J. New York Entomol. Soc. 98(1):125–126, 1990

The Butterflies of Hispaniola.—Albert Schwartz. 1989. University of Florida Press, Gainesville, xiv + 580 pp., frontis [color], 8 pls., 200 figs. [B & W]. $32.50.

This is an excellent and much-needed book. With Hispaniola's fauna facing intensified habitat destruction, Schwartz's report on fifteen years' intensive collecting will probably remain the definitive work on the island's butterflies. Collectors and enthusiasts will be very disappointed that no photographs are offered for identification purposes. However, the book is designed to accompany existing field guides and a new one anticipated soon by D. Spencer Smith, L. D. Miller and J. Y. Miller. As Schwartz notes, though among the Greater Antilles Hispaniola is large and centrally located, its butterfly fauna has remained the least known.

The text is divided basically into four parts: (1) an introduction briefly treating geography and geology of the island, (2) taxonomic treatments, (3) in-depth discussion of distributions, ecology and conservation issues and (4) an English/Spanish "Key" to Hispaniolan butterflies. An addendum includes the description of a new Hispaniolan species of *Tmolus* (Lycaenidae). Plates are restricted to a decorative frontispiece, those of the addendum and a series of twenty-eight habitat photographs.

The major new information in Schwartz's book concerns some fifty new species added to the island's fauna in numerous recent papers. As a result, "the numbers" for Hispaniolan butterflies have changed dramatically. The last major Antillean field guide (Riley, 1975) reported 151 species of butterflies from Hispaniola of which 41 were considered endemic. Although Schwartz does not state a figure, one constructed from his text totals 197 species (198 if a transient/transplant is included and 200 if two new endemics in press are added) with 72 (74) appearing to be endemic. As Schwartz notes, this dramatic and biogeographically significant increase results from (1) collectors' recent penetration into remote areas of the island and (2) attention given previously ill-collected groups like Hesperiidae ("Skippers"), Satyridae ("Satyrs," particularly *Calisto*) and Lycaenidae ("Blues" and "Hairstreaks"). Because of this emphasis, most of the new discoveries (33 of 49) represent endemic species, a fact that is biogeographically important.

Interestingly, many of the new taxa are reported from very few specimens (some from only one) though their known habitats have been collected many times. Others are noted from disparate "early" and "recent" captures and others appear to have occurred in numbers and then disappeared. Obviously, Hispaniola is an island in great ecological flux. Some workers may caution that since 19 of the new endemic taxa reported from Hispaniola come from the single satyrid genus *Calisto,* this taxonomy may be excessively split. However, a recent examination of female genitalia in the genus (Johnson, Quinter and Matusik, 1987) showed little conflict with the species limits indicated by the more well-known males.

Intense recent field work on Hispaniola has been accomplished by a relatively small number of field workers (p. xiii). Because of this, Schwartz notes, one can assume further additions to the Hispaniolan fauna are inevitable. Most Hispaniolan field workers are aware of areas (and biomes) on the island still relatively unexplored. For biogeographers, new figures concerning endemism are important and it is indeed

fortunate that workers have delved intensely into Hispaniola's butterfly fauna at the same time virgin habitats were being destroyed. Schwartz's detailed comments on this wanton destruction are timely and the situation appears to have worsened exponentially since his writing. Thus, many of the areas described by Schwartz as "excellent opportunities for further research" (p. 506) may soon be gone. One important example, mesic forest at Las Abejas in the Sierra de Baoruco (type locality of seven recently described butterflies, pp. 498–500) appears to have lost its entire upland canopy since 1988.

The taxonomic section of *The Butterflies of Hispaniola* is well designed. Clearly rendered distribution maps appear next to each taxonomic entry and the text focuses on the occurrence and habits of each species. For many species, such field notes constitute the first published accounts. A drawback in the distributional data presented is that it is limited to the collections of Schwartz, his immediate colleagues, and selected specimens at some museums. The "upside" of this is accuracy of data and related commentary. A "downside," however, is that large numbers of specimens collected by other workers are omitted and prejudice some distributional accounts. The black dots only represent specimens in Schwartz's personal collection (with supplementary open dots added only if these records are unique). Lepidopterists who have collected on Hispaniola may find these instances irksome. However, owing to the breadth of sampling by Schwartz and his field associates, distortion does not appear severe and one must respect the clear, first-hand field data.

To understand the importance of this book one has only to ask what the statistics on Hispaniola's butterfly fauna would be without the recent work of Schwartz and his colleagues. It is sad, however, that the book has appeared at a time when other interested entomologists may have to ask how much remains of the many exciting locales and habitats Schwartz describes. Entomologists with any serious interest in the Antillean fauna will want a copy of this book.—*Kurt Johnson, Department of Entomology, American Museum of Natural History, Central Park West at 79th Street, New York, New York 10024; David Matusik, Department of Entomology, Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, Chicago, Illinois 60076.*

LITERATURE CITED

Johnson, K., E. Quinter and D. Matusik. 1986 (1987). A new species of *Calisto* from Hispaniola with a review of the female genitalia of Hispaniolan congeners (Satyridae). J. Res. Lepid. 25:73–82.

Riley, N. D. 1975. A field guide to the butterflies of the West Indies. New York Times Book Company, Garden City, 224 pp.

A NEW NATURAL HISTORY DICTIONARY

J. New York Entomol. Soc. 98(1):126–128, 1990

The Cambridge Illustrated Dictionary of Natural History.—R. J. Lincoln and G. A. Boxshall. 1987. Cambridge University Press, New Rochelle, New York. 413 pp. Price not supplied.