

BOOK REVIEWS

BUTTERFLIES IN THAILAND, VOL. I (PAPILIONIDAE AND DANAIDAE), Third Revised Edition, by Brother Amnuay Pinratana and John N. Eliot (photographs by A. Pinratana and text by J. N. Eliot; check lists by Y. Kimura). 1992. Distributed by Bro. Amnuay Pinratana, St. Gabriel's College, Bangkok 10300, Thailand. 174 pp., map, check lists, 92 color plates. Hard cover, 19 × 27 cm, no ISBN. \$43.00 U.S. (postpaid).

This is a newly updated and thoroughly revised third edition, co-authored by the eminent authority John N. Eliot, of Volume I of the six-volume series on Thailand's butterfly fauna, published between 1977 and 1988. Virtually all the problems I had with the original volume, in terms of organization, illustration, and identification, have been eliminated in this revision and I found the text extremely useful and valuable to any student of southeast Asian Lepidoptera. Particularly valuable is the inclusion of a map of Thailand, although its usefulness would be greater had the provinces been delineated rather than just identifying major towns and cities, because the collecting data in the text refers to provincial locations. The charts of collecting data, listing dates of collection and location for each species, are particularly helpful since many Thai butterflies are localized in distribution and fly only in specific seasons. Perhaps the greatest improvement in this edition is the exceptional clarity and color of the illustrations which show, in most cases, both males and females and dorsal and ventral views, when applicable. The text, which was extremely brief in the earlier editions, is even more concise in this revision but this is offset by the excellent photographs, which preclude the necessity of extensive written descriptions. The pertinent details of each species—physical descriptions (both male and female), wingspan, distribution, and remarks as appropriate—follow the original format, although references such as "rare," "very rare," etc., have been dropped. The terminology for body and wing venation illustrations have also been omitted.

A valuable new feature is that each photograph is labeled with the Latin name of the species rather than with a number as in the earlier editions, which required extensive searching of the book to locate the appropriate descriptive text. Subsequent revisions would benefit if each photo caption indicated as well on what page the species entry is to be found, as the photographs and written material now appear in different parts of the book. Finding the species descriptions is difficult because the list of scientific names appears on page 75, in the middle of the book, and the check lists for both Papilionidae (page 3) and Danaidae (page 51) do not indicate on what page of the book the text is located. This might best be compiled into one expanded table of contents, now located on page 80, to appear at the front or back of the book for easier reference. In the first edition the text appeared opposite the illustrations, obviating this need, but in this revision the text and illustrations occupy separate sections of the book.

Having collected personally for some eight years in virtually all parts of Thailand, particularly the Peninsular area, leaves me astounded with the wealth of new species that are constantly coming to light. Pinratana has added numerous new records to the text for species that formerly were unknown to occur in Thailand or for which only very fragmentary information existed. I note that the female form *esperis* of *Papilio memnon agenor*, illustrated in earlier versions, was dropped in the new edition with no evidence of collecting data. The vague reference in earlier editions to its existence in Yala Province of the Thai Peninsula did not reappear in the new text. I have collected this form in Pattani Province, adjacent to Yala, and thus can confirm its occurrence in Thailand. A peculiarity of distribution in Thailand exists for *Papilio paris* to which no particular reference is made in the book. It is common throughout northern Thailand and a collection record is indicated for Prachuab Province north of the Isthmus of Kra. It then disappears entirely, according to present knowledge, from the Thai Peninsula and throughout West Malaysia only to reappear in Java and Sumatra.

The text follows current taxonomic revisions made by Ackery and Vane-Wright on the Danaidae and by Hancock, Igarashi, and Miller on the Papilionidae. Without questioning the validity of these reclassifications, I confess that the current papilionid classification is

a bit confusing (depending on whether the reader is a splitter or lumpers by inclination) because all *Atrophaneura*, variously known as *Polydorus*, *Byas*, *Panosomia*, *Tros* or *Balignina*, have now been lumped into two genera: *Parides* and *Pachliopta*. Photographic captions of the *Papilionidae*, when the genus is identified only by "P.", cannot be easily interpreted; without referring to the text, it is difficult to differentiate *Papilio*, *Parides*, or *Pachliopta*. Subgeneric names are now given for many species; *Graphium*, for example, now includes subgenera *Pathysa* and *Pazela*. Many well known southeast Asian species have been reclassified: *Euploea d. diocletianus* is now *E. r. radamanthus*, *Idea jasoni* (sp. *Iasonia*) *logani* is now *I. stollis logani*, *Chilasa mahadeva* is now *Papilio* (subgenus *Principis*) *mahadeva*, several species of former genus *Danaus* have been reassigned to new genera such as *Paranthisa* and *Tirumala*, and the former *D. vulgaris* and *D. similis* are now included in *Ideopsis* (subgenus *Radena*). Although probably quite justified from a taxonomic standpoint, it takes a bit of mental refocusing to bring the relationships back to an understandable level.

The book is well bound with a high quality cover with gilded lettering and a dust jacket with a photo of *Teinopalpus imperialis*, one of Thailand's recent and rarer additions to its insect fauna. The photographs are on glossy paper and provide excellent detail. The book has been well proofed to eliminate errors and spellings and what few I noticed were already listed on an errata sheet. All in all, this third revision is an exceptionally nice book that is a worthwhile addition to any collection. It contains much up-dated and revised information about the butterflies of Thailand and adjoining geographical areas that has not appeared before in print. I can only hope that with time similar revisions will appear for the other five volumes in the series.

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KEYS TO THE JAPANESE BUTTERFLIES IN NATURAL COLOR, by Toshio Inomata. 1990. Hokuryukan, 3-21 Kanda Nishiki-cho, Chiyoda-ku, Tokyo 101, Japan. In Japanese. 64 + 224 pp., 402 text figs., 103 color plates. Gold stamped hard cover with transparent wrap, slipcased; 15.5 × 21.5 cm, no ISBN, 4800 Yen (about \$39.00 U.S.).

As the title suggests, this book provides keys to all of Japan's 256 recorded butterfly species from the order level to the subspecies level, and it does so quite thoroughly.

The book starts with a short foreword by Yoshihiko Kurosawa, former executive of the Zoology Department at the Japanese National Science Museum, a brief introduction, and a lengthy table of contents. A brief discussion of the phylogenetic placement of the order Lepidoptera within the kingdom Animalia, instructions on how to use the book's dichotomous keys, and a brief description of important anatomical features used in the keys follow. The next section contains keys to family, subfamily, tribe (for Papilionidae and Lycaenidae), and genus for all Japanese butterflies. This 49 page dichotomous key first identifies all of the world's butterfly families, elaborates upon Japan's eight butterfly families, and organizes them by subfamily. Each subfamily is split into genera, and each generic description is accompanied by a sepia tone photograph of a Japanese member of that genus. Each generic description includes the number of the plate where the species and subspecies of that genus are fully illustrated. Throughout the keys, figures showing important taxonomic features are provided. For example, photographs or line drawings of hesperiid legs are shown in all instances where they are taxonomically significant. Drawings of wing venation are presented throughout the keys, showing differences in wing venation at family, subfamily, and generic levels. The last 224 pages of the book (which are numbered separately from the first 64 pages) consist of 103 two-page color plates, an Index that lists all the Japanese butterflies in Japanese, an Index that lists each