

LEPIDOPTERA OF FLORIDA PART 1 INTRODUCTION AND CATALOG, by John B. Heppner. 2003. Florida Department of Agriculture & Consumer Services, Gainesville, Florida. 670 p. ISSN: 0066-8036. Available for \$45.00 for the spiral bound edition and \$55.00 for perfect bound version. Order from Publications, DPI Technical Assistance, P. O. Box14711, Gainesville, Florida 32614 US.

The State of Florida's influence on knowledge of Lepidoptera in the United States is steeped in history and interest. John Abbot's beautiful paintings, the basis of Smith and Abbot's *The natural history of the rarer lepidopterous insects of Georgia: Including their systematic characters, the particulars of their several metamorphoses, and the plants on which they feed / Collected from the observations of Mr John Abbot, many years resident in that country* (1797), illustrated species from Georgia many of which are found in northern Florida. Several papers described species known only from Florida, and J. A. Grossbeck's *Insects of Florida. IV. Lepidoptera* (1917) gave an early look at a Florida statewide list. Until recently, the single most important contribution to knowledge of Florida's lepidopteran fauna was Charles P. Kimball's *Arthropods of Florida and Neighboring land areas, Volume 1. Lepidoptera of Florida* (1965) which originally sold for the incredibly low price of \$5.00 when published in 1965. Two, of many, more important contributions came from Baggett (1982) and Dickle (1991). Keen interest in Florida's fauna attracts many collectors and observers, and an update to Kimball's book was in demand.

Enter the long awaited *Lepidoptera of Florida Part 1 Introduction and Catalog* (Heppner, 2003). I had the opportunity of providing a reviewer's look at a draft manuscript, and I'm pleased to write this review of the published book. Without hesitation, I like this book, and it seems required literature in understanding Florida's fauna. The book doesn't come without detractors because of a couple of perceived shortcomings—most understandably the lack of color plates. I want color plates, but I don't want to pay the very high associated publication costs to produce 55 color plates. Heppner also uses his classification scheme (1998) which is not in total agreement with other more widely accepted views (Kristensen, 1998). I find both of these concerns to be minor details, mentioned so the reader knows what to expect.

We generally understand that the distribution and abundance of Lepidoptera are products of phytogeography, geology, climate, soils, and a host of

other factors generally termed biogeography. What happens in Florida is no exception—its unique nature comes from its tropical southern tip, its remnants of northern fauna from the influence of the Appalachian Mountains in northern Georgia, its relative flat relief, and its Gulf coastal environs which directly connect Florida to western habitats seen in Texas. Heppner begins this book with a discussion of these factors. His maps illustrate Florida's biogeography and they, along with the accompanying text, give a concise overview of the state's regions, which are important elements to understanding lepidopteran distribution in the state. Heppner related these factors to distributional tendencies. Heppner provided a gazetteer to locate specific sites within the state's biogeographic region. Florida's geographic location and factors which make it unique create conditions conducive to endemic species, and these are highlighted by Heppner.

The text provides an overview of the study of Lepidoptera with specific emphasis on Florida. Topics include collecting, curating, rearing, and other techniques. The morphology of Lepidoptera is illustrated with line drawings. The next several pages are lists of families of Lepidoptera by scientific name, the classification scheme used in this work, common name, a table of numbers of species by family and genus, and name changes since Kimball (1965). The keys to families are written on a scheme based on 8 major divisions of families based on morphological features, such as “Microlepidoptera with scaled haustella,” “Butterflies and butterfly-like moths,” “Noctuoidea,” and others. The morphological features used in the keys require sophistication, and for a novice user, they will be frustrating. For example, couplet 3 in the Key to Sections requires knowledge of presence or absence of a tympanal organ. Without a knowledge of all the possible locations of the tympanal organ, the user will be stumped. For a more experienced user, the keys highlight discriminating features at the family level, and in that way, the keys are useful.

Pages 119 through 227 are 55 black and white plates of adult Lepidoptera. The plates are excellent, and they are not in color. The cost of producing a book of this size (670 pages) with 55 color plates would be prohibitively expensive to purchase. As much as I like color plates, these photos are excellent for elucidating the general habitus of the species which are illustrated. Other literature should always be employed for difficult identifications. I would have preferred that the species be illustrated in checklist order, so that all species within a related group are adjacent to each other on the plates.

For example, my use of the plates to find illustrations of Zygaenoidea (*sensu* Epstein *et al.*, 1998) required that I search 3 widely separated plates whereas 1 plate would have been sufficient. Heppner used plates from Kimball (1965), and he included several additional plates for species not illustrated in Kimball.

Pages 231–484 contain the “Catalogue of Florida Lepidoptera.” The catalogue format is explained and the catalogue is presented in Heppner's systematic order. Information includes classification, the Hodges (Hodges *et al.*, 1983) Check List number, the McDunnough (McDunnough, 1939) Check List number if available, and author and year (the original combination is not presented). If no Hodges Check List number is available, a new number is coined. The catalogue also includes annotations for each species; the distribution in Florida (by Florida biogeographic region), the distribution in the United States, the months of collection in Florida, and larval hosts when known. For each species which is illustrated in the 55 plates, a direct reference to the illustration is given.

The text continues with “References,” which is a bibliography of Florida references. A “Hostplant Index,” lists host plants in alphabetical order by plant genus. The lepidopteran species using each host plant are listed by lepidopteran check list number. Common names of plants, also in alphabetical order, provide a cross reference to the plant scientific name. Three indices for the animal names, species, genus, and common name complete the book. The species and common name indices use lepidopteran check list numbers, and the genus name index uses page number to locate entries.

Other compilations in this work are lists of species in the categories of Exotic Lepidoptera, Lepidoptera Pests in Florida, and Pest Name Index, Stray Lepidoptera in Florida, Beneficial Lepidoptera in Florida, and Erroneous Florida Lepidoptera Records.

The construction of the book is inelegant. The buyer is given a choice of two bindings; plastic comb or perfect binding (in which the pages are glued together along the inside margin). Neither binding is very good, and they will not last for long. My copy (plastic comb) was apparently run off on a photocopy machine, and black streaks (often found on photocopies made from a machine in need of maintenance) grace the bottom margin of many of the pages. The unnecessary blemish of the streaks portrays inadequate quality control.

No book is perfect nor does any book provide everything that all readers want. Some books come closer than others, and this book is right on target. For my needs, this book is an important document, and it is excellent. For lepidopterists with any interest in

Florida, this book must be part of their accumulated information. For naturalists needing a quick read on Florida's biogeography, this book should be useful. I cannot imagine continuing my lepidopteran studies without this book. I cannot imagine continuing my lepidopteran studies by relying on only one source of information. I've already used this book for research; it gave me the data I needed. I will use this book again and again.

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