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ORNITHOLOGICAL LITERATURE

EDITED BY WILLIAM E. DAVIS, JR.

ECOLOGY, CONSERVATION, AND MANAGEMENT OF COLONIAL WATERBIRDS IN THE MEDITERRANEAN REGION. By Alain J. Crivelli, Heinz Hafner, Mauro Fasola, R. Michael Erwin, and Donald J. McCrimmon, Jr., editors. Colonial Waterbirds 19 (Special Publication 1). 1996: 227 pp., 1 black-and-white drawing, 59 figs., 64 tables. $30.00 (paper).—The conservation of wetlands and their associated flora and fauna is a problem of international concern. Efforts to protect and manage the wetlands of the Mediterranean basin and the waterbirds that they support have resulted in some of the most detailed, long-term research studies and conservation models anywhere in the world. Several international symposia thematically dedicated to wetland and waterbird conservation and management have been convened during the last two decades and these have had great impact both politically and ecologically. For example, Mediterranean biologists have successfully established 89 Ramsar wetland sites and most countries in the basin are cosignatories to the Ramsar Convention, an international agreement to designate and protect wetlands of special ecological value. Much credit for the wetland conservation efforts in the Mediterranean basin must be given to the director and biologists of the Station Biologique de la Tour du Valat who not only have initiated many research efforts but also have provided training and guidance to wetland researchers from many countries in the basin. It was no accident, then, that the Colonial Waterbird Society chose to sponsor a "Mediterranean Symposium" in Arles, France, as a part of their annual conference in October, 1993. This publication, the product of the symposium, focuses primarily upon the breeding biology and feeding ecology of waterbirds in the Mediterranean region.

The symposium provided biologists from many countries with an opportunity to exchange information on the population trends and current status of species, ecological problems common to large areas of the region, the biology and ecology of wetland birds, and conservation and management strategies. The resulting proceedings provides a thorough overview of the state of wetland and waterbird research in the Mediterranean basin. Eighteen oral presentations and 27 poster papers were presented at the meeting, and 25 of these offerings were converted to the written papers that comprise this publication. The papers were contributed by 47 individual authors representing 10 countries. Not surprisingly, not all of the papers included in the volume are as scientifically rigorous as one might expect, but all are well prepared and presented. Given the difficulties that they must have faced with translation and communication, the editors should be heartily congratulated for producing a volume that is both well-written and editorially sound.

The first two papers in the volume provide a complete synthesis of wetland and waterbird conservation efforts in the region, both past and present, and they are particularly well-written. The first paper, authored by R. Michael Erwin, provides both an ecological overview and a shopping list of conservation needs. Luc Hoffman, Heinz Hafner, and Tobias Salathe follow this with a summary of the history of waterbird research in the Mediterranean basin and they describe how some of the research projects developed into long-term ecological programs. These authors conclude the paper with a discussion of how current research efforts can be made relevant for conservation.

The other 23 papers in the volume can be classified loosely into four topical categories. As might be expected in some countries where ecological research is in its infancy, many papers (six) are devoted to assessments of waterbird population statuses and trends. Ten of

the papers focus on the feeding ecology of species, four describe breeding biology, and the remainder examine conservation efforts or describe special ecological conditions. There was no apparent attempt on the part of the editors to organize the papers by taxa, topic, or country. However, this apparent lack of organization is mostly superficial because most papers contain information on several taxa and most have some direct application to conservation efforts. Three papers that describe the use of rice fields by waterbirds are presented consecutively and these papers may be of considerable interest to biologists in the rice belt of the United States and elsewhere. Since the conservation planning and research needs in the Mediterranean region seem to have many parallels in other regions of the world, most papers in the volume contain information or consider approaches that may be relevant to other scientists.

Unlike many symposium volumes, this one is rendered more useful by the inclusion of an index. The index, prepared by Annmarie L. Stepp, contains page references by country, key words, scientific names, vernacular names and authors. The volume itself is dedicated to Luc Hoffman, the 1994 recipient of the Colonial Waterbird Society's Kai Curry-Lindahl Award for Conservation, for his lifelong efforts on behalf of wetland and waterbird conservation and management in the Mediterranean region.

This Special Publication should be of especial interest to ornithologists and conservation biologists interested in wetland and waterbird ecology and management both in the United States and abroad. The Colonial Waterbird Society (CWBS) should be commended for providing the opportunity for the international symposium and for making the proceedings available to a wide audience. The Special Publication, which was provided to all CWBS members and subscribing libraries, may be purchased directly from the CWBS Treasurer by non-members. Orders for the volume should be directed to A. Larry Bryan, Savannah River Ecology Lab, Drawer E, Aiken, SC 29802, USA. The price includes shipping and handling.—BRIAN R. CHAPMAN.

RAPTORS IN HUMAN LANDSCAPES: ADAPTATIONS TO BUILT AND CULTIVATED ENVIRONMENTS. Edited by David M. Bird, Daniel E. Varland, and Juan J. Negro. Academic Press, New York. 1996: 396 pp., 46 figs., 65 tables, 5 app. $72.00 (cloth).—Recent estimates suggest that at least 40% of our planet's terrestrial surface has been altered by human activity. Thus, it should come as no surprise that—with the possible exception of a few restricted-range tropical endemics—at least some populations of all raptors currently inhabit human-modified landscapes. This book, the proceedings of a symposium on raptor adaptations to human landscapes that was held at a Raptor Research Foundation meeting in Charlotte, North Carolina, in November 1993, successfully introduces the reader to most of the traditional methods scientists and conservationists have used to study how such cohabitation affects these birds.

The book is divided into five sections: raptors in urban landscapes (nine papers), raptors and artificial nest sites (eight papers), raptors in cultivated landscapes (nine papers), raptors in industrial landscapes (four papers), and raptors at large (four papers). Most of the contributions represent synoptic, well-referenced overviews of recently completed or ongoing studies. Although the book has a decided North American flavor, there are papers from authors residing in England, India, Mexico, Scotland, Spain, Tasmania, and Zimbabwe. All but two of the contributions present the results of species- or site-specific studies. There is little in the way of regional or continental assessment, let alone a global overview.

Although details differ considerably among studies, the general conclusion is that, so long as uncontaminated food is abundant, safe nesting sites are available, and direct persecution

is minimal, most temperature raptors are capable of surviving in extensively modified habitats. Whether the same is true for forest-dependent tropical raptors remains to be seen. Also unclear, and, unfortunately, largely undiscussed, is the extent to which human-induced modifications in landscapes are modifying the behavior and ecological function of the raptors inhabiting them. In eastern North America, for example, many Red-tailed Hawks (*Buteo jamaicensis*) currently feed extensively on "road kills," especially in winter. The extent to which this relatively recent shift in prey availability has affected the species' migratory habits, as well as its role as a predator, remains unknown. Also largely unstudied, is the extent to which recent increases in the numbers of bird feeders in North America are affecting winter survival in Sharp-shinned (*Accipiter striatus*) and Cooper's (*A. cooperii*) hawks, and how this, in turn, may be affecting the ecology of these species, as well as the species with which they interact. Studies of the effects of human-modified landscapes on raptors desperately need to move beyond reactive, raptor-focused investigations of reproductive success and population change, and into the realm of more systematic, comparative studies of how human activity affects raptors as ecological entities.

Even though the book presents many more questions than it answers, the editors are to be congratulated for bringing together and successfully publishing the state-of-the art in the early 1990s. Clearly, the work offers fertile grounds for ideas for many graduate student theses, as well as for more extensive long-term studies. My principal concern is that the book's rather steep price will limit its distribution and, therefore, use.—KEITH L. BILDSTEIN.

FERAL PIGEONS. By Richard F. Johnston and Marián Janiga. Oxford Univ. Press, New York and Oxford. 1995: xvi + 320 pp., 67 figs., 60 tables. $95.00 (cloth). ISBN 0-19-508409-8.—Johnston and Janiga's "Feral Pigeons" offers a complete guide to the biology of feral pigeons. Feral pigeons are not just "domestic" birds on the loose; neither are they wild birds (Rock Doves [*Columbia livia*]) once tame. Rather, feral pigeons, as the authors take pains to define and explain, exist as populations with unique and varied phylogenies. Feral pigeons have had a history of artificial selection as domestics, but now—as captives no longer—are under more "natural" natural selection. Ordinary people may not be impressed with the pigeons they see, but Johnston and Janiga see them as "superdoves" with many virtues for their study. This book persuasively presents these virtues. For an overview, the preface recommends approaching the text by means either of Chapter 1 ("first things first") or Chapter 23 ("first things last"). Chapter 1 discusses origins. Rock Doves were the wild progenitors of domestic pigeons; escaped domestics began feral populations which continued more or less genetic contact with wild Rock Doves. Chapter 23 looks again at pigeon-human relationships. In between are chapters summarizing many facets of pigeon biology: chapter 2 discusses morphology and genetics; chapters 3–10 summarize breeding biology (from pair formation, nest, eggs, incubation, hatching, and nestling growth); the remaining chapters include a variety of topics: diet, plumage polymorphism, molt, flight, navigation, population biology, and population control. I appreciated the pencil drawings of Peter Trembáč. The literature cited section is 28 pages long and includes many references from eastern European sources. Of necessity, the literature gives guidance to that of domestic and wild Rock Doves as well. Richard F. Johnston came to this book from studies of feral pigeons at Lawrence, Kansas. Marián Janiga brought his experience with the feral pigeons of Bratislava, Slovakia. Together they provide a world view of feral populations of Rock Doves—PETER E. LOWTHER.

ANTBIRDS AND OVENBIRDS: THEIR LIVES AND HOMES. By Alexander F. Skutch, illus. by Dana Gardner. University of Texas Press, Austin, Texas. 1996: 268 pp., 16 black-and-white photos, 55 line drawings, 6 tables. $40 (cloth), $19.95 (paper).—Like many of Alexander Skutch's books, this one is a nice blend of personal observations accumulated over six decades and a distillation of the literature about the focal birds. Only two chapters represent modified versions of previously published work. This book deals with two of the largest South and Central American bird families, the antbirds (Formicariidae) and ovenbirds (Furnariidae), the former with roughly 250 species, the latter with about 215 (Skutch does not comment on the recent splitting of the antbirds into two families, the typical [Thamnophilidae] and ground [Formicariidae] antbirds or making the woodcreepers a subfamily of the Furnariidae). Antbirds are treated in the first eleven chapters, ovenbirds in the last ten. The first seven chapters of each section are parallel, dealing with a general description of the family; food and foraging; daily life; voice, displays, and courtship; nests; eggs and incubation; and young and their care. The eighth chapter details a single species. The accounts diverge at this point, with chapters nine and ten in the antbird section dealing with nesting success, breeding seasons, and survival, while in the ovenbird section a single chapter deals with enemies, nest success, and survival. Each section concludes with a chapter on the interactions of the family with humans. The pages ring with the names of interesting sounding birds—fire-eye, bare-eye, gnateaters, spinetails, thistletails, tuftedcheek, softtails, prickletails, barbtails, wiretails and brushrunner.

In the Foreword, David Snow states that the book is "full of gems of observation and description" and that one of Skutch's attributes has been to describe his observations "in a style full of fluency and grace." I agree. We not only learn about army ant biology and that there are 28 species of antbirds which are considered "professional" (obligate) army ant followers but read vivid descriptions of antbirds foraging with ant columns and swarms, using the ants as beaters. We learn that the Bicolored Antbird's (*Gymnopithys leucaspis*) voice is "Pleasantly whimsical rather than musical," that in displays "the same embellishments are conspicuous in both agonistic encounters and in courtship—they cannot change their clothes for different occasions." One ovenbird sings as "the shadows of night descend through clouds of foliage." He captures the essence of the birds, e.g., antpittas "are roly-poly birds with legs that seem too long for them and tails too short." Much of the text is descriptive, but there are frequent ecological comparisons such as of antwrens filling the ecological role of warblers of temperate forests, or hypotheses, e.g., that bare skin around the eyes may be advantageous to birds which forage in dense vegetation. Skutch also broaches broad philosophical questions, many of which have strong anthropomorphic implications—do antbirds feel love or affection for mates, anger, genuine distress, or fear? Skutch concludes that empathy suggests that they do but that science "remains stubbornly silent," and speculates on the importance of the answers to these questions. He states that spinetails and thornbirds (which construct elaborate stick nests) appear to take "pride in their housekeeping, and seem to *enjoy* building and maintaining their nests, which may be the reason why they make them so elaborate." These and other philosophical and metaphysical speculations may irritate some readers but do not detract from the careful and patient natural history observations which form the heart of this book. Skutch's writing is very personal—he takes the reader to the rainforest and makes the birds come alive—my favorite story in this book is about a Bicolored Antbird, "Jimmy," that used Skutch as a beater on many occasions for more than a year, following him and snapping up insects which Skutch disturbed.

The illustrations by Dana Gardner beautifully complement the text. There are no in-text references, a compromise to readability no doubt, but Skutch always credited other's work by name and a search of the bibliography usually turned up an unambiguous reference

(occasionally there were several papers by the same author and it was not entirely clear which one contained the information mentioned in the text). But this is a minor quibble. The book is informative and delightful natural history reading. I recommend it to anyone who plans to visit the New World tropics or study its birds.—WILLIAM E. DAVIS, JR.

THE NATURE OF MASSACHUSETTS. By Christopher Leahy, John Hanson Mitchell, and Thomas Conuel, illus. by Lars Jonsson. Massachusetts Audubon Society, Lincoln, Massachusetts, and Addison-Wesley Publishing Co., Reading, Massachusetts. 1996: 226 pp., 126 field sketches in pencil and watercolor. $40 (cloth).—This book was published as part of the celebration of the 100th anniversary of the founding of the Massachusetts Audubon Society. It focuses on the natural history of Massachusetts and is much more than the usual coffee-table book. The first of three sections, entitled "The Founding Mothers," presents the highlights of the history of the Massachusetts Audubon Society. In 1896 two Boston Brahmins, Harriet Hemenway and Minna Hall, began to organize a fight against the slaughter of birds for the millinery trade and soon recruited William Brewster, a founder of the Nuttall Ornithological Club and the American Ornithologists Union, as the first president of the fledgling Massachusetts Audubon Society (MAS). They also secured the support of a number of other prominent ornithologists, including Edward Howe Forbush, George Mackay, and Outram Bangs, and made Charles S. Minot the chairman of the board. The organization soon became a national activist, distributing legislation models and leaflets. This activism was influential in the formation of other state organizations and what would eventually become the National Audubon Society. The broadening of the focus from birds to natural history in general and the eventual focus on habitat preservation, both in Massachusetts and internationally in Belize and Costa Rica, rounds out the historical perspective. The second section, and bulk of the book, is a guide to the natural communities of Massachusetts. The state is divided into four sections and 23 natural communities (e.g., salt marsh, Atlantic white cedar swamp, oak-conifer forest). An informative discussion of the ecology of each community is followed by a list of plant and animal indicator species (including birds), the distribution of the community world-wide and in Massachusetts, conservation status, a list of places to visit in the state, and suggested readings. Scattered throughout the text are the attractive drawings and paintings by Lars Jonsson, nearly half of which feature birds. The illustrations range from rough pencil sketches to finished watercolors, and capture the essence of the natural communities that they illustrate. The final section of the book focuses on the 31 MAS wildlife sanctuaries. For each sanctuary there is a description of salient features (e.g., 200 miles of trails, 66 nesting bird species), directions, and telephone numbers. Appendices include a "Resources" section which provides a list of field guides, other relevant books, periodicals, maps, conservation organizations, clubs and programs, museums and "living collections," and governmental conservation agencies and programs. A glossary defines nearly fifty terms commonly used in the text (e.g., lentic, oligotrophic, riparian), and the thorough index provides the scientific names of all genera and species mentioned in the text.

This book has more than local or regional interest because of the role that MAS has historically played in conservation on the national and international level. I recommend this beautifully illustrated book to anyone interested in the history of the conservation movement or who enjoys well-written accounts of natural communities. It is, however, more about the places where birds live than about the birds themselves. Certainly, anyone visiting Massachusetts would find this book useful.—WILLIAM E. DAVIS, JR.

A NATURALIST ALONG THE JERSEY SHORE. By Joanna Burger. Rutgers Univ. Press, New Brunswick, New Jersey. 1996: 304 pp., 97 line drawings, 6 maps. $18.95 (paper); $40 (cloth).—This is a book of essays about the plant and animal communities of the New Jersey shore but has a broader perspective because many of the organisms described have extensive ranges. Hence, the book should be of interest to anyone curious about shore life from Maine to Florida—or shore life anywhere. Four introductory chapters deal with the origin of the shore and its biotic communities, birds on the salt marshes and beaches, a variety of commercial ventures (including mosquito ditching and pesticide problems), and the potential threats to the shore from global climatic change. The remaining 24 chapters follow a single cycle through the seasons, and each features a particular animal subject (about two-thirds of the chapters feature birds). In spring, we read of oystercatchers and willets, the Fowler's toads and their spring chorus, killifish, and horseshoe crabs on Delaware Bay. In summer we read of terns and skimmers, diurnal predator ghost crabs, mink and mussels, diamondback terrapins, and the New Jersey State Bird: the mosquito. In fall, the shorebirds return, and we follow migrating hawks and monarch butterflies at Cape May. We read of winter solitude, geese and brant at Brigantine and Barnegat Bay, and come full cycle to the harbingers of spring, Killdeer on the Rutgers campus, and gulls, herons, and egrets. Birds figure in some way in most chapters. The book reads easily, although a stronger editorial hand would have eliminated the occasional redundancies (e.g., we learn that fiddler crabs have burrows as deep as 35 inches twice in two pages), but this is a minor problem. This is very personal narrative by an author who has spent thousands of hours watching the plants and animals she describes. It is laced with appealing imagery—e.g., the chapter on horseshoe crabs begins, "A sea of dark brown shapes agitates the shallow water, giving the impression of intense fermentation, a massive pot of coffee coming to a boil." The drawings from her sketch pads add another personal and effective dimension. This book is clearly a labor of love, nicely written, informative, and a pleasure to read. A strong conservation message is implicit or explicit throughout. I highly recommend it to for anyone for whom the smell of salt air has a special meaning.—WILLIAM E. DAVIS, JR.

A BIRDER'S GUIDE TO NEW HAMPSHIRE. By Alan Delorey. American Birding Association, Inc., Colorado Springs, Colorado. 1996: 222 pp., 30 maps, 33 line drawings, 19 black-and-white photos. $16.95 (wire-o binding, wrap-around stiff paper cover).

A BIRDER'S GUIDE TO FLORIDA. By Bill Pranty. American Birding Association, Inc., Colorado Springs, Colorado. 1996: 388 pp., 83 maps, 29 line drawings. $18.95 (wire-o binding, wrap-around stiff paper cover).—These two recent additions to the American Birding Association's (ABA) birdfinding guide series, like the others in this series, are comprehensive birding guides, featuring excellent maps with text directions given to the nearest tenth of a mile. Both books have introductory sections which feature historical information on the region and cover topics such as weather, flora, birding hazards, birding ethics, and seasonal information. Both have numerous addresses and telephone numbers for local information, and both are graced with attractive line drawings. Both books have appendices with bar graphs illustrating status for each species by month, and the Florida guide has supplemental bar graphs showing status by region. The status codes are defined differently e.g., "rare but regular" (Florida) uses the same symbol as "Lucky to Find" (New Hampshire). Both contain faunal lists for animals other than birds (e.g., mammals, reptiles, butterflies), and both are well indexed both for bird species and location names.

The New Hampshire guide is divided into four regions with each region subdivided into local regions and loops, each with map and text. A chapter on the Bicknell's Thrush (*Ca-*

tharus bicknelli), recently promoted to species status, may be of particular interest to many. The Florida guide is divided into five regions, each extensively subdivided (e.g., 31 subdivisions for Central Florida), most with maps. A chapter on Florida specialty species, and a chapter listing exotic species may be of special interest.

Both books are "user friendly"—well-written, well edited, and well-illustrated. The books are sturdy and small enough (21.5 × 15 cm) to tuck into briefcase, glove compartment, or even a large pocket. I looked closely at the sections of each book which covered the areas of each state that I know best and found the coverage excellent. The wrap around rear cover irritates some people, but I find that it makes a good bookmark and offers protection for the book while traveling. I highly recommend both books to anyone with even a casual interest in birds and birding.—WILLIAM E. DAVIS, JR.

NORTH AMERICAN BIRD FOLKNAMES AND NAMES. By James Kedzie Sayre. Bottlebrush Press, Foster City, California. 1996: 291 pp. $24.95 (paper).—How many readers would recognize a bird called a "stone curlew" as a White Ibis (*Eudocimus albus*), a "water partridge" as a Green-winged Teal (*Anas crecca*), or a church martin as a European Starling (*Sturnus vulgaris*)? Hundreds of folknames and regional names have been applied to North American birds during the past four centuries, and Sayre has attempted to gather these names together into one book. A self-described amateur birder, Sayer traces his interest in bird folknames back to Neltje Blanchan's *Bird Neighbors* (Garden City Publishing, Garden City New York, [1898] 1925) which had a section entitled "also called" in the descriptions of many bird species. Sayre includes a bibliography of 63 references from which he compiled this book. The list contains the standard references (e.g., E. A. Choate and R. A. Paynter, Jr., "Dictionary of American Bird Names," Harvard Common Press, 1985; and E. S. Gruson, "Words for Birds" Quadrangle Books, New York, 1972) but is not exhaustive. For example, he does not list G. Trumbull's "Names and Portraits of Birds" (Haper & Brothers, New York, 1888) and hence is missing a few old or local names such as "duckinmallard" (duck and mallard) for the Mallard (*Anas platyrhynchos*) or "buzzard curlew" and "mowyer" (old word for one who mows) for the Long-billed Curlew (*Numenius americanus*). Thirty-four etymology references are also included which might be helpful to anyone wishing to delve into the subject on their own. Following a short introductory chapter, there is a chapter devoted to the origin of British bird names, since many were brought over to the New World with immigrants, and a chapter on the etymology of selected common North American bird names. This list includes mostly group names (e.g., warbler, vireo, oriole) but contains a number of individual species. Then follows a chapter on domestic birds including ornamentals, poultry, and cage and pet birds, and a sampling of birds seen in zoos, producing a rather odd assortment of etymologies. A brief chapter lists the more than 150 names for the flicker and contains a section describing the etymology of some of these names and their regional affiliation. The main section of the book (over 100 pages) then presents lists of names of each North American species listed by family in taxonomic order following the 1983 A.O.U Check-list (sixth ed.). The entries for each species consist largely of a list of names, with little reference to etymologies, regions, or references. The book is editorially naive. Latin names are italicized in some chapters but not in others, and although the A.O.U. Checklist is listed in the bibliography the common names do not consistently follow it. We do not really need to know that draft copies were printed on a Hewlett Packard Desk Writer at 300dpi. I found it an awkward statement that "The birds that reside in the Hawai'ian Islands have also been included, due to the islands long association with United States." A tighter editorial hand would have been most helpful. Despite its editorial short-

comings, the subject of the book is interesting and provides hundreds of names for North American species. The index, which runs nearly 80 pages, lists them all alphabetically. If you are interested in bird names and their origins, this book is one place to look for them.—WILLIAM E. DAVIS, JR.

STATUS, DISTRIBUTION AND BIOGEOGRAPHY OF THE BIRDS OF PARAGUAY. By Floyd E. Hayes, illus. by Dan Brown. American Birding Association, Inc., Colorado Springs, Colorado, 1995: 224 pp., 12 tables, 27 figs., color plates. $29.95 (paper).—This attractive and useful work is the inaugural monograph in a new series published by the American Birding Association. It is also the first overview of the Paraguayan avifauna in more than a half century.

The book contains the customary accounts of the geology of the country, its geography, vegetation, and climate, its ornithological history, and the author's field work. However, rather than the expected annotated list of the 645 species found in Paraguay, there is a slimmed-down coded checklist indicating for each bird its breeding or seasonal status, its habitat, and in which of the seven geographical regions it occurs.

Noteworthy distributional records, taxonomic problems, and species whose presences are hypothetical are each treated in separate chapters.

The chapter containing the biogeographical analysis is the scientific meat of the volume. Although Paraguay lacks topographic diversity, there are environmental gradients which are reflected in the composition of the vegetation and in that of the avifauna. Within this chapter are discussed the reasons for the regional differences in avian distribution, the barriers to dispersal, phenotypic variation, contact zones, etc.

A series of appendices give a complete chronological sequence of publications concerned with Paraguayan ornithology (of use to historians ?), a summary of the author's field work, the localities where western species reach their limits in eastern Paraguay and vice versa, a list of endangered species, and a gazetteer of ornithological localities.

The 27 figures, ranging from maps to color photos of habitats, are of outstanding quality.—RAYMOND A. PAYNTER, JR.

ECOLOGY AND EVOLUTION OF ACOUSTIC COMMUNICATION IN BIRDS. Edited by Donald E. Kroodsma and Edward H. Miller. Cornell University Press, Ithaca, New York. 1996:587 pp., black-and-white figs. $35.00 (paper); $75.00 (cloth).—A key resource for researchers in avian acoustic communication over the past 14 years has been Kroodsma and Miller's edited two volume set, "Acoustic Communication in Birds". The editors of that influential work have now introduced an update to this classic reference. Reflecting the growth in the field of avian bioacoustics, this volume has more numerous and, in many cases, more specialized chapters. Thirty-nine contributors have written 25 chapters and an appendix. These contributors are all leaders in their area of specialty and have written about what they have found most exciting in the field. However, one drawback of an edited volume is that there are a few notable omissions, both in terms of contributors and topics covered. Most notably, there is little coverage of the mechanisms of acoustic communication and only a single chapter on neural and endocrine factors. There is almost no coverage of syrinx anatomy or the physiological basis of sound production in birds. Although this book is focused on ecology and evolution, it is becoming more and more clear that ecologists need to consider proximate mechanisms. Similarly, neurobiologists and physiologists studying acoustic communication

in birds need to consider ecology and evolution more than they do. Unfortunately, this book is not integrative in this sense. It is an excellent reference for the topics that it does cover, and perhaps one of its only shortcomings is in the topics that it does not cover.

The book is very well organized. The chapters are organized into five sections: development, vocal repertoires, vocal variation in time and space, control and recognition of vocalizations, and the behavior of communicating. Each section has a brief introduction outlining and introducing the chapters within it. These sections are followed by an appendix on sound archives and instructions on how to best archive bird recordings. The literature cited in all chapters are compiled in a single references section, and each reference is cross-indexed to the pages on which it was cited. There are also both a subject and a taxonomic index. Thus, the book's organization facilitates its use as an excellent academic reference.

One theme running through the book is a call to tie research in avian acoustic communication to the conservation of avian species. One chapter is devoted to urging further study of bird sounds in the neotropics. One of the strengths in all of the chapters is in highlighting areas ripe for future study. I hope that this call to consider conservation will be heeded.

In the preface, the editors list three goals for this book. First, they wanted the book to be a showcase for the field of acoustic communication in birds. Second, they hoped the book will suggest areas rich for future research. Third, they hope the book will increase appreciation for species diversity and raise concern about conservation of species. The book should succeed on all three counts. In my reading, the book's most compelling success is in its second goal. This book will undoubtedly be a benchmark for the next decade in the study of the ecology and evolution of acoustic communication in birds.—SCOTT MACDOUGALL-SHACKLETON.

BLUEBIRDS FOREVER. By Connie Tops. Voyageur Press, Stillwater, Minnesota. 1994. 128 pp., 120+ color photos. $22.95 (paper).—The many energetic supporters of bluebirds have built and placed more than 500,000 nest boxes along the roadways of North America. These boxes have been instrumental in the remarkable comeback of declining bluebird populations and appear to have caused an increase in their range. The present book documents that effect, the people who participate in it, and ways that the reader can participate in the work. Through accounts of the efforts of local bluebird fans at widely scattered sites across the United States, the author elaborates on what must be done to encourage bluebirds. It truly is remarkable that some groups have built 500–2000 boxes over a weekly session in this effort. (Or is it more remarkable that one group of volunteers built a bluebird trail of more than 3000 boxes that completely spans the length of Montana at an interval of more than 3 boxes/km!).

Predator control, discouraging pests, nest-box design, placement of nest boxes, and numerous other topics are discussed. If you love bluebirds, you'll love this book. If you don't think much of bluebirds, one way or the other, after you read this book you'll love them. The beauty of the color photos is well worth the price of the book. Add to that the readable, easy prose and you have a very fine publication. The author provides plans for several kinds of successful bluebird nest boxes and cites much of the relevant published literature regarding bluebird biology.—C. R. BLEM