

Butterflies: Their Natural History and Diversity. Second Edition

By Ronald Orenstein. Photography by Thomas Marent. 2020. Firefly Books. 24.95 USD / CAD, Paper.

A quick internet search appears to confirm the easy notion that butterflies must be the most popular of the insects. I think of them as the birds of the insect world, often colourful, active, and highly visible. And, as with birds, the internet is full of books, posters, calendars, etc. related to butterflies. One might wonder at the need for yet another book, but given the popularity of the topic, it comes as no surprise. And this one delivers the goods in an informative, accessible way.



The photographs catch the eye first. Swiss photographer Thomas Marent is a well-travelled wildlife photographer who, starting young, has about 40 years experience in shooting pictures of various forms of wildlife that have been featured in a number of books, including the first edition of this one, an earlier book with Orenstein, and an earlier one yet of his own. The photos are consistently gorgeous, crisp in their detail, and beautifully presented.

It would be very easy—and a big mistake—to treat this as a picture book! Ronald Orenstein is a Canadian zoologist/ornithologist, lawyer, wildlife conservationist, and prolific author/editor of natural history books. He admits in the Acknowledgements that he is “not an entomologist” (p. 224) but the text reveals an enviable capacity for digesting the latest research. The book opens with a lengthy introductory outline of lepidopteran natural history that ranges from the origins of the term ‘butterfly’ and their cultural significance through their evolutionary history and brief description of the six families into which they are now organized. The book covers wing formation and function, mimicry, mating and reproduction, host plants, development from egg to adult phases, issues of conservation, and much more. Orenstein isn’t shy about using scientific names and terms—*androconia*, for example—that are always defined in the text.

We learn some surprising things, such as why butterfly flight is erratic (pp. 9–10), the various types and roles of wing scales and the genetic coding that pro-

duces their colours (p. 11), that mimicry in a particular species can vary in time and place, the well-known Viceroy being an example (p. 13). Nuptial gifts and sperm competition (p. 16), pollination, migration, and DNA-based discoveries all receive concise, research-based accounts. One of the most interesting things I learned was that these lovely insects that can be such innocent symbols of beauty and grace are capable of cannibalism and manipulative deception in symbiotic relations with other animals such as ants.

Chapters 1 through 6 discuss the six families and their subfamilies, each of which receives brief introductions. The photographs of species come into their own here, each identified with scientific name and location, followed by brief and informative comments on topics such as distribution, habitat, caterpillar stages, and toxicity. The next four chapters are thematic, profusely illustrating and adding to the themes of the introduction: Butterfly Wings (Chapter 7), Butterfly Life History (Chapter 8), What Butterflies Eat (Chapter 9), and Butterflies in Their Environment (Chapter 10). The 11th and concluding chapter, *Myriads of Moths*, reminds us that “butterflies are moths” (p. 6) after all. Moth species “outnumber butterflies by at least fifteen to one” so this chapter is “a miscellany, not a survey...” (p. 185). And a handsome survey it is, covering some spectacular examples, the caterpillars being particularly fascinating.

The book concludes with a page of Further Reading that lists books and websites, plus a URL for the “400+ papers consulted...” (p. 219), and an Index. One odd thing: the book has two covers, the new one you can see here, and a reproduction of the original cover; it is this one, not the new cover, that says Second Edition. A minor puzzle for a worthy book. Books on butterflies seem to be written for professional lepidopterists or for kids, with many popular ‘picture books’ in between. This book is one of the comparatively few that focus on natural history for the interested generalist who has some background in the topic. Orenstein and Marent have created a fine addition to such a reader’s library, one that informs while pointing the way to further study.

BARRY COTTAM
Ottawa, ON, and Corraville, PE, Canada