
Animals living at high latitudes often face extreme tests to their continued survival with the onset of winter. In this charming book, Heinrich combines his extensive personal experience of the forests of the northeastern United States with reviews of physiological and behavioral research to reveal the myriad ways in which animals meet the physiological challenges of the northern winter. Aimed primarily at the popular market, Winter World covers diverse aspects of overwintering biology, including freeze avoidance versus freeze tolerance, the physiology of torpor and hibernation, communal roosting, food caching, microclimate selection and modification, as well as the timing of winter berries and spring buds in plants. Readers are guided through this diverse biological landscape by several recurring themes—for example, the obstacles that small birds face in matching their high metabolic demands to limited energy resources.

With the superb writing style to which readers of his books have become accustomed, Heinrich strikes a perfect balance between surveying the diversity of organisms that have evolved ways to survive the winter months and in-depth treatments of these often spectacular physiological and behavioral adaptations. Although the literature reviews are too superficial to be of significant academic interest, the book provides a highly readable overview of winter life in a northern forest and it will appeal to most physiological and behavioral ecologists. As a resident of the southern subtropics, I found myself fascinated by Heinrich’s vivid descriptions of this frozen world and its inhabitants. Typographical errors, such as “hyperthermic” instead of “hypothermic” (p 140) are a very minor distraction. I thoroughly enjoyed reading this book, and have no hesitation in recommending it to the biological community.

Andrew E. McKechnie, Animal, Plant & Environmental Sciences, University of the Witwatersrand, Johannesburg, South Africa

A Dictionary of Entomology.
Compiled by Gordon Gough; with assistance by David Headrick. Wallingford (United Kingdom) and Cambridge (Massachusetts): CABI Publishing. $140.00 (hardcover); $75.00 (paper). ix + 1032 p; no index. ISBN: 0-85199-291-9 (hc); 0-85199-655-8 (pb). 2001.

A Dictionary of Entomology

This beautifully illustrated book is an exposition of the author’s lifelong enchantment with insects and their world, as seen through his camera lens. The text and illustrations center on the insects of Australia, but they are applicable to every other part of the world. This is not quite suitable as an entomology textbook, although it does have much of value for serious students. Rather, it resembles a coffee-table book in size and format, but it will not gather much dust; the photographs are worth examining over and over, for wonder and comprehension, by both adults and children.

This volume is separated into three parts. An introduction briefly describes the major groups of arthropods, presents an insect ordinal classification and a fossil record timeline for extant orders, and has a nice section on “sharing the world with insects.” The second part, The Lives of Insects, includes chapters on morphology, life cycles, wings and flight, behavior and survival, habits and habitats, and collection and observation of insects. The final part, Australian Insects, surveys the insect fauna on an order-family level, but smaller, less photogenic orders are illustrated with simple and unsatisfying schematic drawings.

The strength of this volume is in the gorgeous photography with which it is illustrated. Some images are particularly arresting: the gumtree hoppers on page 209 appear to be staring back at the observer; the bulldog ant photographs exude ferocity; and the robber fly on page 159 seems jauntily proud of its bee prey impaled on its mouthparts. Many of the insect types in this book have been photographed before, but rarely with such style and setting. It would have been even better if the author had given a brief description of his techniques and essential photography equipment.

The text itself has its moments, but much of it is so general as to be not very useful, it often seems redundant and, in the end, could have been greatly condensed. Oddly, in The Life of the Worker Honey Bee box (p 164), foraging for pollen and nectar is never mentioned. But readers should not let the text get in the way of the images, which will keep this book interesting and relevant for years to come.

Ernest C. Bernard, Entomology & Plant Pathology, University of Tennessee, Knoxville, Tennessee