



BOOK REVIEW

The Biology of Small Mammals. Joseph F. Merritt. 2010. Johns Hopkins Press, Baltimore, Maryland, USA. xvi + 313 pp. US\$60.00. ISBN-13: 978-0-8018-7950-0 (hardcover).

With the plethora of books on ducks (Anatidae), deer (Cervidae), and game birds (Galliformes), it might be understandable how small mammal ecologists might sometimes feel their work has been overshadowed by work on larger feathered or hunted critters. This lack of attention is certainly not because small mammals are less interesting or complex. Now there is proof that small mammals are truly as fascinating, if not more, than their often promoted neighbors. Dr. Joseph Merritt's book *The Biology of Small Mammals* examines the diversity of form and function in small mammals around the planet. Whether he's discussing the lekking behavior of the hammerhead fruitbat (*Hypsignathus monstrosus*) or the trail-cleaning behavior of the four-toed sengi (*Petrodromus tetradactylus*), Dr. Merritt makes an extra effort to present facts and anecdotes that showcase the intriguing nature of small mammals.

With this book, Dr. Merritt took on the formidable task of examining the morphological, physiological, and behavioral adaptations of small mammals. Dr. Merritt defines small mammals as those weighing ≤ 5 kg, thus only excluding 10% of the planet's 5,416 known mammals from his book. Because of the extraordinary diversity and number of small mammals covered, Dr. Merritt has in some ways written a book on mammalian biology.

The book opens with a chapter defining small mammals and a discussion of the advantages and disadvantages of being small. The book proceeds with sections on modes of feeding, environmental adaptations, and reproduction in small mammals. These 3 main sections are followed by a glossary of terms, references, and an index. Each of the 3 main sections examines the diversity of adaptations in small mammals in considerable detail. It is in the details that Dr. Merritt seems to delight in some of the lesser known and peculiar adaptations in small mammals and discussions occasionally deviate from the topic at hand. Upon introducing a new species to the reader, Dr. Merritt rarely passes up an opportunity to provide a colorful anecdote about the species biology or relation to humans. For example, at the end of a segment on omnivory, Dr. Merritt presents a case study on the physiology of the hero shrew (*Scutisorex somereni*), a 90-g creature with a unique spine that can withstand the weight of a full-grown human standing on its back with one foot. Most

examples, anecdotes, and case studies in the book focus on mammals that most people would consider small (e.g., bats [*Chiroptera* spp.], voles [*Micortus* spp.], squirrels [*Sciuridae*]). Nonetheless, in his effort to elucidate mammalian biology to the reader there is also mention of bears (*Ursus* spp.), aardwolves (*Proteles cristata*), humans, and other mammals >5 kg.

At times the book reads like a mammalogy text and often relies on basic information and figures from the authoritative mammalogy text by Feldhammer et al. (2007), *Mammalogy: Adaptations, Diversity, Ecology*, of which Dr. Merritt was a co-author. Where Dr. Merritt's book shines and separates itself from other mammalogy books is when he adds the details, examples, and colorful commentary allowing readers to share his passion and enthusiasm for small mammals. During these passages Dr. Merritt adopts a more casual style and appears to be gleefully telling the reader his favorite small mammal stories. Dr. Merritt manages to keep these passages both rigorous and entertaining, the true mark of a fine teacher.

Most mammals can be considered small, and as a group small mammals have developed awe-inspiring adaptations in form and function allowing them to thrive in deserts, the Arctic, and almost everywhere in between. *The Biology of Small Mammals* does an excellent job covering the breadth of these adaptations in its 254 pages of text and appendices. There is something for most people interested in mammals in this book. For teachers and students of general mammalogy, this book could be used as a secondary or supplemental text to bring the subject matter to life. It would also be an excellent resource for graduate students and professionals looking to gain a better understanding and appreciation for the small mammals they are studying. Additionally, if the amateur naturalist were willing to tackle the technical nomenclature in the book I think he or she would enjoy the engaging discussions of small mammals' life history.

LITERATURE CITED

Feldhammer, G. A., L. C. Drickamer, S. H. Vessey, J. F. Merritt, and C. Krajewski. 2007. *Mammalogy: adaptations, diversity, ecology*. Johns Hopkins Press, Baltimore, Maryland, USA.

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