

Raptors of Western North America and Raptors of Eastern North America

By Brian K. Wheeler. Princeton University Press, Princeton, 41 William Street, Princeton, New Jersey 08540 USA. Hardcover. 544 pages and 430 pages, respectively. U.S.\$29.95.

The hardcover editions of these two volumes were reviewed in *Canadian Field-Naturalist* 118(1): 142-143 by Houston and John. These books have now been is-

sued as paperbacks, reducing their cost [U.S. \$49.50 Cloth] and weight. There are no updates or additions.

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The Sand Wasps: Natural History and Behavior

By Howard E. Evans and Kevin M. O'Neill. 2007. Harvard University Press. Cambridge, Massachusetts, USA. 340 pages. U.S.\$49.95 Cloth.

As a baby-boomer "bugster", two writers had a tremendous effect on my early enthusiasm for insects: Edwin Way Teale and Howard Ensign Evans. Sadly, both have passed on, but their legacies live on, and it was with pleasure that I agreed to review a book on the sand wasps (the subfamily Bembicinae of what is now the family Crabronidae, formerly included in the Sphecidae) coauthored by Evans, and created from his notes, ably revised and updated by his former student and colleague Kevin O'Neill.

As one might expect, this is indeed a book for specialists. However, it is also clearly written, and a model for studies of how comparative natural history and behaviour can be informed by phylogeny and brought together in a synthetic fashion. If you have read *Wasp Farm*, Evans' 1963 classic of popular science writing, you understand what this is all about. If not, the first two paragraphs of the introduction to *Sand Wasps* provide a concise, if not downright brilliant, justification for this sort of work. Later, on page 5 in the section on "Sand Wasp Natural History/Sand Wasp Science" the authors provide a very fine defense of natural history in general. The overall purpose of the book is to update Evans' previous works on the sand wasps, and it's clear that to appreciate all of the details of the present volume, one really should have read the works that preceded it. But having skipped that step, I still found the book a pleasant and interesting read.

The book begins by putting the sand wasps in context, both with respect to their biology and their classification. After that, chapter-length summaries are provided of what is known about the wasps, on a tribe-by-tribe basis. I found myself getting a bit bogged down in details during Chapters 2-7, but a student of sand wasp biology would find them riveting, I'm sure. My only criticism of this part of the book, which lays out the evidence to be synthesized in the remaining

chapters, is that no summary is provided of the classification used, to which one could refer back while working through the tribal accounts. I also found myself wishing for a gallery of illustrations, showing the various genera of sand wasps side by side. For general readers from eastern North America, the most useful portion of these chapters will probably be the account of cicada killer wasp biology (genus *Sphecius*), in Chapter 3.

The synthetic portion of the book begins in Chapter 8, "Comparative Ethology of Sand Wasps." Patterns begin to emerge, but so does an overall impression of great diversity, tremendous complexity, and many unanswered questions. The theme of phylogenetic reconstruction enters strongly at about page 260, at which point I became quite nostalgic, since this was always my favourite aspect of Evans-school wasp studies in the past. I found myself wishing that I were reading an updated account of the evolution of all solitary wasp behaviour, not just that of one subfamily, but the focus here is clearly on the sand wasps alone. My interest was strongly piqued again, however, by the section on sand wasp conservation. The preservation and promotion of open, erosional habitats is becoming increasingly important to those of us who study organisms that require such places (yes, I'm thinking here of tiger beetles), and it is encouraging that sand wasp biology adds further impetus to this cause.

As a work of entomology, this book is superb. I doubt many people outside the hymenopterists' guild will read it cover to cover, but I do think that various portions of the text have important implications for evolutionary biology, entomology, natural history, and conservation biology. And as a final offering from one of the great naturalists of the last century, it is a welcome book indeed.

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