

## ORNITHOLOGICAL LITERATURE

EDITED BY WILLIAM E. DAVIS, JR.

**BIRD LIFE OF WOODLAND AND FOREST.** By Robert J. Fuller, illus. By Chris Rose. Cambridge University Press, Cambridge, England. 1995: 244pp. \$64.95.—Chapter 1 provides a background to British woodland. Since World War II the acreage of woodland in Britain has increased from 6.7% in 1967 to 9.4% in 1980, much of it through increased planting of coniferous forest in Scotland. Despite much conversion of broadleaved woodland to conifer plantation, “ancient woods” (those that have existed continuously since 1600) still form 23% of all woodland in England. Distinct regional patterns in woodland in Britain persist: mixed deciduous woodlands with beech, hornbeam and sweet chestnut in the south-east; other mixed deciduous thence to Wales and central England; elsewhere upland sessile oak and birch woodland, with pine and birch woodland and birch and birch and hazel forests in Scotland. These regional patterns are the outcome of a long history of land management in Britain that has had significant effects on bird distribution, the subject of chapter 2. Here Fuller draws on the rich literature on European forests and their avifaunas to describe the historical pattern of bird distributional changes as forests declined. Some of the observations from his own work in the primeval Białowieza forests of Poland will strike chords with students of tropical forests.

Chapter 3 turns to how birds use forests but essentially is a narrative description of seasonal changes in the composition and behavior of the bird assemblages present in woodland. American readers used to season-specific plot-oriented research accounts will be struck by the wealth of observational information available for all stages of the annual cycle of bird use of British woodlands. Chapter 4, although entitled “Abundance and distribution of woodland birds,” is a systematic and largely quantitative treatment of determinants of bird abundance. A point of relevance to the current revival of the Clementsian versus Gleasonian debate is Fuller’s baldly stated conclusion “There is no such thing as a ‘typical woodland bird community.’” This is the sort of statement one can make authoritatively only from decades of experience over the full spectrum of woodland types and is typical of Fuller’s writing here. The chapter discusses such environmental influences as geography, altitude and land productivity in similar narrative accounts, but presents quantitative analysis in relation to woodland area. American ecologists may be surprised by Fuller’s conclusion that there are few, if any, genuine forest interior species in European woodland, with the possible exception of the Capercaillie. Fuller concludes instead that birds are more often affected by area-independent attributes of woodland than by area-related ones. Americans inclined to dismiss Fuller’s conclusion as peculiar to Europe might note his comments about the Lynch-Whigham demonstration that Maryland forest birds are more closely related to regulation characteristics than to forest area. Other issues addressed in this chapter include woodland isolation, edge effects, forest growth stage and patchiness, and stand structure.

The following four chapters focus in turn on specific woodland types, including scrub, broadleaved forests, upland forests, and coniferous woodland. In general these chapters introduce the type in general terms, discuss a set of examples of particular variants, discuss how birds relate to the specifics of the habitat type, and provide discussion of relevant woodland management issues. The role of grazing in woodland features more prominently than would be the case in an equivalent work on American forests, in part because of a long tradition of grazing livestock in wood pastures. Indeed Fuller makes a case for reinstating grazing in certain scrub habitats types that are losing crucial conservation features to vegetation outgrowth. Points of interest in broadleaved woods include continuing increase

in abundance of some species as woods age even beyond 100 years; the rich bird life of oakwoods in association with the enormous densities of defoliating caterpillars on oak trees; and the significance of beech mast in the population dynamics of certain species.

The final chapter discusses woodland and woodland birds in the context of the sweeping changes in the British countryside. Brief reviews of the effects of air pollution, climate change, recreation and disturbance, and farm woodlots are followed by a more extensive discussion of the significance of natural woodland for birds. In contrast to the United States, conservation effort in Britain has concentrated on issues of management of the remaining semi-natural woodland since the extensive tracts of forest still present in the U.S. have long since been lost from Britain. In an interesting parallel to the Wildlands proposal for North America, Fuller advocates creation of a new natural forest—large enough to simulate the dynamics of a wildwood “arguably the single most exciting development that could occur in British conservation.” The book concludes with four appendices (the first two detailing the habitats and nest sites of British and (other) European woodland species, the third a useful glossary of terms in British woodland ecology and management, and the fourth a list of scientific names), an eighteen-page bibliography, and an adequate index.

The book is an excellent example of a genre of ecological writing still prevalent in Europe but uncommonly found in North America, one almost of natural history writing but without abandoning the rigor of ecology. One finds few statistical tests cited in Fuller’s book but his quantitative examples have origins in a technical literature rooted in statistical testing or are rooted in a magnitude of personal experience that precludes serious challenge to his conclusions: the insights of weeks and months and years in the field permeate this book. Occasional shortcomings are evident; on page 66 one is told “see Fig. 5.3” but in another work, not very helpful if one doesn’t have the work to hand! Fuller notes the importance of tree species richness for bird diversity but cites only some recent work, not Ulfstrand’s pioneering demonstration of the relationship! We are told on page 75 that rhododendron woods are poor for breeding birds but do provide good roosting sites, and then meet almost *verbatim* repetition of the point six pages later. A penchant for statements such as “Pied Flycatcher is a surprising absentee from most birchwoods” (p. 117) without explanation as to why it is surprising is evident on several pages. However, I doubt it is possible to write a book without a few such slips getting through. A more substantive criticism is the emphasis on coppiced woodland: although close to Fuller’s heart (he has authored multiple papers on this habitat), the habitat features here to an extent disproportionate to its overall importance for British woodland birds.

I suspect most of the North Americans who should read this book will not do so, with a chauvinistic “It’s about British birds and North American birds are different” serving as justification. But in this attitude lies failure to learn from an international expert in the field. Fuller’s systematic comparing and contrasting of the biology behind North American, British and European ideas about forest birds holds lessons worth considering. Most forest ornithologists should at least read this book in the interests of their general education; beyond that I expect that it will be in Europe that its real value will be evident.—RAYMOND J. O’CONNOR.

STOKES FIELD GUIDE TO BIRDS: EASTERN REGION. By Donald and Lillian Stokes. Little, Brown and Company, Boston. 1996: xxiv + 471 pp., numerous color photos and range maps. \$16.95 (paper) and STOKES FIELD GUIDE TO BIRDS: WESTERN REGION. By Donald and Lillian Stokes. Little, Brown and Company, Boston. 1996: xxiv + 519 pp., numerous color photos and range maps. \$16.95 (paper).—These photographic guides synthesize a tremen-

dous amount of information on the identification, behavior, habitat, and conservation of North American birds into a pair of field guides. The books are structured as species accounts with "learning pages" included before such difficult groups as hawks, shorebirds, gulls, flycatchers, warblers, and sparrows. For each species account, there are photographs, range maps, and sections pertaining to the identification, habitat, voice, conservation, feeding, nesting, and other behaviors of the species covered. The division of information into these standard sections makes information about a species easily accessible. While most species are covered on individual pages, a few species pairs are covered jointly, including the pairs of Cedar (*Bombycilla cedrorum*) and Bohemian waxwings (*B. garrulus*) and Northern (*Lanius excubitor*) and Loggerhead shrikes (*L. ludovicianus*). Both common and scientific names are up-to-date as of the fortieth supplement to the American Ornithologists' Union "Check-list of North American Birds" (Auk 112:819-830, 1995). The photographs are generally crisp and representative.

Several features of these books will be very attractive to beginning or novice bird watchers. One of the most innovative additions is the inclusion of symbols to indicate which species are likely to use bird feeders and/or bird houses. These symbols make it much easier for beginners to determine which species might be encountered in their yards or which species might be attracted with bird houses. Just prior to the species accounts is a "quick guide to the most common birds," which provides an even quicker guide to regular backyard birds. Additionally, color-coded tabs to bird groups make finding a group of birds much faster than flipping through the book or using the index.

Ornithologists and advanced bird watchers may find that these books have several deficiencies. For example, the guides do not adhere strictly to the taxonomic order outlined in the A.O.U. "Checklist of North American Birds" (6th ed., 1983). Scientific nomenclature is not available at the ordinal, familial, or subspecific level in these guides. Additionally, these guides are not as comprehensive as some of the available illustrated guides in their coverage of subspecific, sexual, and seasonal differences in plumages. Despite these deficiencies, these guides do provide an interesting and useful collection of information in a single, easy-to-use source and are certainly the best photographic field guides available.—SARA R. MORRIS.

**BIRD CONSERVATION: THE SCIENCE AND THE ACTION.** By John Coulson and Nicola J. Crockford (eds.) Ibis, 137: Supplement 1. 1995. 250 pp.—This volume is the proceedings of a meeting of 220 scientists and conservationists that took place in April 1994 at the annual conference of the British Ornithologists' Union in Bedfordshire, U.K. The goal of the conference was to bridge the gap between the science and action of bird conservation. The participants were from North America, Europe, Siberia, Australia, New Zealand, and South Africa. Representatives from South America, tropical Asia, and the rest of Africa were conspicuously absent.

The conclusions and recommendations are presented first as "a message to influence the role and direction of ornithology in conservation to the year 2000 and beyond." The important points are that if we are to succeed in our efforts to conserve birds, we must develop strong communicative partnerships between scientists and policy makers, develop international collaboration and resolve, make decisions based on sound science and grounded in a knowledge of natural history, pay attention to the landscape and the geographic region, monitor a wide species base, employ predictive models, manage intensively when there is little other choice, and evaluate critically the strategies and priorities for conservation.

The 34 contributions that follow the conclusions and recommendations range from brief

essays to detailed analyses and applications of models, reviews of hands-on management strategies, and extinction risk assessment. E. M. Nicholson begins with an interesting historical account of British ornithology and conservation and proposes future directions in research, management, outreach, and education. Next, Jeremy Greenwood et al. present a valuable assessment of new long term strategies for monitoring breeding birds in the United Kingdom, including an important discussion of statistical inference, power, and uncertainty. R. E. Green discusses the difficulties of detecting and diagnosing declines. Studies by Jesper Madsen on migratory waterfowl and David Gibbons et al. on Buzzards (*Buteo buteo*) and Ravens (*Corvus corax*) supply an important geographical perspective and call for the maintenance of the geographical ranges of native species.

The importance of a landscape perspective is emphasized by John Wiens in his insightful discussion of landscape mosaics and by H. Ronald Pulliam et al. in their use of mobile animal population (MAP) models. Paul Opdam et al. discuss metapopulations in landscapes, while Daniel Simberloff urges caution in attributing bird declines to changes in metapopulation dynamics.

Predictive models are used by many authors and are recognized as important tools in conservation, but only to the extent that they are grounded in knowledge of natural history and used in conjunction with long-term ecological research and monitoring. The importance of modeling density dependence, compensatory processes, and individual-based optimal foraging considerations is emphasized in many papers, like the particularly brilliant studies of Oystercatchers (*Haematopus ostralegus*) by John D. Goss-Custard et al. and of Grey Partridge (*Perdix perdix*) by G. R. Potts and Nicholas Aebischer.

Hands-on management of individual species is highlighted next, beginning with an overview by Tom Cade and Stanley Temple, and followed by individual papers on Nene (*Branta sandvicensis*), Mauritius Kestrel (*Falco punctatus*), and New Zealand flightless birds.

These papers are followed by a series of international perspectives on bird conservation from Siberia, the United States, Australia, and Europe. I was surprised that Partners in Flight is not mentioned. Conservation strategies for UK birds are elaborated further in papers on action plans, priorities, and the role of statutory bodies. The volume ends with a global view of conservation priorities by Colin Bibby and an assessment of the meeting by Staffan Ulfstrand.

This publication, with its wealth of information on a diverse array of topics related to bird conservation, will prove to be a valuable resource for scientists, conservationists, and upper-level students of conservation biology and ornithology. It establishes a strong foundation from which to build strategies for conservation research and monitoring, and for turning science into action.—DAVID C. MORIMOTO.

THE WIND MASTERS: THE LIVES OF NORTH AMERICAN BIRDS OF PREY. By Pete Dunne, illus. by David Sibley. Houghton Mifflin Co., Boston. 1995: 263 pp., 66 black-and-white drawings. \$22.95 (cloth).—This book consists of 33 short stories—one each about thirty North American diurnal raptors (hawks) and three New World vultures. They present a brief glimpse into the lives of fictional representatives of each species, a snapshot in time used by the author to say something instructional about each. The author states in his introduction that he has chosen fiction as a vehicle because of the “effectiveness of this writing technique as an instructional tool.” Dunne’s great writing skills and profound appreciation and breadth of knowledge of raptors have enabled him to make this rather iconoclastic approach pay big dividends. I found the imagery and metaphor delightful, e.g., a hawk “tearing pieces of Red-winged Blackbird free with her bill and offering a tribute of feathers to her ally the

wind," or vultures "Huddled on their perches, wrapped in shabby vestments, the birds look like a group of balding monks gathered in prayer." I am usually offended by blatant anthropomorphism in instructional writing, but found a magnanimous eagle, a vulture "hissing a few bars of 'Teddy Bear's Picnic'", or a condor dreaming rather appealing. The stories are instructional—they contain loads of information on raptor biology, and each species has clearly been thoroughly researched. An evolutionary theme is present throughout, along with philosophical abstractions and speculations involving predator/prey relationships and human interactions. When it comes to human interactions, Dunne is careful to distinguish between hunters and hawk shooters: "Hunters are conservationists who admire and are supportive of the creatures they hunt . . . Hawk shooters are ignorant, selfish bastards who like to kill things."

The book follows a progression of seasons from one winter through the next, and each species has been used to focus on some aspect of raptor biology (e.g., courtship, fledging, migration) through this sequence of seasons. The last chapter (story) deals with the California Condor (*Gymnogyps californianus*), and Dunne presents a history of this species' decline and thoughtfully defends the recovery efforts.

The book is beautifully illustrated by David Sibley with a portrait profile cameo to begin each chapter and a full-page drawing depicting some situation described in the story.

This is a marvelous book, a compendium of wonderful, poignant, informative, and thought-provoking stories. I cannot imagine anyone not wanting to read them.—WILLIAM E. DAVIS, JR.

NATURAL HISTORY OF THE UNICOLORED JAY IN CHIAPAS, MEXICO. By Tom Webber and Jerram L. Brown. Proceedings of the Western Foundation of Vertebrate Zoology 5: 135–160 Camarillo, California. 1994: four numbered text figures, 11 tables. \$5.00 (paper).—Unlike its congeners, the Mexican Jay (*Aphelocoma ultramarina*) and Scrub Jay (*A. coerulescens*), little is known about the behavior and ecology of the Unicolored Jay (*A. unicolor*) which lives in mountain forests from central Mexico south to El Salvador. This remarkable pioneering study of the social system of a tropical forest species was conducted in the mountains of southeastern Chiapas, Mexico, along the Guatemalan border.

About half the birds in each of four groups were marked with flexible, colored plastic leg flags and matching bands. In two groups, the two unbanded birds could be distinguished by plumage patterns. Incubation and care of the young were observed from 0700 to 1200 daily, weather permitting. Observation of fledglings was more variable because of the difficulty of finding and following the birds. Sex of some birds was inferred from their role in incubation and brooding, by their copulatory and mate-guarding behavior, and whether or not they gave the "Rattle" call, which is given only by females in congeneric species of jays. Such use of multiple behavioral criteria was found to be more reliable than use of weight and wing length which showed no sex differences.

Unicolored Jays live in groups of 4-9 birds ( $\bar{x} = 6.5$ ,  $N = 6$ ) one year old or older that defend an all-purpose territory of about 30 ha which is defined by the local topography. The group includes one breeding female, who is two or more years old, and one or more non-breeding females, also one primary male and one or more secondary males. Membership of the groups was stable throughout the study, but members often separated into smaller, temporary groups, which reassembled after variable intervals.

The omnivorous jays foraged in the canopy. They also stored and retrieved plant food, some of which looked weathered, suggesting prolonged storage and the ability to remember the location of such items. Intrusions of neighboring groups were repulsed when all members

of the group confronted the intruders with calls and display flights past the opponents. Although no predation was observed, the jays mobbed, chased, attacked, and gave alarm calls to a variety of birds and mammals including potential predators.

Displays of Unicolor Jays were similar to those of congeners and included song displays, variations on begging, allofeeding which was common, and allopreening which was rare and brief. All members of the group except the dominant male were fed by one or more other members of the group, which leads the authors to suggest that allofeeding is important to group cohesion. Copulation was usually at the nest and not preceded by elaborate display. The concentration of display behavior between the beginning of nest construction and the beginning of incubation seems to reflect courtship and mate-guarding by the dominant male, attempts by subordinate males to court and copulate with the primary female, and attempts by subordinates to pair. In fact subordinate males that fed the primary female also followed her when she was away from the partially constructed nest and appeared to copulate with her, but as the nest neared completion the primary male followed the primary female more closely and kept subordinate males away. Could a subordinate male father some of the nestlings? Possibly, but DNA will be difficult to obtain and such analysis was not part of this study. Subordinates did copulate occasionally, but there is no evidence that subordinate females contributed to the clutch. Again, one wishes for DNA evidence. The behavioral differences among group members, between successive reproductive attempts within a group, and among the groups raise many unanswered questions concerning the social dynamics of the Unicolored Jay.

The nest is a typical corvid nest of sticks 5.5–13.5 m up in an oak. The primary male and female provide most of the nest material, although other group members contribute some. Only the primary female incubates and broods. She is fed by all group members. The three to four nestlings remain in the nest 21–26 d and are fed by most or all group members. Once out of the nest, the fledglings are fed by most of the group members. In both the nestling and fledgling stages the primary female is the least likely to feed the young, whereas the primary and secondary males had about equal feeding rates.

How do Unicolored Jays compare to their better studied congeners? Group size is intermediate between that of the Scrub Jay and Mexican Jay. Like the Scrub Jay, only one female breeds per group. Like the Mexican Jay, more than one male may copulate with and fertilize the primary female, and most or all members of the group feed the young. Unlike both congeners, all members of the group participate in nest construction.

Comparative study is the cornerstone on which our understanding of behavioral function and phylogeny rests. This comparative study is important as an addition to the literature on the social behavior of jays and as a pioneering study of the social behavior of a tropical forest species.—EDWARD H. BURTT, JR.

A BIRDER'S GUIDE TO EASTERN MASSACHUSETTS. By Bird Observer, illust. by Barry W. Van Dusen. American Birding Assoc., Inc., Colorado Springs, CO. 1994. 304 pp. maps and bar graphs. \$14.95 (paper).—Many birders traveling to an unknown territory on a birding trip rely on the birdfinding guides available through the American Birding Association to locate areas in which specialties may occur. These guides, formerly known as the Lane Guides, have concise directions and detailed maps. The newer volumes are spiral-bound and are of a size that is easy to carry.

This recently published guide for Eastern Massachusetts is no exception. It is a compilation of site guides that have appeared in *Bird Observer* since its inception in the early '70s, and a wealth of additional information. Although there are a number of contributing

authors, the writing is in much the same vein, making the book very readable. The guide was well planned with a quick reference map on the inside back cover. The detailed maps are excellent and, for the most part, very easy to read. The section relating to specialties and the bar graphs are informative. There are special sections on pelagic birding, both on land and by sea, and spring and fall hawk watching.

One's initial reaction to this book might ask, why the Massachusetts guide is as thick as some for the large western states (and it only covers the eastern two-thirds of the state at that). Most birders have heard of Newburyport (first site of Ross's Gull in the lower 48) or Monomoy Island off Cape Cod, but the distant birder may not have heard of the many other good birding spots. One can spend days or even weeks and still never cover all the places detailed in the guide. From Salisbury Beach to Provincetown, Martha's Vineyard, and Nantucket, from Mt. Auburn Cemetery in Cambridge, to Quabbin Reservoir, there is something for birders at every level.

Massachusetts, for its size, has been blessed with a large diversity of habitat that attracts birds in great numbers depending on the season and the weather conditions. The areas and best times to visit are well described in this guide. The waters off Massachusetts provide some of the best pelagic birding on the east coast, and this guide details both where and when to see both birds and mammals. There is a listing of the various whale-watching boats, as well as organizations that sponsor trips strictly to see birds.

The chapter on hawkwatching covers the best sites and times for viewing the largest number of hawks and also provides an overall view of hawkwatching in the northeast.

When planning to visit a specific area, a birder would be wise to consult the guide ahead of time for problems that might be encountered, such as congested urban areas, missing street signs, or the best time of day to visit. Be sure to obtain a tide table when planning to bird along the coast.

There are numerous notes throughout the book regarding private property and using good birding ethics. It is important that birders follow these guidelines.

My only disappointment in the book is that it does not cover several excellent birding places in the western part of the state, including Mt. Greylock. Will there be an addendum to this guide some day that will cover the rest of the state?

If you are heading for Massachusetts on a business trip, off to visit the historic sites of this great state, or planning a birding trip to the northeast, be sure to take this book along—I highly recommend it.—BETTY S. KLEINER.

ECOLOGY AND CONSERVATION OF THE MARBLED MURRELET. Edited by C. John Ralph, George L. Hunt Jr., Martin G. Raphael, and John F. Piatt. Gen. Tech. Rep. PSW-GTR-152, Albany, California: Pacific Southwest Research Station, U.S. Dept. of Agriculture, Forest Service, P.O. Box 245, Berkeley, California 94701-0245. 1995: 420 pp., 35 maps, 103 tables and 104 figures. Free (paper).—This substantial volume (mass 1.4 kg) sheds considerable light on the enigmatic forest-nesting seabird, the Marbled Murrelet (*Brachyramphus marmoratus*). This species is confined to a narrow strip along the Pacific coast of the United States and Canada, from the Aleutian Islands to California (an additional [sub] species is found in Russia and Japan). Generally seen inshore, its range may extend seaward 40 km and inland for 70 km where suitable nesting habitat exists. Concern for its status surfaced notably in the 1980's with resolutions from the Pacific Seabird Group and, later, the National Audubon Society. These eventually led in 1992 to a formal Federal listing as threatened for the populations in Washington, Oregon, and California. The species had been designated as threatened in Canada in 1990. The resulting assessments of the species' populations are

summarized in this volume and include information gathered through the 1993 breeding season. The assessments apparently were used in development of the Draft Recovery Plan (published by the U.S. Fish and Wildlife Service in July 1995). Four of the six members of the Recovery Team are among the authors of one or more chapters in the Assessment.

The book contains 37 chapters (ranging in length from 2 to 23 pages) by 45 authors, and a single section listing nearly a thousand references. The chapters are each structured like traditional scientific papers, and the authors seem to have been under a firm editorial hand. The absence of a subject index impedes some uses of the volume. The introductory chapter (by the editors) provides a clear overview of the species' status and of the results of this interim assessment which addressed the reasons for listing. These were primarily the loss of old growth forests (nesting habitat) and, secondarily, losses at sea due to net fisheries and the potential threat of oil spills. Following the two introductory chapters the book is divided into four parts: nesting ecology, biology and behavior (7 chapters), terrestrial environment (activity patterns and habitat use) (11 chapters); the marine environment (foraging, threats and distribution) (15 chapters); and two chapters on trends and status of population and habitat. Inland surveys and work at breeding sites posed formidable difficulties, even for establishing baseline data on this secretive bird. Although more readily observed at sea, the numbers are difficult to interpret. For instance, one estimate of the Oregon population is three times another. Preliminary analyses of productivity, based on adult/young ratios at sea, suggest that the present populations would continue to decline for some time, even without further loss of habitat, because displaced breeders are not replacing themselves. However, considerable uncertainty remains about year-to-year variations, and most demographic features are poorly known.

Several research needs are identified, notably relating to nest predation (especially by corvids) in the fragmented forests. Some of these needs, and the tentative nature of some conclusions, will have been addressed in subsequent work. The inventories and methods developed here can be the bases for monitoring and for analytical studies. Despite an overall somber tone to the conclusions, it is encouraging that the editors remain optimistic about the long-term survivability of the species throughout its range. It is to be hoped that the accumulated knowledge will be wisely used, not only for the populations currently listed, but also in southeastern Alaska where the largest numbers of Marbled Murrelets are now facing massive impacts.—JEREMY J. HATCH.

LIFE ON THE EDGE: A GUIDE TO CALIFORNIA'S ENDANGERED NATURAL RESOURCES. Carl G. Thelander, Ed. BioSystems Books, Santa Cruz, California. 1994. 550 pp., numerous color plates and photographs. \$45.00 (paper).—This multiauthored, lavishly illustrated, coffee table sized volume is designed to provide a layman's introduction to the natural history of 115 of California's endangered or threatened species. Of the 512 text pages, 123 are devoted entirely to birds. Twenty-nine bird species and subspecies are discussed, including the California Brown Pelican (*Pelecanus occidentalis californicus*), Light-footed Clapper Rail (*Rallus longirostris levipes*), Marbled Murrelet (*Brachyramphus m. marmoratus*), Willow Flycatcher (*Empidonax traillii*), Bank Swallow (*Riparia riparia*), San Clemente Loggerhead Shrike (*Lanius ludovicianus mearnsi*), and Inyo California Towhee (*Pipilo crissalis eremophilus*). The individual species accounts which comprise most of the book include brief, overviews of basic biology, conservation and recovery efforts, and other relevant information. Included with each species account is a map showing current breeding and wintering range in California. All species are illustrated in color, often several times. Species accounts are not generalized but are specific to the species' natural history in California. Adding a



somewhat eclectic component to the work, interspersed among the species accounts are essays dealing with historical or anthropological matters. For example, included among the bird accounts is "Why the humming-bird became eagle: legend from the Santa Rosa Indian Reservation."

This book succeeds in its objective of providing an attractive and useful introduction not only to California's threatened and endangered species but of also providing some context for the reader to comprehend how the state has changed historically and how change continues to effect the status of species. Anyone with a serious interest in California natural history will probably find much enjoyment in reading this book. Included is a complete authors list, index, glossary, and appendix listing additional species and subspecies of concern (39 of which are birds) and showing in which counties (there are 57) each of those listed occurs. The literature cited section is brief and highly selective.—JOHN C. KRICHER.

HANDBOOK OF THE BIRDS OF THE WORLD. VOLUME 2: NEW WORLD VULTURES TO GUINEA-FOWL. By J. del Hoyo, A. Alliot and Jordi Sargatal (eds.). Lynx Edicions, Barcelona, Spain. 1994:638 pp., 60 color plates, \$75.—This is the second volume in this monumental series. The quality of the work remains high—the text is excellent and thoroughly clear. The small print will tax the vision of some readers, but is clean and relatively free of typographical error. The illustrations are attractive and clean, although the range of plumages occurring in some species is not shown (e.g., Bald Eagle [*Haliaeetus leucocephalus*]). Given the size of the text, the price is well within reason. However, it is a pity that the costs of the series (more than \$100 per volume for a total of 12 volumes) will prohibit acquisition by all but libraries, the very dedicated, or those with lots of surplus cash—C. R. BLEM.

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