

ORNITHOLOGICAL LITERATURE

CURRENT ORNITHOLOGY. Volume 6. Edited by Dennis M. Power. Plenum Press, New York, 1989:332 pp. \$59.50.—This volume is the first under the editorship of Dennis Power, who states that the purposes of the series are: (1) to provide information to researchers needing concise overviews, (2) to provide updates on specific schools of thought, and (3) to stimulate and suggest directions for new research. By my reckoning, three chapters fall in the first category, two fall in the third category, but one chapter does not fit into any category and travels out of the realm of ornithology and science.

The three review chapters all deal with migration. First, Kerlinger and Moore demonstrate how atmospheric structure should affect bird migration, based on wind patterns and changes in relative humidity and temperature. The results that birds using flapping flight should migrate at night and soaring birds should migrate during day seem straight forward if atmospheric structure is the selective force that they contend. Next, Lövei discusses migration of passerines between the Palaearctic and Africa, where, unlike New World migrants, birds migrating to Africa cross many geographical barriers, including water, mountains, and the Sahara Desert. Many are fruit eaters during migration, and many species have a “step” migration pattern, visiting a series of areas during each winter as resource abundances change. Lövei ends his chapter on a cautionary note: habitat destruction on wintering grounds and at migratory stop-over areas and increasing spread of deserts may have profound adverse effects on Palaearctic migrants. Indeed, certain species that winter south of the Sahara have already begun to decline in numbers, in a manner similar to the decline of some passerines in the New World. Lastly, Waldvogel presents the opinion of the Cornell research group: “claims that olfaction forms a universal and essential element of pigeon homing must be considered unsubstantiated at this time.” Two research groups, one in Italy and one in Germany, contend olfaction is important in migration, while two groups, one at Cornell and one in Germany, contend that it is not. I cannot foresee how this conundrum is going to be resolved very easily. As Waldvogel remarks, however, we know a lot more about avian olfaction than we did prior to this controversy.

The first two chapters are the most stimulating. Breitwisch contends that breeding bird populations do not have a 50-50 sex ratio, but a sex ratio in favor of males, and that females suffer greater mortality between fledging and their first breeding attempt. Brashly contending that that is so, he reviews the various reasons why more fledged females die than males. That leads to a reexamination of the argument that fewer females are found in breeding populations because they make more of a parental investment (PI) in young than do males. Breitwisch concludes that little data exist to argue that male and female PIs differ in bird populations. There are, however, a few problems with this chapter. For one, much of what he contends is based on very few data. Secondly, although problems with quantifying PI are mentioned, few insights are offered about how to overcome those problems, particularly in terms of measuring “risk.” For example, he takes a hard line on female disappearance during brooding and incubation: only actual cases of predation can be used and those need to be compared with predation rates on roosting males. Since much of that occurs at night, and who knows where males are roosting, this is no easy task. Nonetheless, Breitwisch’s chapter should interest anyone conducting research on avian breeding ecology and much of what he contends lends itself to testable hypotheses. Only time and more data will tell if he is right, or out in right field.

Butcher and Rohwer address conspicuous and distinctive coloration in birds, which they term “colorfulness.” If colorfulness acts as a signal, they contend that we should be able to discover what a bird is trying to signal about. They review all proposed hypotheses covering

a wide variety of reasons, in an attempt to explain the "three rules of avian color dimorphism": (1) males tend to be more colorful than females, (2) adults tend to be more colorful than young birds, and (3) breeding season birds tend to be more colorful than nonbreeding season birds. The general conclusions are that some form of sexual selection is important in maintaining colorfulness, that no one reason is likely to explain a wide variety of color patterns, and that there could be multiple reasons for a specific color pattern. Butcher and Rohwer mention ways to test various hypotheses, so that this chapter would be useful to anyone wishing to investigate color patterns in birds.

The most interesting and controversial chapter is by Noel and Helen Snyder on the California Condor (*Gymnogyps californianus*). Occupying nearly a third of the volume, the Snyders present a biased account of events leading to removal of condors from the wild. They are up-front about that, however, stating that they are not trying to please people, but rather to present their own personal assessment of the biology and conservation of condors. In so doing, they name names, point fingers (sometimes at themselves), and offer their candid opinions concerning why certain individuals and agencies acted in certain situations. I suspect that many people are not going to be happy with this chapter.

The Snyders start by reviewing the history of research on condors. Koford's research (late 1930s and 1940s) is discussed in detail, as is a follow-up study by his friends, the McMillan brothers (early 1960s), published with Alden Miller. A main point of controversy is Koford's estimate of 60 condors, which the Snyders (and others) conclude was a gross underestimate of possibly 120 to 180 birds, and the McMillans' estimate of 40 condors some twenty years later, which the Snyders conclude was also an underestimate of 80 to 120 birds. During the 1960s and 1970s, systematic censusing of condors began, and estimates of about 60 birds were made in the late 1960s. More controversy arose since those who believed Koford's estimate contended that condors were holding their own, while others believed that condors were in decline. The McMillans, of course, argued that censuses were over-estimating condor numbers. By 1980, however, nearly everyone agreed that condors were in decline and that serious steps needed to be taken. Despite nearly 40 years of research, the Snyders contend that we entered the 1980s with little information concerning causes of the decline.

In 1981 the Condor Research Center was established in California, funded by a variety of government and private organizations. This coincided with a major breakthrough in censusing when it was realized that individual condors could be identified by photographs. Photocensusing revealed the grim truth at last: the number of condors seen each year between 1982 and 1985 was 21, 19, 15, and 9, respectively. Based on their research in the 1980s, the Snyders conclude that excessive mortality, due to wanton shooting, lead poisoning from ingestion of bullets (not lead shot), and possibly collisions with powerlines, was responsible for the rapid decline. The Snyders further state that habitat preservation, which had been the focus of conservation efforts since the 1940s, was the least pressing problem in the short term, although it is important in the long term.

The Snyders next turn to the "quagmire" of condor conservation. Extensive controversies arise when dealing with sketchy data and big egos, and when research careers are on the line, and the Snyders present all the dirt leading up to the suggestion in 1985 that all remaining nine condors be placed in captivity. According to the Snyders, all logic seemed to break down at this point. The United States Fish and Wildlife Service (USFWS) is placed in a very bad light, as is the National Audubon Society (NAS), which is portrayed as hindering many efforts of the Condor Recovery Team. Even the American Ornithologists' Union's Condor Committee made a contradictory recommendation that all birds should be captured, but that a few should be left in the wild to help preservation and research efforts. The Snyders contend that acquisition of the Hudson Ranch, a 50-km² grassland now known as Bitter Creek National Wildlife Refuge, as a place to release condors was also a fiasco. Although

they themselves initially backed the NAS plan for this refuge, later research led them to believe that this is one of the last places where condors should be released.

In a final discussion section, the Snyders give a retrospective view of the condor problem, given their feelings that condors were once doomed to extinction in the wild and that the captive breeding program has the potential to some day return condors to the wild. Here they make their most damning statements: based on conversations with administrators, they "learned" that decisions by both the USFWS and NAS were driven by short-term self-interests and the need for program preservation, rather than an objective interest in saving the condors. (I talked with a high-ranking administrator from one of those organizations recently who thought that the Snyders' remarks were patently false.)

What is this exposé doing in "Current Ornithology"? Ironically it reads more like an article out of NAS's own magazine, *Audubon*. The Snyders contend that the public spent a lot of money on condors and they need to know from people involved what really happened, but what percent of the American public reads "Current Ornithology"? Editor Power states that the chapter "reveal[s] the fascinating undercurrent of politics and interactions driving the development of decisions affecting endangered species." How does this fit the stated objectives of the series? I surmise this is a new editorial tack to make "Current Ornithology" more "current" through controversy which certainly makes exciting reading. Power asks for readers' comments and criticisms. I suspect he will get some concerning this chapter.—
KIMBERLY G. SMITH.

RARE BIRDS IN BRITAIN AND IRELAND. By J. N. Dymond, P. A. Fraser, and S. J. M. Gantlett. T. & A. D. Poyser, Ltd., Staffordshire, England, and Buteo Books, Vermillion, South Dakota. 1989:366 pp., county map, species distribution maps, seasonal occurrence bar graphs, line drawings of birds (by many artists). \$55.00.—This book is a successor to two previous works of the same genre, the second of which even bears the same title: "Scarce Migrant Birds in Britain and Ireland" (1974) by J. T. R. Sharrock, which covered "records of some two dozen species of regularly occurring rarities and rare migrants between 1958 and 1967"; and "Rare Birds in Britain and Ireland" (1976) by J. T. R. and E. M. Sharrock, which "covered nearly all those species which, during 1958–1972, were considered by the *British Birds* Rarities Committee; it also included notable records of extreme rarities up until 1975." Neither of these books was reviewed in *The Wilson Bulletin*.

In the latest version, the authors "have analysed all published records for each species during the period 1958–1985; in addition, records of extreme rarities prior to, and subsequent to, this period have been listed."

These books should not be confused with another publication edited by J. T. R. Sharrock and published by Poyser in 1982, "Birds New to Britain and Ireland." That book consisted of reprinted and edited accounts from the journal *British Birds* of first (and a few second) occurrences of bird species in the British Isles, including photographs when these were available.

For each of the species in the present book, the English and scientific names are followed by a summary of the normal breeding and wintering range. A brief field-oriented description follows, usually stressing comparisons with more familiar British species. Each species is provided with a vignette line (or sometimes scratchboard) drawing, by one of 14 artists. For most species there are either one or two maps—the division is by season of occurrence—with a spot in each county (*not* for each locality) for which records have been accepted. The number of individual records per county is indicated by the size of the spot as shown on an accompanying key. The maps include only records through 1985, although some later ones are listed in the text.

Format for the discussion of the species' status depends on the number of records, with a full list for the rarest birds, a partial list (usually the 1958–1985 records) for others, and a general statement for more frequently occurring species. Older records may be mentioned in passing or fully listed (as, for example, are all records for the Eskimo Curlew [*Numenius borealis*]).

Except for species with five or fewer records, one of two kinds of bar graphs is presented. The vertical axis for all of these is numbers of records; the horizontal axis is divided into months of occurrence (subdivided into four periods) for some species and years 1958–1985 of occurrence for others.

Additional remarks vary in size and scope from none to brief comments on geographic and/or seasonal trends.

Illustrations are not really necessary for a book of this kind, but they undeniably add to its attractiveness. As is true of several books published in Britain in recent years, the dust jacket bears the only color illustrations, in this case a Wallcreeper (*Tichodroma muraria*) on the front and an autumn American Robin (*Turdus migratorius*) on the spine. The artists cannot be blamed for failing to capture the *Gestalt* of North American birds with which they are unfamiliar, such as the Philadelphia Vireo (*Vireo philadelphicus*), several of the Parulinae, and the Fox Sparrow (*Passerella iliaca*). Oddly, the authors place the latter species in *Zonotrichia* while retaining *Melospiza* for the Song Sparrow, although the Fox Sparrow is the most distinctive species in the *Melospiza-Zonotrichia-Passerella* complex.

David Parkin (B[ritish] T[rust for] O[rnithology] News No. 165:8, 1989) has criticized this publication from the viewpoint of a contemporary observer of British birds, expressing his keen disappointment that the book is merely an update rather than a true revision. He states that criticisms of the earlier versions were not addressed in the new one, and that the book suffers particularly from a lack of serious attempt to analyze the data. Some of the questions he suggests for further study include possible associations between arrival patterns of scarce Siberian and American birds, differences between adults and "juveniles," possible correlations between breeding success in Canada and vagrancy in Britain, etc. The database of occurrences is available on computer, and I fully agree with Mr. Parkin that an opportunity has been missed to go well beyond the mere listing of records. With the intensive interest in their avifauna that has always characterized the British, I do not doubt that an appropriate analysis of these records will eventually be forthcoming.—KENNETH C. PARKES.

BIRDS IN IRELAND. By Clive D. Hutchinson. T. & A. D. Poyser, Carlton, England, and Buteo Books, Vermillion South Dakota. 1989: 215 pp., 13 black-and-white photographs, 100 drawings, 25 maps, 65 histograms, 62 tables. \$55.00.—This literate and authoritative book was published to coincide with the twenty-first anniversary of the Irish Wildbird Conservancy. The book describes the status of the 397 species occurring in Ireland and 153 species recorded breeding in Ireland to the end of 1986.

The text is divided into sections covering introduction, acknowledgments, factors affecting the distribution of birds, ornithology and bird conservation, recent changes in status, background to the species accounts, the species accounts, appendices, list of local reports, principal organizations, scientific names of mammals, fishes and plants in the text, bibliography, general index, and species index.

The introductory chapters in 37 pages give a very useful overview of Irish habitat types, climate, location and other factors affecting distribution plus the history of Irish ornithology and conservation. The bulk of the book (153 pages) consists of the species accounts. For

the North American ornithologist the most interesting features are the accounts of the sixty-four species of Nearctic origin plus eleven species of probable Nearctic origin, and the tables, maps, and histograms. Most of the Nearctic species are waterbirds, but passerines are also being recorded with increasing frequency. One of the tables shows that the Irish Checklist is increasing by an average of 2–3 species per year. Of considerable interest are the tables and maps showing the numbers of breeding seabirds and colony locations since Ireland contains some of the most important seabird colonies in the North Atlantic.

The text is written for the well informed birdwatcher, requiring detailed knowledge of Irish birds, their numbers, probable sources of their origin, population trends and banding recoveries. The book adequately fulfils all these aims. The writing style is fluid and free of technical jargon. I can only find a few small typographical errors.

I recommend this book as a useful addition to the bookshelves of private and institutional libraries requiring a book on Irish birdlife.—STEWART HOLOHAN.

BIRD SONGS IN CUBA [CANTOS DE AVES EN CUBA]. By George B. Reynard, sound recordist, and Orlando H. Garrido, resident ornithologist. Cornell Laboratory of Ornithology, Ithaca, New York. 1989. Two 12 inch, 33½ RPM phonograph records. \$9.95.—Considering the state of diplomatic relations (or lack thereof) between the United States and Cuba, this product of collaboration between American and Cuban scientists may come as a surprise to some. It is certainly an exemplary cooperative venture that shows how science can transcend politics and perhaps contribute to the foundation of understanding that will one day bridge the political gap.

These records, produced with the cooperation of the Museo Nacional de Historia Natural, Habana, Cuba, include cuts of the vocalizations of 122 species of Cuban birds. Most were recorded by Reynard, but a few are the work of other recordists. An emphasis (longer cuts, recordings of more individuals) has been placed on Cuban endemics. Recordings made outside of Cuba are included for a few species (e.g., Ivory-billed Woodpecker [*Campephilus principalis*], Short-eared Owl [*Asio flammeus*], Hook-billed Kite [*Chondrohierax uncinatus*]). The Ivory-billed Woodpecker sequence includes some of the recordings made by Arthur Allen and Peter Paul Kellogg in Louisiana in 1935, and, much to my surprise, a very brief “double-rap” sequence which Reynard says he recorded in the Big Thicket of Texas in 1969. To my knowledge this is the first published mention of that recording! The double-rap sequence is of very poor quality, and I sent a taped copy to James Tanner for his comments. Tanner could not identify the sound as that of an Ivory-bill. Reynard indicates that he intends to publish details of the Texas recording at a later date. Details relative to these recordings and the original tapes are on file at the Library of Natural Sounds, Cornell Laboratory of Ornithology.

With very few exceptions, the recordings on this record are of superb quality—the work of a real professional. The most difficult cut is that of the Yellow-breasted Crake (*Porzana flaviventer*) which has a rooster crowing more distinctly than the crake’s vocalizations. I have been in the field with Orlando Garrido and am certain that the completeness of these records and the facility with which Reynard obtained recordings was due in large measure to Garrido’s expertise and enthusiasm. The value of these records is also enhanced by the clarion announcement of species’ names in Spanish and English by Alfonso Silva Lee.—JEROME A. JACKSON.

BIRDS OF THE SEWARD PENINSULA, ALASKA: THEIR BIOGEOGRAPHY, SEASONALITY, AND NATURAL HISTORY. By Brina Kessel. University of Alaska Press, Fairbanks. 1989. Cloth, xii + 330 pp., 21 text figs., 11 bird drawings, 17 tables. ISBN 0-912006-29-3. \$34.95.— This book is packed full of information about the birds of a little-known area, much of it wilderness, and is one of the few publications to treat an Alaskan avifauna in detail. It is testimony to the author's credentials that she has been involved with most of the other such books in recent years.

What should characterize a good avifaunal study? First, it should be accurate and thorough. It should include information about distribution, abundance, historical changes, habitat use, and seasonality. The region and its birds should be placed in perspective to a larger geographic picture. "Natural history," including a variety of information about the biology of each species, can be considered frosting on the cake, but tasty frosting indeed if the birds are not well known.

How well has Brina Kessel's book satisfied these criteria? I would say very well indeed. The text is carefully organized, with comparable information presented in the same sequence for each species. Consistency of presentation was enhanced by the high latitude, where most species are summer visitors and breeders, but migrants and vagrants are treated in similar detail. Subheadings under each species would have helped the reader relate to this organization even better.

For each species, the distribution within the region is given in detail, including an excellent summary of habitat preferences. Occurrence on the peninsula is placed in the context of the overall distribution and migration routes of each form. A summary of arrival dates, temporal spread, and magnitude of spring migration is followed by the breeding phenology, the latter in substantial detail where known. Brief summaries of breeding and feeding ecology follow, and the account ends with summaries of fall migration and departure dates.

For many species, documentation of occurrence is extensive. Records are listed into 1988, a commendable effort to keep the work up to date. The author also continued to search the literature as she wrote; the extensive list of references includes 12 citations from 1985, 11 from 1986, and six from 1987.

The book serves as a fine example of the importance of unpublished records to regional bird studies. With only museum and literature records, it would have been considerably less valuable. The number of records listed that had not been published elsewhere is testimony to the author's attempt at completeness, as it is always difficult to track down such information. Would that all observers visiting poorly known areas keep complete records and submit them immediately to the appropriate compilers!

As so much of the information available stems from only the last three decades, few historical changes could be documented, although population trends are mentioned for a few species of waterfowl and Sandhill Cranes (*Grus canadensis*).

Although the season of occurrence of most species is relatively short on the Seward Peninsula, details of phenology are given the important status they deserve in the species accounts. I would have liked to see these details also expressed graphically, by relative abundance or number of records in each week-long period, for example. From the author's own substantial field work, there should have been enough information available to do so.

The book is an excellent source of information about breeding biology of arctic and boreal birds, at least those known to breed on the peninsula. I checked the accounts for the shorebirds—of special interest to me—and found them to be accurate and current.

The introduction is concise but adequate. Although the vegetation seems rather uniform to a casual visitor, the fine distinctions among the surprisingly diverse habitats are made clear in the descriptions. Tables of comparative bird abundance, rarely seen in such works,

furnish valuable information for ecologists interested in Arctic and subarctic animal populations as well as birders intending to visit the area.

The Seward Peninsula seems to reach for the coast of Siberia across the narrow Bering Strait, and its avifauna reflects this proximity. Tables showing the zoogeographic affinities of the birds of the peninsula indicate a small proportion of the breeding species but about half of the casual or accidental visitors as coming from Siberia. I found so little to quibble about in this book that I was surprised to see a few species misclassified, in my estimation, in these tables. These species include *Melanitta perspicillata* (North American, not Panboreal), *Arenaria interpres interpres* (Old World, not Panboreal), *Calidris melanotos* (North American, not Beringian), *Rissa tridactyla* (subspecies *R. t. pollicaris* should be listed under Beringian, not the species under Panboreal), and *Carduelis flammea flammea* (Panboreal, not Old World).

Furthermore, I think the Beringian avifauna should be considered as part of a larger picture, and *Pluvialis dominica fulva*, *Limosa lapponica baueri*, *Calidris ruficollis*, *Larus argentatus vegae*, *L. schistisagus*, *Phylloscopus borealis kennicotti*, and *Motacilla flava tschutschensis*, listed as Beringian, should be considered Old World, emphasizing that these species, and most of the subspecies, originated in Siberia. *Larus canus brachyrhynchus* (listed as North American) should also be considered in the same category, the subspecies Beringian but the species presumably of Old World origin. On the other hand, *C. mauri* is North American. These are subjective views rather than substantive criticisms, as other authors have listed some of these forms as Kessel did.

I was not looking for typographical errors and saw few of them, but one that jumped out at me was "arvicolines" for arvicolines on page 228; the spelling was correct elsewhere.

The black-and-white bird illustrations by John C. Pitcher have the same crispness and high quality as those of Roger Tory Peterson at his best; both artists should be pleased by the comparison. A long-time Alaska resident, Pitcher *knows* these birds.

For anyone interested in birds of the far North, I recommend this book as interesting and informative. For students of Alaska bird life, it will be required reading.—DENNIS R. PAULSON.

THE BIRDS OF ILLINOIS. By H. David Bohlen, illus. by William Zimmerman. Indiana University Press, Bloomington and Indianapolis, Indiana. 1989:221 pp., 49 color plates with captions, 2 figs., \$49.95.—It has been about a century since Robert Ridgway (1889, 1895) completed his two volumes on the Ornithology of Illinois. Bohlen's book is the next complete text on the birds of Illinois, although there have been at least three state check-lists, one by Bohlen himself in 1978. The book follows the pattern of many state bird books, but provides more data than most. The lovely, original paintings by Zimmerman run the gamut from a Common Loon (*Gavia immer*) to passerines, with typical habitats where the birds may be found. All the paintings are pleasing, and some show both sexes (e.g., the Common Goldeneye [*Bucephala clangula*], American Kestrel [*Falco sparverius*]), and a few even show food items (e.g., Double-crested Cormorant [*Phalacrocorax auritus*] with a Blue-gill, an Osprey [*Pandion haliaetus*] with a river redhorse). Names of species and their order in the list follow the "AOU Check-list of North American Birds, 6th edition" (1983). Subspecies are generally listed, and sometimes discussed, follow the Fifth (1957) Edition of the Check-list. There are about 500 literature citations in the book and an annotated list of 439 species (35 hypothetical, 4 extinct, 4 extirpated, and 99 vagrants—species out of their normal range).

There is a hard-hitting section on conservation in Illinois, with among other things, special mention and discussion of overpopulation by *Homo sapiens*, direct destruction of habitat, and intensive agriculture, followed by a plea for the preservation of the planet's diversity. The status of birds, and the relative abundance are appropriately very much as they are in the Birds of Indiana by Mumford and Keller (1984). One way in which the Illinois book differs is that the status is indicated immediately after the name at the beginning of each account. Birdwatchers can profit from the accounts just for their tips on identification (see especially those on the ducks, and shorebirds). The gull fauna is unexpectedly large in both Illinois and Indiana, both inland states. Typographical errors are few, and there is a wealth of data in this book. It could be read profitably by anyone interested in birds, especially by anyone interested in the midwest.—RICHARD R. GRABER.

AN ANNOTATED LIST OF THE BIRDS OF BOLIVIA. by J. V. Remsen, Jr. and Melvin A. Traylor, Jr. Buteo Books, Vermillion, South Dakota, 1989:79 pp., 1 text fig., 3 tables. \$15.00.—Remsen and Traylor's annotated list provides the first comprehensive treatment of Bolivian birds since Bond and Meyer de Schauensee's annotated lists of 1942 and 1943. Much inventory work has occurred in the intervening period; most recently, Remsen and the Louisiana State University's Museum of Natural Science staff and students have made Bolivia the focal point of their highly regarded neotropical program.

The wealth of information that has accumulated since Bond and Meyer de Schauensee's treatise is thoroughly and concisely presented in the form of an Introduction, a 30 page Main List, Taxonomic Footnotes, Hypothetical List, followed by an exhaustive Bibliography (nearly 250 references).

The front cover is adorned with the endemic Red-fronted Macaw (*Ara rubrogenys*), skillfully portrayed by John P. O'Neill in its natural setting. A map depicting the habitats and departments of Bolivia is given on the page facing the Introduction and on the back cover. Learning these geographical features is a prerequisite for comprehending the distribution of Bolivian birds. In the Introduction, a short explanation is presented on why Bolivia ranks among the top countries of the world in avian diversity. Currently nearly 1280 species have been recorded in this landlocked country, with the distinct possibility that another 80+ species (presented in a table) may eventually be found there. A brief summary of the topography and the natural divisions is given, followed by some detail on the distribution and status of the sixteen endemics.

The authors give a succinct history of the country's ornithological investigations since the Bond and Meyer de Schauensee lists and then underscore what areas need to be worked to provide a more complete distributional picture. The format of the Main List is discussed in the final pages of the Introduction. Two additional tables summarize the number of bird species in each "life zone" and the frequency of "life zone" distributional patterns for the avifauna, e.g., 404 species (32%) of the Bolivian avifauna are primarily found in the Amazonian lowlands.

Then comes the "heart" of the list. An innovative approach has been used to summarize the distribution of birds in this largely underappreciated, rich avifauna. A numbered reference, usually pertaining to the first departmental specimen record, is given under each department heading for which a species has been recorded. One is thus given an unambiguous picture of how widespread each species is at the departmental level. The final column gives the principal "life zones" in which each species is encountered. No relative abundance designations are given for species, presumably a reflection on the lack of accurate information on this aspect on a country wide basis.

The Taxonomic Footnotes section not only provides current taxonomic opinions on the more controversial Bolivian taxa at the species level, but it also gives the uninitiated, or those who have not kept pace with the rather dramatic changes that have transpired over the past few years, an overview on the more far-reaching, higher level taxonomic clarifications (see especially footnotes 20, 27, 29, 40). The Hypothetical List is a must for any serious student of avian distribution in South America, as it is here that many erroneous, previously published records are corrected (see especially the final two paragraphs of this section).

Given the number of English and scientific names, I was surprised to find only a couple of typographical errors. It is unfortunate that the same style of type that the publishers used in Parker et al.'s (1982), easily readable "An Annotated Checklist of Peruvian Birds" was not again used. The poor quality type gives each letter and symbol a ragged, blurry appearance. After reading a few pages my eyes became fatigued.

I highly recommend this book to every neotropical enthusiast; the taxonomic footnotes and bibliography alone are worth obtaining the work. Moreover, workers who are contemplating doing an annotated check-list of a relatively large, poorly known region, should give serious consideration to the format used by Remsen and Traylor. Anyone planning to visit Bolivia, even on a casual birdwatching trip, will find it indispensable. Conservation organizations will benefit greatly from the distributional and "life zone" information.—MARK B. ROBBINS.

THE BIRDS OF SICILY. By Carmelo Iapichino and Bruno Massa. British Ornithologists' Union, Publication II, % Zoological Museum, Tring, Hertfordshire, United Kingdom, 1989: 170 pp., 16 black-and-white plates with captions, 8 numbered text figs., 1 table, a gazetteer, 2 appendices. £16.00 UK and £18.00 overseas (postage included).—This is the latest in a series of regional checklists published by the BOU, and it provides a concise summary of the status of each of the 363 species of birds accepted by the authors on the Sicilian list (30 other species are rejected [Appendix 1]). Summaries include information on seasonal occurrence, abundance, habitat associations, distribution, breeding, and banding recoveries (these are detailed in Appendix 2), plus taxonomic and other comments as appropriate. As with any checklist, this section comprises the core of the work—and it is done well. Other topics covered in the book deal with the island's ornithological history, geography, climate, and habitats (including photographs), plus analyses of the avifauna, a section on conservation, gazetteer, and bibliography.

Sicily lies in the southern Mediterranean Sea, separated from the rest of Italy by the Straits of Messina—which are 3-km wide at their narrowest point. Sicily and its 14 associated islets represent the largest of the Mediterranean islands, with a total land area of 25,780 km². Elevations range from sea level to 3350 m at the summit of the famous Mt. Etna. Ecological diversity is correspondingly high, but thousands of years of human occupancy have taken a great toll on the island's natural habitats—which range from salt pans to montane forests of pine (*Pinus*), fir (*Abies*), birch (*Betula*), beech (*Fagus*), chestnut (*Castanea*), and maple (*Acer*). Historically, the most widespread habitats were woodlands and Mediterranean scrub, which are characterized especially by oaks (*Quercus* spp.), heaths (*Arbutus* and *Erica*), and other plants—many of which are sclero- and/or microphyllous. Cultivated plants—several being exotic in origin—are widely distributed on the island and include olives (*Olea europaea*), carobs (*Ceratonia siliqua*), citrus, Australian *Eucalyptus* and *Acacia*, and even New World

cacti (*Opuntia*) and century plants (*Agave*). Aquatic habitats include rivers, lakes, and marshes, but these have been largely modified or destroyed by humans—at least 5,000,000 of which live on the island.

The first broad treatise on the Sicilian avifauna was published in 1840, although earlier works dealing with the island's birds date from the thirteenth century. Iapichino and Massa have published on the island's birdlife for a combined total of over 35 years, beginning in 1974 and 1969, respectively. One of Massa's important publications was on the results of a breeding-atlas survey in 1979–1983. This showed 135 species of birds breeding in Sicily, with 31 occurring in 50% or more of the 297 10-km² quadrates that encompass the island and its islets. Other interesting revelations about the breeding avifauna include the facts that a thousand or more pairs of British Storm-Petrels (*Hydrobates pelagicus*), Cory's Shearwaters (*Calonectris diomedea*), Manx Shearwaters (*Puffinus puffinus*), and Yellow-legged Gulls (*Larus cachinnans*) breed on or around Sicily. On the other hand, several avian species no longer breed on the island—these consisting mainly of wetland inhabitants, raptors, and gamebirds.

Sicily is also important for wintering and migrant birds, as one would expect from its location. Notable among wintering birds are various waterfowl, gulls, and certain passerines. In terms of migration, species diversity is high; however, numbers are only moderate, in spite of Sicily's position as a land link between Europe and North Africa (Tunisia lies only 145 km to the south-southwest). The fact is that bird migration progresses on a broad front across the Mediterranean (as well as the Sahara); consequently, seemingly favorable areas such as Sicily do not actually produce the concentrations of migrants that one might otherwise expect.

As in several other parts of the Mediterranean Basin, many birds are killed for sport and other purposes in Sicily. For example, Iapichino and Massa present data showing 938 hunter-killed raptors (30 species) being processed by eight taxidermists in the winters of 1981 and 1983! Such birds are not legal game, and in fact nongame birds bear the brunt of the killing on the island. Shooting of migrant birds on both sides of the Straits of Messina leads to the slaughter of thousands of individuals—including at least 1000 Honey Buzzards (*Pernis apivorus*) each year. Coupled with the effects of the loss of habitat and other negative impacts, Iapichino and Massa aptly refer to Sicily as a "blackspot" in terms of bird protection in the Mediterranean Basin.

Although Sicily has a decidedly bleak side as regards its birdlife, the island and associated islets support a rich and interesting avifauna. For anyone wanting detailed information on the subject, this book is a must—and I recommend it as well for anyone whose interests include any part of the Mediterranean Basin. In my view, the authors have done an excellent job of elucidating the Sicilian avifauna and its challenging environment—warts and all. The major thing that I think could have improved the book would have been the addition of Sicilian names for each species, which would have aided birders visiting the island.—JOHN P. HUBBARD.

KEY FORESTS FOR THREATENED BIRDS IN AFRICA. By N. J. Collar and S. N. Stuart, in collaboration with the I.U.C.N. Species Survival Commission. I.C.B.P. Monograph No. 3. I.C.B.P., Cambridge, England, 1988. 102 pp., 7 maps, 1 table. £7.00.—This useful study is essentially a spinoff from the authors' landmark compendium (1985) *Threatened birds of Africa and related islands: the ICBP/IUCN Red Data Book, part 1 (3rd edition)*. In the latter the focus is on the status of individual bird species; here the emphasis is on the forests they live in. Seventy-five of the most threatened and biologically important forests of Africa and the Malagasy Region have been selected according to criteria set forth in the introduction. (The Malagasy Region is incorrectly assumed to be part of Africa; however, for reasons of

geographic proximity, if not of biogeography, it is probably best included here.) Each forest has been given a priority score based on Red Data Book categories, and a table in the introduction lists them by rank. Two maps show their locations, supplemented by five larger scale maps covering areas where clusters of them occur. In the main body of the text are accounts of each forest, averaging about a page. They begin with a brief summary of geology, vegetation and climate, including a list of dominant tree species. Threatened birds are discussed and given a symbol indicating their status. Other threatened forms are also listed, principally mammals but also other vertebrates, invertebrates and plants, underlining the fact that the work is not concerned only with birds. Lastly the condition of each forest is assessed, current and future threats summarized, existing and proposed legislation and conservation plans described, and recommendations made.

This little book will serve as a handy manual for all those concerned about the future of African forests (and who among us is not?), and as ammunition in the fight for their preservation. Governments can no longer pretend they don't have enough information on which to base environmental programs. The authors are to be congratulated on this production, and I.C.B.P. is to be lauded for their continuing series of publications on endangered birds and their habitats.—STUART KEITH.

BIRDS ASLEEP. By Alexander F. Skutch, illus. by N. John Schmitt. University of Texas Press, Austin, Texas, 1989. 219 pp., 29 black-and-white drawings \$24.95.—During winter, White-breasted Nuthatches (*Sitta carolinensis*) take shelter singly at night in holes in trees, often ones initially carved out by woodpeckers. At any time of year, Rufous-fronted Thornbirds (*Phacellodomus rufifrons*) sleep together as family groups in the bulky and elaborate nests they use for breeding. Verdins (*Auriparus flaviceps*) build breeding nests but also construct nests to be used exclusively for sleeping, large ones for cold weather and flimsier ones for summer use. Most birds spend at least half their lives inactive, sleeping, or resting, yet facts such as these are unfamiliar because ornithologists have studied almost exclusively the active portions of their subjects' existences. In this volume the distinguished tropical naturalist, Alexander Skutch, seeks to redress this imbalance by reviewing all that is known about where, when, and how birds sleep. As Skutch argues, knowing how birds "pass the more obscure half of their lives is necessary to round out our picture of their habits."

Skutch has scoured the published literature for facts on birds at rest, and in addition has himself gathered a great many observations over his decades of studying neotropical species. This has entailed examining likely resting places at night with a flashlight, and patiently staking out such sites late in the evening or very early in the morning for glimpses of arriving and departing individuals. Skutch begins his book by reviewing what is known about the sleeping habits of oceanic and freshwater birds, and about those terrestrial species that rest in simple, unmodified sites. The bulk of the book is devoted to birds that sleep in "dormitories," defined by Skutch as "any sheltered place, other than a perch amid vegetation, the ground, or water, used by a fledged bird or birds for sleeping when neither incubating eggs or brooding young." This loose definition takes in nests, both those built for breeding and subsidiarily used for sleeping and those built exclusively for resting, holes in trees and in the ground, nooks and crannies in manmade structures, and a variety of other sites. Skutch concentrates mainly on structures built or modified by birds themselves, and perhaps it would have been better to confine the term dormitory to these.

Skutch describes eight categories of sleeping behavior that he believes represent stages in the evolution of the dormitory habit. In the early stages, the breeding nest is used for resting, first by the female alone, then by both parents, and then by the young after fledging, either alone or with the parents. In the later stages, a nest or nesthole is constructed or stolen solely

for sleeping, first for use by individuals, then by pairs, parents with fledglings, parents with self-supporting young, and in the final stage by larger groups. Skutch is almost certainly correct in maintaining that dormitories originated from breeding nests, but it seems unlikely that the sequence he lays out was always followed in evolution; for example, there seems no necessity for use of a breeding nest for sleeping by parents always to precede use by fledglings, or for use of a breeding nest by fledglings always to precede use of a nonbreeding nest by pairs. Nevertheless, the system of categories is useful in organizing the facts on dormitory use.

Judged on scientific content, the book suffers from Skutch's reliance on outmoded aspects of evolutionary theory, particularly group selectionism of a primitive type. Further, some readers may be put off by Skutch's readiness to ascribe to birds a variety of human thoughts and emotions. However, these sins of interpretation are minor faults compared to the service Skutch has done in gleaning and compiling the array of observations presented here. Judged as literature, the book is beautifully written, and enlivened by entertaining facts and anecdotes. My only complaint here is that the repetition of examples of particular behaviors can become tedious, as when one reaches the twentieth example of dormitories used as family dwellings. Still, taken individually these examples are fascinating, and they constitute the true attraction of the book. Certain vignettes are wonderful, as for example Skutch's description of his visit to a cavern where Oilbirds (*Steatornis caripensis*) rest by day. After a long walk through tropical forest, Skutch enters the great cavern, whose floor is covered by a strange carpet of seeds, regurgitated by the Oilbirds and now eerily germinating in the darkness. The birds themselves perch on shelves of rock high overhead, so far above that a flashlight reveals "scarcely more than the ruby eyes of dusky birds dimly seen: innumerable pairs of gleaming red eyes, crowded companies of eyes, long ranks of eyes, shining from all the high, inaccessible ledges." Quite apart from the scientific value of the volume, scenes such as this are alone sufficient to make the book rewarding.—WILLIAM A. SEARCY.

INTRODUCING BIRDS TO YOUNG NATURALISTS. By Ilo Hiller. Texas A&M University Press, College Station. 1989:69 pp., 36 color plates, 3 black-and-white plates, 9 figs., 1 table. \$21.50 cloth, \$12.95 paper.—This book is a well-written introduction to bird study emphasizing species of Texas and the southwest. Most of the chapters first appeared in "Texas Parks and Wildlife," and the fine color photographs and self-contained nature of these chapters reflect the original magazine format. Five chapters introduce the reader to bird feathers, eggs, songs, bird houses, and feeders. These are followed by chapters on bluebirds, cardinals and Pyrrhuloxias, woodpeckers, killdeer, owls, roadrunners, cuckoos and anis, doves and pigeons, mockingbirds, jays, and hummingbirds. The writing is at a relatively advanced reading level, so adults will have to read and interpret the content for young children. There are aids for pronunciation and definitions and translations of scientific names. There is no advice on optical equipment or birdwatching technique, although there are chapters on bird houses and feeders. Everyone will enjoy the striking color photographs.—ALBERT R. BUCKLEW JR.

CORRECTION

The authors of the paper "Brood adoption and apparent infanticide in a north-temperate House Wren population" in *The Wilson Bulletin* 102:333–336, 1990, are L. Henry Kermott and L. Scott Johnson.