured in color (dorsal surfaces only), and all species are pictured in half-tone plates (usually the dorsal and ventral surface of the male of each species, or occasionally the female, but rarely both sexes). Each section of the text is printed in both English and Japanese.

The book begins with several pages of introduction to the history of collecting in Laos and discusses the geography, seasonality, and topography of that country. A complete list of the 512 species in the butterfly fauna covered in this book is then given, with an index to the illustrations. The species included are only those that are in the authors' collections and in those of their friends, so the list is admittedly incomplete. In the explanatory notes on each species that follow, the name, dates of capture, frequency of occurrence, and collection localities in Laos are given. Although extremely telegraphic in format, this procedure does allow a great deal of information to be conveyed in the space of relatively few pages. The half-tone illustrations are excellent and readily allow identification of virtually all the species of butterflies and many of the skippers figured. The color plates offer a selection of some of the more beautiful and unusual species found in the country. The book ends with an index to the genus, species, and subspecies names, a two-page list of references, and a brief biography of each of the two authors and the editorial supervisor of the project (all three are members of the Lepidopterological Society of Japan). The book is nicely produced with clear typography, 10 half-tone illustrations of various habitats in the country, and a map of Laos and adjoining areas.

The map shows that the Lao People's Democratic Republic occupies a key biogeographic position between Thailand and Cambodia (Kampuchea) on the south, Vietnam on the southeast and east, and China and Burma to the northeast and northwest, respectively. It is thus situated in the center of the Indo-Chinese Peninsula and extends over 1000 km between latitudes 14° and 22.5°N. The highest point in the country is 2800 m and these northern central highlands slope gently downward in central and southern Laos to the east and the west. The country has a marked alternation of wet and dry seasons, with the rainy season beginning in May and lasting until October. In March and April, before the start of the rainy season, the weather can be quite warm (22° to 39°C). In December, January, and February, the temperature drops to between 10° and 29° in southern Laos and far cooler in upper Laos. This book will help a visiting lepidopterist to plan the best time to visit the country for a maximum diversity of species, which seems to appear in March and April as the rains begin, although a great many species are also found from August through November.

In *Macrolepidoptera of the World* (1908–28), A. Seitz discussed only 30 species from Laos. Brief papers since that time, primarily by Japanese workers, have added some species to this list. This is the first comprehensive and systematic study of the butterfly fauna of Laos ever published, and, although Laos still remains relatively unexplored, is an important contribution to our understanding of the distribution and ecology of Southeast Asian butterflies. Obviously, many additional butterflies, probably including undescribed subspecies or even new species, await discovery in Laos as the country becomes more accessible to future research. This book will do much to stimulate further interest in the butterflies of the Indo-Chinese Peninsula and deserves a place in the library of every lepidopterist and institution interested in Old World tropical butterflies.

THOMAS C. EMMEL, *Division of Lepidoptera Research, Department of Zoology, University of Florida, Gainesville, Florida 32611.*