

## IL GENERE *BATTUS*: TASSONOMIA E STORIA NATURALE

by Tommaso Racheli and Lorraine Parisat

1992. *Fragmenta Entomologica*, Volume 23, Supplement, Università degli Studi di Roma "La Sapienza", Dipartimento di Biologia Animale e dell'Uomo, Rome, Italy. 163 pp., 27 pls. (11 halftone, 16 color); 38 line drawings, maps, and text figures. 17 x 24 cm. Price: Not stated (ISBN 0429-288X). Available from the senior author at Dipartimento di Biologia Animale de dell'Uomo, Viale dell'Università, 32, I-00185 Roma, Italy.

This work is a comprehensive book-length treatment of the papilionid genus *Battus* in tropical America. The natural history of all the species and known subspecies of this Neotropical genus is reviewed, along with very detailed data on the biology and systematics of the group. The text is entirely in Italian, with only a brief summary paragraph in English. Most workers with a reading knowledge of French, Spanish, or Latin should be able to extract much of value from a reading of this important work.

The authors begin with a general introduction to the tribe Troidini, including historical treatments of the genera and subgenera. The next two dozen pages cover the general characters of the genus *Battus* in considerable detail. The egg, larva, and chrysalid are described from the viewpoint of structural characters; also treated are the gregarious behavior of the larvae, the phenology of the adults, puddling and roosting behavior, courtship and mating, and the relationship of the butterflies with the plants in the genus *Aristolochia* (including oviposition, larval behavior, and adult diets). The subject of mimicry, including chemistry and palatability, are reviewed together with discussions of parasitism and predation on butterflies in the genus *Battus*. Population biology, structure of populations, migration, dispersion, mate location, patrolling, and perching behavior are treated. Morphological characters, including genitalia, ordinary wing scales, androconial scales, and ultra-violet pattern components, are reviewed and illustrated. The classification of the various species in the genus *Battus* is then discussed, preparatory to the main systematic accounts of the book.

More than 100 pages are then devoted to a discussion of the detailed systematics and biology of each of the 14 recognized species of *Battus*. Beginning with a brief discussion of materials, methods, and abbreviations utilized, the authors proceed to treat each species in text and illustrations. Each species account typically starts with a general introductory paragraph on the general distribution, followed by a synonymy, description of the egg, larval, pupal, and adult stages, discussion and illustration of the genitalia, a treatment of the androconial scales (including measurements), ecological and behavioral notes, and a several-paragraph discussion of the detailed distribution of the species. This general account of the nominotypical subspecies is then followed by a shorter account for each of the other recognized subspecies, including synonymy, type locality, nature and location of the type material, and several paragraphs describing phenotypic differences, ranges, and similar available information on that race.

On the basis of the authors' examination of type material, a number of synonymies and a revised status of the taxa in the genus are established and published here. In a very extensive discussion and conclusion section, the authors propose a new

cladistic classification of Battiti following their study of sets of characters and the applications of cladistic methods. They also infer the pathways of biogeographic distribution and evolution of the Battiti in the Neotropics.

After an Italian and English summary, a detailed bibliography is presented. Eleven plates of excellent scanning electron micrograph photographs of wing scales and androconial scales follow the bibliography. The book concludes with 16 full-color plates of the uppersides (with some undersides) of all the known species of Neotropical *Battus*. Since these plates were photographed by Bernard D'Abbrera using British Museum of Natural History examples, the color illustrations are of the very highest quality.

Anyone interested in the Neotropical swallowtail butterflies, or the systematics of tropical butterflies, will want to acquire a copy of this important new publication. It is handsomely produced, and the authors are to be commended on their outstanding professional job in preparing this book-length treatment of a fascinating genus of tropical butterflies.

### THOMAS C. EMMEL

Division of Lepidoptera Research, Department of Zoology,  
University of Florida, Gainesville, FL 32611.