



## Shorebird Ecology Conservation and Management

Author: Lank, David B.

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behavioral ecology than I was expecting. For example, a 35-page chapter was devoted to the important topic of digestive physiology, but only 33 pages total were devoted to adaptations to deserts, cold temperatures, and high altitudes, central topics in environmental physiology. In addition, though 15 pages were devoted specifically to the nervous system, only five address migration specifically, and only one covers adaptations to migration. Moreover, there is no specific chapter covering avian energetics, although this material is scattered throughout several other chapters. The book's coverage of organismal physiology is generally outstanding, but mechanistic physiology is not its strong focus, outside of the aforementioned chapter on digestive physiology. Despite these minor shortcomings, this volume provides a very strong overview and synthesis focusing on organismal physiology in birds and on how organismal physiology is adjusted to meet ecological and environmental demands. The book serves as a valuable contribution to the literature on ecological and environmental physiology in birds and will help to stimulate future research in this area. As such, the book will be a useful reference for both upper-level undergraduate and graduate students and professionals working in avian ecology and physiology. However, it doesn't serve as a truly comprehensive source for avian physiological responses to environmental variation, so other sources will be required to supplement this text for a comprehensive treatment of the environmental physiology of birds.—DAVID L. SWANSON, Department of Biology, University of South Dakota, Vermillion, SD 57069; E-mail: david.swanson@usd.edu.

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**Shorebird Ecology Conservation and Management.**—Mark A. Colwell. 2010. University of California Press, Berkeley. 328 pp. ISBN 978-0-520-26640-7. \$60.00 (hard cover), \$48.00 (Adobe E-book), \$38.40 (Kindle).

It is not often that one picks up a book and realizes he (1) has been missing it for years without realizing it, (2) knows several others who should immediately read or refer to it, and (3) wants to flog it widely within his community. This was the experience I had on examining my copy ordered pre-publication of Mark Colwell's *Shorebird Ecology, Conservation and Management*, recently published by the University of California Press. I acknowledge that few persons out there run active programs in shorebird research and conservation, and that as one doing so, my students and I are the perfect target audience for the book. Anyone considering getting into shorebirds, or taking on a student interested in doing so, will want a copy, or several copies, of the book.

Whenever I take on a new student, I irrationally expect him or her to already know everything about shorebirds that I have learned over the past 40 years. Obviously, this has been a completely ridiculous assumption on my part. But in the future, I will be able to justify this expectation simply by handing the student a copy of this text and reference book for rapid education. Although our lab has had the book for only a few months, a new masters' student put it to work while developing a research proposal, and a seasoned doctoral student used it to fill some educational gaps when preparing to defend her thesis proposal. I initially used it to bolster my fuzzy memory of citations, but while going through it for this review, I was reminded of work I had nearly completely forgotten, including some of my own! The book is obviously of value for any professional considering starting a study of shorebirds or who has some managerial responsibility for their habitat.

Colwell benefits from having had personal experience with the biology of both breeding and nonbreeding shorebirds, inland, upland, and coastal systems, and having intensively studied at least one plover, a tringid, wintering calidrids and curlews, and a

phalarope, and having surveyed or studied the community ecology of many more species. The book is not parochial; it ranges through shorebird and wader literature and issues worldwide.

The book is arranged in rather classic “ornithological” fashion. Following a brief introduction, four chapters cover evolution, systematics, and morphology, anatomy and physiology, breeding biology, and mating systems. These are followed by five chapters covering migration, ecological relationships, and population biology. There is a chapter “Shorebirds as Predators” but less attention to the ramifications of “Shorebirds as Prey,” and the indirect effects predators may exert on the behavior and population ecology of adult shorebirds. The text closes with four chapters explicitly addressing conservation, including one addressing issues involved in controlling nest predation. In addition, every chapter—even the one addressing evolution—concludes with a section “Conservation Implications.” References are included after each chapter, a convenient minor publication luxury, rather than compiled at the end. An appendix listing the world’s recognized shorebird species, with their ranges and estimates of population sizes, completes the book’s accessory materials.

Going well beyond the shorebird literature, in each chapter Colwell brings in general theories from ecology, evolution, behavior, and conservation biology but applies them to the specifics of shorebird biology. For example, the discussion of clutch size, after a perfunctory bow to Lack, appropriately ignores the huge literature considering factors affecting clutch size in altricial species and narrows the discussion to possibilities relevant to shorebirds: egg production, incubation limitation, and some limitations to care after hatching. Colwell’s treatment of most topics is balanced. He is not an advocate for one position or another, and he presents most issues as open-ended discussions. In some cases he has missed relevant theory; for example, Pyle (2008) and others have argued that the diversity of patterns of first-year primary molt among migratory shorebirds relate to nonbreeding ranges (“Northern Hemisphere strategy” versus “Southern Hemisphere strategy”), bringing a useful perspective to the variety of patterns among the shorebirds.

The book contains things that one simply cannot easily find elsewhere. There is no other one-stop shopping location to learn what PRISM, WHSRN, MSS, ISS, WeBS, etc., stand for, and what are their goals. Yes, one can surf the web and learn about these, but it will be a hit-and-miss prospect in comparison to the guided tour provided by this book, which includes a table listing useful websites.

This book will motivate people to study shorebirds, but for the most part it does not tell them how to do so. It is not a practical manual of shorebird students’ “tricks of the trade.” It lacks a reference to Gratto-Trevor’s (2004) “North American Banders’ Manual for Shorebirds,” available on the web, which provides a wealth of information beyond “banding” per se, including field techniques for scoring molt, aging shorebirds, locating nests, capturing birds, etc. It contains only passing references to Pyle’s (2008) guide to aging and sexing, and none at all to the classic work by Prater et al. (1977). As stated in the introduction, this book had its origins with Colwell’s course lectures at Humboldt State University; a hypothetical complementary “lab manual” would cover these topics, and such material appears to be already available elsewhere.

Aside from the handsome cover photo of a nonbreeding American Avocet *Recurvirostra americana* taking flight, reflected in the water below, there is no color printing. Although color could have dressed up the book, given the widespread availability of photos on line, I applaud the decision to avoid a higher price by sticking with black and white. The book does contain the obligatory picture of a newly hatched plover chick, albeit in this case one of a Killdeer (*Charadrius vociferus*) rather than of a Piping (*C. melodus*) or a Snowy (*C. alexandrinus*) Plover. The book is available in hardcover, in Adobe Reader format for those of you who prefer squinting at your smartphone or tablet, and as a Kindle edition, where a lack of color printing remains irrelevant.

Given the widespread and ready access to information we all now have at our fingertips, one wonders about the future value of texts such as this. The experience I describe at the start of this review dispels the thought in this case. Colwell has distilled a huge literature into one document that will be of enduring value for the current generation of shorebird and wader researchers, managers, and enthusiasts.—DAVID B. LANK, Centre for Wildlife Ecology and Evolutionary Department of Biological Sciences, Simon Fraser University, Burnaby, BC V5A 1S6, Canada. E-mail: dlank@sfu.ca.

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**Handbook of the Birds of the World. Volume 15: Weavers to New World Warblers.**—Edited by Josep del Hoyo, Andrew Elliott, and David Christie. 2010. Lynx Edicions, Barcelona. 877 pp. ISBN 987-8496553-68-2. 212.00€ (cloth).

This volume is one of a series dedicated to assembling information on birds of the world. A motivational force in this effort was the desire and need to assess all birds’ conservation statuses, review the pressures reflecting on their statuses, and serve as an informational foundation for how threats can be addressed. The series goes well beyond these underlying goals.

This volume begins with a foreword addressing broadly the general conservation issues facing birds across the globe, then proceeds to the accounts for eight families (Ploecidae, Viduidae, Estrildidae, Vireonidae, Fringillidae, Drepanididae, Peucedramidae, and Parulidae) and individual accounts of their