

## ORNITHOLOGICAL LITERATURE

THE BIRDS OF CANADA. Revised Edition. By W. Earl Godfrey. National Museum of Natural Sciences, National Museums of Canada, Ottawa, Canada, 1986:595 pp., 74 color plates, 102 line drawings, 386 distribution maps. \$39.95 (available in the U.S. from Univ. Chicago Press, Chicago).—This new edition, despite its changed appearance, is basically the same valued reference work that has become familiar over the past 20 years (see Wilson Bull., 79:463–466, 1967, for George M. Sutton's review of the original version). The new work is larger in size (582 text pp. vs 414), weight (2.35 kg vs 2.0), and scope, treating 578 species (plus 37 hypothetical spp. vs 518) of which 498 (501 by my count) are illustrated in color (vs 431). The extra size makes the book cumbersome to handle, and begs comment on the changed format, which *may* have been imposed by the designer or producer. The new version features two unequal-width columns, of which the left-hand is reserved (in most species) for the range maps and description of the range in Canada; the rest of the information—regardless of its length—is in the right-hand column. Blank spaces thus appear in both columns. The modified format avoids having different species in adjoining columns on the same page, a minor advantage, but it wastes space, and thus makes an already large book still larger. The narrower left-hand column means that the new maps are smaller and (for some species) less easy to read.

Most of the text is identical to the earlier edition, the main changes being where species and their descriptions have been lumped or, less often, split, and in the Distribution sections and the new species accounts. Reflecting the birders' lust for rarities is the increased space given to extra-limital records of common species, as well as of the vagrants included for the first time; in a few cases (e.g., Varied Thrush [*Ixoreus naevius*]) the strays have received so much space as to unbalance the range account. Changes to the maps parallel those described in the text, with a few minor discrepancies where the text was changed but the map remains the same, or vice versa. Very few ranges are noted to have shrunk, in contrast to the many described and mapped as having expanded. In view of the many adverse impacts of man's actions on the environment, including birds, one would expect the reverse. Perhaps we are reluctant to believe—or to publish—the evidence of our eyes when a species is no longer found in its former range? The nomenclature, species limits, and sequence generally agree with the 1983 AOU Check-list, with French names following Ouellet's innovations. Many place-names in Quebec also have been changed to French versions, and a few in the north, to Inuit names; most—but not all—of these appear on the end-paper maps, now both the same (without the map of biotic zones in the earlier edition). All geographic names are spelled out, thereby lengthening the range descriptions. All measurements are now metric, and I found no changes in those given earlier.

Godfrey is up-to-date in taxonomy, accepting the splitting of *Gavia pacifica* from *G. arctica*, of *Aechmophorus clarkii* from *A. occidentalis*, and of *Sphyrapicus nuchalis* from *S. varius*, which were proposed since the 1983 AOU Check-list appeared. The splitting-off of *Pluvialis fulva* and the merging of the redpolls were evidently too recent to be incorporated in this edition which, with translation to allow simultaneous appearance of French and English versions, has been several years in the making. Godfrey's is the first major handbook to accept the re-merging of *Larus thayeri* into *L. glaucoides*, even as in 1966, he was the first in recent years to accept *L. thayeri* as a separate species. Personally, I was glad to see *Chen* merged with *Anser*, a move long-overdue in the AOU Check-list.

As already noted, the textual descriptions and illustrations are largely unchanged from the earlier edition, and I have not attempted a new assessment of their adequacy. A number of new plates (e.g., of albatrosses and shearwaters) are included, and extra species were added

to several existing plates. I compiled a listing of apparent errors or discrepancies in or between the ranges in text and maps, which has been sent to the author. Most of these were minor, but a few of the more significant are noted below. The species range of *Melanitta fusca* does not include its distribution in Eurasia (the earlier edition had *M. deglandi* as a separate species). Various species (e.g., *Calonectris diomedea*, *Puffinus carneipes*) are surely of much more frequent occurrence than as described on the basis of specimen records. The locations of the Cape St. Mary's and Funk Island colonies of *Sula bassanus* again are misplaced; the 1979 population figure for this species is incorrect, actually 21,000 pairs. The description and map for American Black Duck (*Anas rubripes*) distribution are the same as in 1966, despite the nearly complete replacement of this form by the Mallard (*A. platyrhynchos*) in southern Ontario; there is still no mention of the introgression between these two forms, nor of the wide variation in speculum color of American Black Ducks. The mapped distribution of *Somateria mollissima* in Nova Scotia is both incomplete and inaccurate. The decline in *Haliaeetus leucocephalus* probably is no longer alarming, if it even continues. The disappearance of *Charadrius melodus* from southern Ontario is not mentioned, and allegations of its breeding on Sable Island (N. S.) have not been confirmed. The range described in the text for *Oporornis philadelphia* in British Columbia is not mapped, with a cryptic comment that it "require(s) confirmation and further study," but *O. tolmiei* is not mapped for those areas either; if those reports are not to be mapped as either species, why are they mentioned at all? The mapped range of *Dolichonyx oryzivorus* in British Columbia now corresponds to that in the text (unchanged from 1966), but that shown in Alberta does not extend north to Whitecourt and Athabasca; it is mapped as breeding in southwest Newfoundland where the text calls it casual. Few of these (or the others) will cause difficulties except for specialists—and for people whose home ranges overlap a discrepancy. A new generation of amateur and professional ornithologists will appreciate having this important reference work updated and again in print.—ANTHONY J. ERSKINE.

**THE BALD EAGLE.** By Mark Stalmaster. Universe, New York, New York, 1987:227 pp., 80 line drawings, 16 color plates, maps, tables, and appendixes. \$25.00.—Aside from the 1934 book on the Bald Eagle (*Haliaeetus leucocephalus*) by Francis Herrick ("The American Eagle," Appleton-Century, New York) and that by George Laycock ("Autumn of the Eagle," Scribners, New York, 1973), most other data on Bald Eagles exist as scientific papers or popular articles; this is the first synthesis book on the species. Stalmaster has done an admirable job in sorting through the vast literature. While I do not like each chapter having its own literature section at the back of the book (which makes it cumbersome to use), many unpublished reports and theses have been used to document the information. Thirteen chapters discuss such topics as Identification; Description and Adaptations; Breeding and Nesting Biology; Energy, Food, and Prey Requirements; Reproduction and Survival; Interactions with Humans; and Protective Management. Appendix 1, giving diets, nest structure, and reproductive data, is the most valuable appendix. The real contribution of this book lies in the array of topics covered and the literature sources provided for them, all brought together in one place. The writing style should appeal to people at most levels from high school to the professional. The editing has been good, and the text is largely free of error.

The art work, by Michelle LaGory, is excellent. Either the artist has an extensive personal knowledge of eagles or numerous good photographs for reference. Sketches in the Diet and Foraging Behavior and Winter Ecology chapters are particularly attractive.

While the cut-off date for gathering material is not stated, I presume it must have been in the early 1980s, as some valuable information from the last 2–3 years is not there. For

example, the Department of Veterinary Biology, University of Minnesota, where rehabilitation work has been done (p. 173) is now called the Raptor Research and Rehabilitation Program. The extensive work of the past 2–3 years by personnel of the George M. Sutton Avian Research Center in Oklahoma on hatching eggs and releasing nestlings for reintroduction is not mentioned. The northward migration into Canada of California-raised young shortly after fledging, as documented with radio transmitters within the past 2–3 years by Grainger Hunt and associates, is likewise not mentioned.

Since Stalmaster mentions correctly the nearness in relationship of the kites *Haliaeetus* to *Haliaeetus*, it would have been more appropriate to use that kite genus on the drawing of a phylogenetic tree (Fig. 2.1) rather than what appears to be a kite of the genus *Elanoides*. The breeding range map (Fig. 4.1) is poor, since it does not show eagles breeding down into Colorado, New Mexico, Arizona, and Baja California and does not agree with Fig. 4.2 that shows breeding by relative numbers of pairs per state.

It would be helpful if people working on Bald Eagles could arrive at a standardized terminology for various age plumages. Stalmaster used Juvenile Plumage A and B and Subadult Plumage C, D, and E for the various stages to the full adult, while in the recent Peterson Field Guide series on Hawks of North America (Clark and Wheeler, Houghton Mifflin, Boston, 1987) the terms White-belly I, White-belly II, and Adult Transition are used. It is not clear to me if in fact the same numbers of plumage gradations are recognized in these two most recent publications.

Since so little data have been assembled on other congeneric species elsewhere, except for perhaps two species, my preference would have been to see Stalmaster make better use of what has been done on those species. For example, another member of the genus with an extensive literature of similar type data to that given by Stalmaster, the African Fish Eagle (*H. vocifer*), has a rather well-documented plumage sequence through various stages leading to the adult after the fashion of *H. leucocephalus* which could have been compared to *H. leucocephalus*.

Overall, the book is excellent. The author has done a commendable job in his organization of the data and coverage of material. The style makes the book appropriate to all categories of libraries.—CLAYTON M. WHITE.

THE PARROTS OF LUQUILLO: NATURAL HISTORY AND CONSERVATION OF THE PUERTO RICAN PARROT. By Noel F. R. Snyder, James W. Wiley, and Cameron B. Kepler. Western Foundation of Vertebrate Zoology, Los Angeles, California 90024, 1987:xiii + 384 pp., 136 figs. incl. 87 black-and-white photos, 8 color plates in text, 1 on dust jacket, 104 tables, 12 chapters, literature cited, 36 appendices. Approx. 18 × 26 cm, cloth binding. \$29.50.—This is a comprehensive monograph concerning everything that is known about *Amazona vittata*, the Puerto Rican Parrot, considerable discussion about what is not known or is speculative about the bird, much information about human events surrounding the bird's history starting with Christopher Columbus in 1493, about other parrots, and about other species of organisms that live around the parrot and in various ways interact with it.

This book is a lavish production, one in which little if any expense has been spared, and one in which the authors are allowed not only to present their scientific results but often to do so in the context of extensive philosophizing and of vivid, descriptive accounts of bird-human encounters, scenery, and adventure. While the book is indubitably an important scientific report and reference work that will serve biologists concerned with endangered species, it is also a book to be read for entertainment. Skipping over tables and graphs, one can simply enjoy the text, much as one might enjoy an Alexander Skutch book.

From the front inside dust jacket: This is the first comprehensive study of the Puerto Rican Parrot and one of the few detailed studies of any wild parrot population. It describes the efforts to save a population once described as doomed to extinction. The first two chapters comprise a review of the population status of parrots in general, and provide an historical perspective for the decline of the Puerto Rican Parrot. Chapter 3 is devoted to a discussion of the species' taxonomic relationships to other West Indian parrots. Chapter 4 describes the Luquillo Forest of the Sierra de Luquillo, where the 30-odd remaining wild Puerto Rican Parrots live. Chapters 5-8 deal with behavior, food habits, nest sites, reproductive behavior, and the species' natural enemies. Chapter 9 quantifies the decline of the bird. Chapter 10 gives details of the history of conservation efforts. Chapter 11 discusses the captive breeding program, and chapter 12 brings us up to date on the status of the population.

The guts of this book are a highly quantified account of the Puerto Rican Parrot's natural history and attempts at conservation in the face of many factors of habitat destruction, direct human pressure in the form of hunting and capture for the pet trade, conflict with natural enemies such as the Pearly-eyed Thrasher (*Margarops fuscatus*) which usurps nest cavities, and Red-tailed Hawks (*Buteo jamaicensis*) which prey on adults (including captive-reared birds released to build up the wild population). The authors began their study in the early 1970s, pessimistic about wild survival of this species, and they end this book with a show of cautious optimism. The wild flock has ceased to decline (though it shows no great promise of multiplying); release of captives has had disappointing success but shows promise for the future; and the Luquillo Forest is a stable environment now, with considerable protection from poachers. If tropical storms do not level the whole scene, and if competition and/or hybridization with other introduced parrots do not become inhibiting factors (they are not now), there is hope.

In the concluding paragraph the authors write, "The Carolina and Puerto Rican parakeets are gone and can never reappear. . . . It is difficult to examine [specimens of them in museums] without a feeling of profound regret that these species might not have been lost if human concern for their survival had come a little sooner. The Puerto Rican Parrot is still with us and we firmly believe it can continue to survive, but only if that very same human concern does not falter in the years ahead."—JOHN WILLIAM HARDY.

UTAH BIRDS: GEOGRAPHIC DISTRIBUTION AND SYSTEMATICS. By William H. Behle. Occasional Publication No. 5, Utah Museum of Natural History, University of Utah, Salt Lake City, Utah, 1985:vii + 147 pp., 29 figs. (maps), tables. \$12.95 (paper).—This third of Behle's résumés of Utah birds (1975, with M. L. Perry; 1985, with E. D. Sorensen and C. M. White; all published by this museum) has two distinct focuses. First, the avian zoogeography of Utah includes the fauna's "Derivation," *de rigueur* recently. (Life on earth is nowhere native but is derived periodically from comets.) Affinities, of course, are what is really discussed. Behle recognizes that some distributions are relictual from past climates. Are not most distributions governed by Léon Croizat's saying, "The means of dispersal are the means of survival"?

Among other interesting comparisons, that "of Utah, Rocky Mountain, and Sierra Nevada Avifaunas," suffers an unfortunate political-boundary infection: surely Harris' Hawk (*Parabuteo unicinctus*), Elf Owl (*Micrathene whitneyi*), etc. are not really in the Sierra Nevada or Pacific Coast region, but in very different areas which happen to include a bit of California. And why is "Faunal Derivation" (Table 1) given as "Sonoran" for Northern Harrier (*Circus cyaneus*), Swainson's and Ferruginous hawks (*Buteo swainsoni* and *regalis*), etc., etc., versus "Boreal" for Purple Martin (*Progne subis*), Rock Wren (*Salpinctes obsoletus*), etc., and "Great Basin" for Black-billed Magpie (*Pica pica*), Scrub Jay (*Aphelocoma "coerulescens"*), and

Cedar Waxwing (*Bombycilla cedrorum*)? (There are hardly any scientific names in this section.) "Mohavian" or "Mohave Desert" species would be better termed Sonoran, despite the latitude. Dr. Behle's grasp of extra-Utah distributions is apparently not so sure as that of within-state distributions, which are capably discussed in general terms.

The bulk of the paper reviews species supposed (now or previously) to have more than one subspecies in Utah. Species generally known to have only one race in Utah are usually not treated in detail, as they were in Behle's earlier papers. Some species are quite complex, such as at least 5 races of *Branta canadensis* (if indeed all are conspecific), 4 of *Buteo jamaicensis* (if *harlani* is truly a geographic race), 5 of *Bubo virginianus*, 4 (or 5?) of *Chordeiles minor*, 6 of *Eremophila alpestris*, 6 of *Melospiza melodia*, 6 (or 7) of *Junco hyemalis*, etc.

For most species discussed, there is a valuable review of previous literature (though here and there coverage is hardly adequate, or a bit misleading). References to the recent discussion of *Egretta thula* by Rea (1983, *Once A River*), to *Anser albifrons elgasi*, *Grus canadensis rowani*, *Icterus galbula parvus*, and *Molothrus ater buphilus*, and to the discussion of the Marsh Wren by Monson and Phillips (1981), as well as more references and discussion of problems in *Pheucticus* and *Carduelis tristis*, would give us more of a good thing. But "the present summary pertains only to those geographically-variable species that present problems in Utah." For other subspecies readers are referred (p. 3) to Behle et al. 1985; Hayward et al. 1976; and Browning 1974 and 1978 (not in bibliography). AOU Check-lists, seldom cited, are corrected for *Haliaeetus leucocephalus* and *Hirundo pyrrhonota*.

Problems needing further study are often noted and are summarized (p. 134). This summary does not include revisionary problems, such as *Parus gambeli* which "would now require the collection of vast numbers of chickadees in fresh fall plumage from multiple critical localities" (p. 1). There is still much to do!

Behle's conclusions tend to follow previous revisions in many cases, but there are important original contributions, such as for *Buteo jamaicensis* and *Agelaius phoeniceus*. Behle's "several western races" of *Catherpes mexicanus* (p. 78) must include northern Mexico, since only 4 (one highly doubtful) had been named from farther north before 1986, when I described one from Wyoming ("Known Birds of N. and Mid. Am.," Pt. I:169). Otherwise, Mexican races are not considered. Since 5 assistants helped measure birds, it is disappointing to find few original measurements in critical species (e.g., *Branta canadensis* and *Corvus brachyrhynchos*).

It would have helped, in some cases, to have examined material in major eastern museums and to specify just what non-Utah material was seen and what plumages. In particular, I cannot believe that *Poocetes gramineus affinis* (virtually unknown otherwise east of the Cascade Mts. and Sierra Nevada) is a "regular transient known from many specimens." These are listed: of the 14, 4 were taken 20 August (southern Utah) to 2 September; 7 from 8 to 18 September (1 in easternmost Utah); and 3 from 22 September to 2 October. Yet in Arizona, where breeding is less widespread and migrants easier to detect, the earliest transient *Poocetes* are 24–28 August (Phillips et al. 1964, *Birds of Arizona*). Surely so many August–September birds had not already reached Utah from such a distant, unlikely area; migration dates needed closer attention. Most or all were surely local *P. g. altus*, as comparison with fresh August *affinis* would have shown. (All Utah reports were published, and all "*affinis*" taken, before Phillips et al. 1964 described *altus*.)

Behle summarizes the (supposed) distributions of races in surrounding states as well. Despite the above-mentioned unevenness, his book will be quite useful to all who deal with avian systematics (lower-level) and zoogeography of the western U.S.A. One wishes more states and provinces had equally long-time, independent, dedicated workers—with better material and more support for their basic researches. Such regional studies provide a basis for improved, more accurate check-lists, for which we hope.—ALLAN R. PHILLIPS.

ECOLOGY AND BEHAVIOR OF GULLS. By J. L. Hand, W. E. Southern, and K. Vermeer (eds.). Cooper Ornithological Society Studies in Avian Biology No. 10, June 1987:vi + 140 pp., numerous tables and figs. (order from J. R. Northern, Cooper Ornithological Society, Dept. of Biology, Univ. of California, Los Angeles, California 90024), \$18.50.—This volume contains papers presented at an International Symposium during the joint meeting of the Colonial Waterbird Group (now Society) and the Pacific Seabird Group in San Francisco, California, 6 December 1985. The volume includes 11 papers, 10 abstracts, a Preface by F. A. Pitelka, and a valuable Symposium Overview by W. E. Southern.

The volume is divided into five major topics. Part 1 consists of four papers and two abstracts concerned with "Life History Strategy." The papers consider constraints on clutch size, sex ratios and breeding patterns, survival and mortality factors, and the effects of increased population size on breeding success. W. V. Reid's data and discussion of brood reduction in the Glaucous-winged Gull (*Larus glaucescens*) are fascinating. Equally stimulating is Fry et al.'s paper on the effects of chemical pollutants on gull reproductive anatomy. Spear et al.'s contribution presents some fine data on age-mortality characteristics related to competition and food shortage.

Part 2, "Behavior," incorporates data and ideas on clutch size and brood care in Herring Gulls (*L. argentatus*) by R. D. Morris, recognition of young by adult Glaucous-winged Gulls by J. G. Galusha and R. L. Carter, and three abstracts. Both papers are concise and clear and present interesting, well-documented results. Galusha and Carter fascinated me with their conclusion that adult Glaucous-winged Gulls do not recognize their young individually.

Part 3, "Foraging," contains two papers and three abstracts on foraging efficiency and patterns, prey selection, diets, and predatory behavior. J. Burger's paper on age differences in foraging efficiency and age of maturity gives interesting data on the relation between foraging efficiency and the phenomenon of delayed maturity in 15 species of gulls she has studied in North America, South America, Europe, and Australia. J. R. Jehl, Jr., and C. Chase discuss the significance of gull predators to colony characteristics. It is a worthwhile introduction to the multiple effects of predation on animal aggregations.

Part 4, "Habitat Selection," includes two papers and two abstracts. K. Vermeer and K. Devitos' paper on habitat and nest-site selection by Mew Gulls (*L. canus*) and Glaucous-winged Gulls is descriptive, whereas R. Pierottis' paper concentrates on the behavioral effects and reproductive consequences of habitat selection in Herring Gulls. The two abstracts introduce the topic of gull foraging and roosting distribution in the United States.

Part 5 contains a single paper by A. Ingolfsson on hybridization between the Iceland populations of Glaucous Gulls (*L. hyperboreus*) and Herring Gulls during the last 20 years.

The volume is of value to those interested in the biology of colonial nesting seabirds. It does, however, go beyond that group. As F. Pitelka alludes to in the Preface, the numerous principles and rules discussed in such detailed studies of single taxa (Laridae) are equally applicable to other main animal groups. For example, the significance of phenomena such as brood reduction, limitations on clutch and brood size, and the effects of habitat selection on reproductive success are not solely characteristic of gulls. The papers are generally of good quality and are important contributions with original data.

I strongly question the value of the abstracts in this volume. They contribute little useable material, and I have no idea why the editors chose to include them instead of insisting that the symposium participants submit their papers in full for publication. So far as this reviewer is concerned, the only use for such abstracts is to pad CV's and the literature cited sections of papers written by other authors. Both uses are not quite cricket.

Despite the above, I recommend the volume for its major papers; they are based on recent research and current behavioral and evolutionary theory.—JOHN P. RYDER.

PENGUINS. Revised ed. By John Sparks and Tony Soper, illus. by Robert Gillmor. Facts on File Publications, New York, 1987:246 pp. \$19.95.—This is a revised edition of the first, published in 1969. In size, organization, and content it follows the first. Most of the text, in 8 chapters, is practically verbatim except where it has been updated to suit more recent findings or new concepts.

The illustrations are profuse. There are 4 pages of photographs in color and 30 in black-and-white, of which 12 each occupy a single page. Robert Gillmor's many charming drawings embellish the book from beginning to end, including the margins of numerous pages. In this edition, Gillmor has a useful two-page color-spread of the entire penguin family showing associated species and comparative sizes.

I highly praised the first edition as the best book available for a review of the entire penguin family by means of an informative and readable text excellently illustrated. I praise this revised edition just as highly.—OLIN SEWALL PETTINGILL, JR.

THE BIRDS OF THE SOUTHERN BAHAMAS, An annotated check-list. By Donald W. Buden, Henry Ling Ltd., Dorset Press, British Ornithologists' Union, London, 1987:119 pp., 3 maps, 1 text fig., 7 tables, 1 index. £12. (Available prepaid from BOU, % Zoological Society London, Regent's Park, London NW1 4RY, U.K.)—It seems that every 15–20 years there is an update on most regional avifaunas. The length of the span measures our knowledge (accuracy) and judgment (understanding) of changing faunas and the conditions that regulate change. Remote areas of the globe and even parts of the Caribbean, yet so close to major populations, are no exception.

Buden has presented the essentials for a nutritious three course "avian biogeographer's meal" which will, no doubt, be improved upon as some ingredients become more widely accepted and form the basis of a greater repast. Very few morsels are missing from the "appetizers" course. Even the area (km<sup>2</sup>) of individual islands or groups in the southern Bahaman archipelago (e.g., Acklins Island, Great and Little Inagua, the former being the best Caribbean nesting site of flamingoes [*Phoenicopterus r. ruber*], Mayaguana, Turks and Caicos Islands, and several other insignificant cays) has been lumped into the total for all the Bahamas necessitating further research for the reader. The discussion on paleontology, particularly interglacial sea level change, is very thought provoking, considering that the globe is faced with human-induced sea level rise during the next century. The fundamental reason this BOU Check-list No. 8 is so important is because the northern Bahamas have been examined more completely, leaving a void to be filled by the modern ornithologist-adventurer. Having recently spent 23 days afield in the Turks and Caicos Islands, I can state that adventuring is part of the recipe for gaining new information.

The analysis of the avifauna is quite complete and very informative, attesting to Buden's lengthy association with the islands and his research on insular vertebrate speciation. While the bird life of the Bahaman archipelago may be Greater Antillean and North American in origin as a result of lowered sea level in the past, new and dramatic faunal changes may be expected in the near future to force new influences. This volume serves as an important portrait of these little-known, low-lying islands on the brink of irrepressible habitat alteration, not only locally but for the Gulf-Caribbean region.

The main course of Buden's menu is the check-list itself, containing the status of 183 species recorded from the southern Bahamas. A conservative and thorough treatment includes sources dating from the early 1800s and acknowledged local reports to 1984, a record spanning more than 180 years. The extremely useful Summary of Status (pp. 94–107) and five plus pages of Literature Cited serve as a delectable "nut-shell" dessert.

This octavo-sized, paper-covered handbook may, however, suffer the rigors of travel and constant use, but not the passage of time. Perhaps the field-oriented observer should acquire a second desk copy. Professionals and amateurs alike will find Buden's treatment of "The Birds of the Southern Bahamas" a benchmark for further evaluation of an avifauna which links the Antilles with North America and as a model for other regional lists. Bon Appetit!—ROBERT L. NORTON.

BEHAVIORAL ECOLOGY OF RED-TAILED HAWKS (*BUTEO JAMAICENSIS*), ROUGH-LEGGED HAWKS (*BUTEO LAGOPUS*), NORTHERN HARRIERS (*CIRCUS CYANEUS*), AND AMERICAN KESTRELS (*FALCO SPARVERIUS*) IN SOUTH CENTRAL OHIO. By Keith L. Bildstein. Ohio Biol. Surv., Biol. Notes No. 18, Columbus, Ohio, 1987:viii + 53 pp., 39 figs., 39 tables, appendices. \$5.00.—Little has been done to document the behavioral ecology of wintering raptors. Past reports have mainly been confined to anecdotal accounts of "playful" encounters, prey robbery, and interspecies predation. Daily activity patterns, hunting strategies, and dietary habits have been little studied. This publication attempts to fill the void by reporting on the behavioral ecology of sympatric hawks wintering in south-central Ohio.

The report is divided into sections describing the size and composition of the raptor community and its spatial distribution, habitat use, hunting behavior, feeding ecology, and agonistic interactions. Each section is essentially a separate article that deals with a different aspect of the community's wintering ecology. There are numerous figures and tables of original data, and they are frequently compared with previous winter studies by F. and J. Craighead and G. Schnell in Michigan and Illinois. The information includes some very interesting observations on the behavior of wintering raptors such as food caching, kleptoparasitism, and temperature-dependent insect feeding. The report ends with an excellent General Discussion that includes estimates of niche overlap and a discussion of resource partitioning within the community.

My major criticism of the report is its inconsistent format. It begins by giving each section a separate Introduction, Methods, Results, and Discussion, but in the second half this format is abandoned. As a result, when feeding, hunting, and agonistic behaviors are discussed in the latter sections, the methods used to obtain data are not always made clear. Despite this drawback, this is a valuable publication that is replete with reference material pertaining to raptor behavioral ecology. For this reason, I would strongly recommend that it be included in reference libraries of raptor biologists and other ornithologists interested in the behavioral ecology of avian predators.—MARC J. BECHARD.

BREEDING WADERS IN EUROPE. Compiled by T. Piersma, for the Wader Study Group. Supplement to No. 48, Bulletin of the Wader Study Group, % Dr. S. R. Baillie, 8 Little London, Whitchurch, nr. Aylesbury, Bucks. HP22 4LE, U.K., 1986:116 pp., 36 numbered figs., 4 tables. £5 incl. postage and packing.—This regional review tries to provide population estimates of European breeding shorebirds and thereby promote sound conservation management of breeding habitat.

Besides the methods section, there are three basic parts to this report: an introduction, the population size estimates, and the extensive bibliography. The introduction (written by M. W. Pienkowski) provides a historical perspective on the report and discusses issues regarding international conservation of wetlands, particularly the Ramsar Convention initiatives. Annoyingly, it does not make any direct connection with breeding shorebirds until the fourth paragraph. The introduction ends by expressing hope that this report will lead



to additional and improved estimates of shorebird populations throughout Eurasia. This forms the main conclusion of the book.

The population size estimates are based on published information and from unpublished data solicited from national correspondents. Thirty-seven species are covered, representing a total of 6.5 million breeding shorebird pairs in the greater part of Europe, and an additional 100,000 pairs in Svalbard, part of Greenland, and Ellesmere Island. The Lapwing (*Vanellus vanellus*) is the most abundant species at 869,000 pairs, while the Terek Sandpiper (*Xenus cinereus*) is the most rare at 30 pairs. Some species, like Terek Sandpiper, appear rare because the area covered by this review is only marginally within their distribution. Unfortunately, the population size estimates for the total surveyed area are not consistently reliable. Due to varying coverage, methodologies, and nesting habits of different species, estimates can not be readily compared among countries or species. As the compiler admits, some estimates are based on careful, comprehensive study, while others are little more than guesswork. Inadequate information for some areas undermines the overall value of the quantitative information contained in this book. However, it was the best job possible without substantial additional commitment in research time and funds.

Table 2 lists estimates, by country, for each species, but is hard to read and interpret. The print is small, and the lines are jammed together so that a straight edge is required to read it. Dashes are commonly used in the table without explanation. In North American journals, a dash is often used to indicate the absence of information. Dashes here apparently indicate zero breeding pairs, based on other information sources, as well as the use of a few question marks (also without explanation) elsewhere in the table. Another stylistic problem is the use of horizontal brackets to join counts in Great Britain and Ireland for Common Ringed Plover (*Charadrius hiaticula*) and Eurasian Woodcock (*Scolopax rusticola*). The upturned ends of these brackets seem to suggest that the numbers refer to the species listed above, when, in fact, they do not. For someone unfamiliar with the European avifauna, the data presentation in Table 2 could lead to erroneous interpretation. Also, "Luxemburg" is apparently used mistakenly in the table instead of Belgium; those data are mapped in Belgium, and their reference refers to an area of Belgium. Despite these superficial problems, Table 2 is valuable because it allows comparisons not otherwise possible.

The annotated species distribution maps (figs. 3–36) provide varying sized circles for each country that are proportional to the estimated total breeding population. Occasionally, a "+" symbol is used; it is not defined, although it clearly refers to very small breeding populations. These data might be better presented as densities rather than total numbers. Different shades depict subspecies. Scale of the circles differs among figs. 3–36, so direct visual comparison across species can be misleading. The figure legends provide information on geographic variation, subspecies, and the distribution of the species.

The immense bibliography (3374 entries) is organized into 66 sections. There are 326 references, under 8 topics, related to general biology of shorebirds. Then, 887 references on the breeding biology of particular species are ordered taxonomically. Finally, 2161 published surveys of breeding waders are listed among 21 countries or regions. Titles not in English, German, or French are translated, when possible, into one of these languages, unless they are considered too local in scope to be of general interest.

Despite the severe problem of inadequate population estimates for some areas, I applaud this effort. It is imperative to try to assemble estimates or indices of breeding populations, even if it requires some guesswork. The lessons in this book for North American ornithologists are clear. Certainly, we value undisturbed breeding habitat and are in good position to defend it against encroachment by human activities. The question is, are we prepared to engage in such conservation efforts? Do we know the status of our breeding shorebird populations? When areas like the Arctic National Wildlife Refuge are threatened by oil and

gas development, can we authoritatively predict the impact of such disturbance on breeding bird populations? The difficulties encountered by the Wader Study Group and the record of their achievement are instructive. Time is running out to save these species from increasingly severe competition for habitat with humans. Conservation biology is a crisis discipline, and we must sometimes make decisions based on marginal or incomplete information. Given the practical difficulties involved in surveying wide, uninhabited areas, perhaps developing a cost-effective and reliable methodology should be a priority. This report represents a very good beginning, but its greatest value is in demonstrating the need for yet more work. Quantification of species habitat preferences and of the pace and nature of ongoing habitat destruction would complement this effort. Hopefully this book will generate new interest among ornithologists worldwide to improve our knowledge of the status of breeding bird populations.—ELIZABETH P. MALLORY.

**RAPTOR CONSERVATION IN THE NEXT 50 YEARS.** Edited by Stanley E. Sennner, Clayton M. White, and Jimmie R. Parrish. Raptor Research Report No. 5. Press Publishing Limited, Provo, Utah, 1986:87 pp. \$4.50.—Five years after publication of Raptor Research Report No. 4, the Raptor Research Foundation has produced Raptor Research Report No. 5, "Raptor Conservation in the Next 50 Years." The volume contains the proceedings of a conference held at Hawk Mountain Sanctuary on 14 October 1984. It includes 9 full papers, a preface, an introduction, and a synthesis.

The purpose of the conference was to assemble a panel of experts who could offer a global perspective on the future of raptors. The proceedings begin with three papers on the regional status of raptors, and the tone set is generally one of guarded optimism. Ian Newton describes a "depressing picture in Europe" with a few remaining "bright spots," thanks to a growing conservation movement and reductions in persecution and organochlorine pesticide use. Yossi Leshem's statistics on raptor population declines in the Middle East (a former paradise for birds of prey) are both startling and depressing, but Leshem finds hope in the public education programs that are now underway in Israel. A more pessimistic view is offered by Robert S. Kennedy, who discusses the general implications of widespread tropical deforestation. According to Kennedy, more than 90% of raptor species are found in the tropics. Kennedy's paper stops short of providing details of the specific problems faced by various raptors in the tropics.

The next two papers in the volume focus on raptor migration. Chandler S. Robbins' analysis of North American banding data reveals that encounter rates (particularly with shot raptors) have declined in the U.S.A. and Canada but not in Latin America. Robbins' concise summary of banding efforts, encounter rates, and causes of death from 1931 to 1980 is probably the only contribution in the volume that would have been suitable as a journal article. John R. Haugh's chapter, "Raptors in Migration," is a general review of the biology of raptor migration with a view of opportunities for future research.

The biological reports are punctuated with two philosophical contributions by Richard Olendorff ("Land Management for Raptor Conservation") and James Brett ("Public Education and the Future of Raptors"). Noel Snyder has prepared the longest chapter in the volume, "The California Condor Recovery Program." Despite two addenda, the information on condor population status is woefully out of date. The value of Snyder's contribution will not be as a status report but as a historical reference about the procedures and politics during a critical juncture in the fight to save a species. Tom Cade's chapter on "Reintroduction as a Method of Conservation" is a good general review of the subject, but it only touches on some of the more controversial issues surrounding raptor reintroduction (gene pools, the

merits of cross-fostering, and the introduction of exotic species, for example). Mark Fuller's introduction and Dean Amadon's synthesis round out the volume.

Because many of the contributions in it are "current status reports," Raptor Research Report No. 5 may not have the long-term value that earlier reports in this series have had. Report No. 5 seems less cohesive than earlier reports, partly because it is a conglomeration of scientific data, reviews, and philosophy. The report does not follow any standardized format. Some papers have abstracts; some do not. Some of the contributions have been revised for written presentation, while others are still in banquet-style prose. Literature cited formats are inconsistent, and I found numerous typographical and grammatical errors throughout the volume (even on the cover).

Nevertheless, the report contains information that can and should be used by persons working in the field of raptor conservation. Unfortunately, there has been little advertisement about this report. The report can be ordered from Jim Fitzpatrick, Treasurer, Carpenter St. Croix Nature Center, 12805 St. Croix Trail, Hastings, Minnesota 55033 U.S.A.—KAREN STEENHOF.

A BIRDWATCHER'S HANDBOOK. By Laura O'Biso Socha. Dodd, Mead & Co., New York, New York, 1987:182 pp., line drawings. \$16.95 cloth, \$7.95 paper.—Ornithology probably has benefited from the work of amateurs more than any other branch of science. Without the support of serious amateurs, professional ornithological societies and most ornithological field stations would be seriously hampered. The skills of some amateurs are so highly developed that the terms "amateur" and "professional" in ornithology really only have meaning as to how one earns a living. The present book seeks to increase the role of amateurs by encouraging beginning bird students to undertake scientific research. Unfortunately, in my opinion, it falls far short of accomplishing its goal.

I find several major problems in this book. Firstly, it is almost arrogant in its attitude toward scientific ornithology. Comments like "this book takes the scientific chill out of bird watching and ornithological studies, and puts the science of birding where it does the most good—in the hands of amateur naturalists" indicate that the author has some sort of ax to grind. Her occasional reference to "stuffy birders" reinforces that impression. Many of us will be astonished to learn from her book that "the scientific study of birds—ornithology—is based on bird *watching*" (emphasis the author's) and that "we already know the basic anatomy and physiology of birds."

Secondly, the book seeks to inform us about techniques used by field ornithologists. However, it often falls short of being very informative. For example, it only mentions three field guides in a section designed to lead us to identification references. A scientific bird watcher really should know of the existence of the great diversity of identification aids, including books covering specific groups, detailed identification techniques and keys (particularly for birds in the hand), and the "second generation" guides. Her coverage of banding techniques, recording of bird songs, and aviculture likewise is only superficial.

Thirdly, the author makes or permits errors in the text that suggest that she is not familiar with current ornithological literature. Names of birds erroneously given such as "Red-Tail Hawk," "English Sparrow," "Mallard Duck," and "Sawbill," give the impression that the author does not have a serious interest in ornithology. The poor editing of the text has resulted in at least one misspelling each of "Audubon" and "ornithologist." The author refers to the AOU Check-list and promises a citation to this which seemingly has been omitted. I do not believe that the National Audubon Society is mentioned anywhere in the book.

It seems to me that the author fosters a cavalier attitude toward federal regulations regarding birds. Statements such as "You may need to acquire the necessary government permits for keeping collections" do not convey to the readers the impression that possession of skins or parts of most birds is subject to strict federal regulation. Perhaps I have a personal bias in this regard, but it seems to me that the days of personal bird skin collections should be past. Likewise, the book did not leave me with the impression that bird banding permits should be restricted to investigators with serious projects. Instead, it seemed that the author felt bird banding was "fun" and that semi-serious, backyard banding was sufficient justification for obtaining a permit.

A number of figures are scattered throughout the book. These are not mentioned in the text, as far as I could tell. One diagram of the topography of a bird is so poorly labelled that it is nearly unreadable. Another, of outlines and heads of various birds, seems to me to be of little use, and has been reduced so much that details are hard to see.

Beginning ornithologists who really want to participate in the research process should be aware that modern ornithology routinely includes at least three important things: (1) a solid background in the literature of ornithology—careful reading of the current college textbooks (the author does not mention any of these), and the publications of the scientific societies, (2) development of an ability to design experiments and analyze data, and (3) the ability to write papers describing one's work and an attempt to do so—research without publication is a little self-serving and circumvents the self-correction that peer review provides. The present book does not deal with any of these topics in a substantial way.

In summary, I cannot recommend this book. It may be true that any publication dealing with birds will sell a satisfactory number of copies to the public; however, this does not justify a poorly edited book containing only superficial information.—CHARLES R. BLEM.

THE ENDEMIC BIRDS OF MADAGASCAR. By T. J. Dee, cover illustration and 2 text illustrations by Richard Grimmett. International Council for Bird Preservation, Cambridge, England, 1986:vi + 173 pp., 26 maps. Price not given.—This report is an outgrowth of the recent (1985) I.C.B.P. publication "Threatened Birds of Africa and Related Islands—The ICPB/IUCN Red Data Book" by N. J. Collar and S. N. Stuart, in which the author assisted. The latter work treated only the threatened birds of Madagascar, a total of 28; here coverage has been extended to all 130 endemic species. The author's use of "endemic," as he himself admits, is somewhat loose. There are only 106 species strictly endemic to the island, i.e., found nowhere else, whereas he treats all species whose center of distribution is Madagascar. This additional group includes both birds that occur elsewhere in the Malagasy Region, e.g., Madagascar (Black) Bulbul (*Hypsipetes madagascariensis*) and Madagascar White-eye (*Zosterops madaraspatana*), and especially the large number shared with the Comoros, such as Blue Vanga (*Leptopterus madagascarinus*); and also birds that breed in Madagascar and migrate to Africa, such as the Madagascar Pond-Heron (*Ardeola idae*) and Madagascar Pratincole (*Glareola ocularis*). The inclusion of this extra category of what I call "near-endemics" in no way detracts from the book, in spite of rendering the title somewhat inaccurate; rather, the extra information is welcome since so little has been published on the island's birds.

The principal emphasis of this work is on distribution and status. In each species account a paragraph is included on habitat, and an occasional remark on behavior, but it is not intended either as a field guide (no descriptions or illustrations) or a handbook (no life history data). Its objective, as one would expect of an I.C.B.P. publication, is to accumulate the data necessary for the implementation of a conservation policy for Madagascar. The author has attempted to cite every locality given in the literature for nearly every endemic species,

and as far as I can see, he has done an excellent job of it. The 130 species accounts fill 90 pages, giving an average of about two-thirds of a page per species. The bulk of each account comes under the heading "Status and Distribution," and consists principally of a catalog of the localities from which the species is known, complete with dates, authors, and citations.

The main body of the text is followed by several appendices, of which the most important are an 8-page gazetteer of locality names with coordinates, tremendously useful for any student of the avifauna, and a listing of current and proposed legislation concerning the protection of threatened species. At the back of the book are 24 maps showing ranges of selected endemic species.

Many of Madagascar's endemic birds are in desperate straits because of habitat destruction. The adoption of conservation measures has been hampered by lack of knowledge of their status. Hopefully the publication of this data base will at least go some way to solve the latter problem. Both I.C.B.P. and the author are to be congratulated on this production.—STUART KEITH.

**BIRDS IN MINNESOTA.** By Robert B. Janssen. Univ. Minnesota Press, Minneapolis, Minnesota, 1987:352 pp., 22 color photos, 240 maps. \$35.00 cloth, \$14.95 paper.—As a sequel to "Minnesota Birds: Where, When and How Many" by Janet Green and Robert Janssen (1975), "Birds in Minnesota" is the archetypal state "bird book" for listers. The author notes that the number of species known from Minnesota has increased from the time of Roberts' (1936) monumental "The Birds of Minnesota" (just over 320 species), to 374 species in 1975, and the 400 species listed in the present book. Serious ornithologists may wish for a bit more detail, but the birder who intends to visit Minnesota will want a copy of this book. Each species known to occur in the state is listed in turn, along with a map of its occurrence and a description of its present abundance. Sight records are included for rarities, but only after close scrutiny of the report(s). Recent records are presented for less common species, and the status of species of concern is discussed. A good deal of useful information about where to find specific birds (and when) can be gleaned from the text. The copy I received (paperback) is well bound and relatively free of typographic errors. The color photos are of a few interesting species and are quite good.—CHARLES R. BLEM.

**WISCONSIN BIRDS. A Seasonal and Geographical Guide.** By Stanley A. Temple and John R. Cary. The University of Wisconsin Press, Madison, Wisconsin, 1987:364 pp., many maps and graphs. Cloth \$27.50, Paper \$9.95.—Breeding bird atlases are a current vogue among bird students, but this little volume represents a rather different approach to the task of mapping a region's bird life with the aid of amateur birders. Stanley Temple enlisted 431 members of the large and active Wisconsin Society for Ornithology who agreed to turn in a weekly checklist of all the birds encountered by them. Most of them faithfully turned in these checklists every week for five years. The checklists were in a format that could be read by an optical scanner, with the results being fed directly onto computer tapes or disks.

These observers were distributed throughout the state, which was then divided into 43 regions, each of which contained at least 10 people who had collectively contributed at least 250 checklists per year. The data were analyzed by calculating the weekly reporting frequency and the percentage of participants who reported the species during the week.

The bulk of the book is the visual presentation of these data for the 265 species most commonly found in the state. At the top of the page is a simple bar graph giving "Relative Abundance," which is really the probability of an observer seeing the bird in the state during

the year. This is followed by one or two range maps showing in which of the 43 regions the birds were found, with a system of hatching to indicate relative abundances. Permanent residents and birds present during only one season have one map, and birds whose distribution may change from season to season have two maps. There are then given two graphs showing the reporting frequencies throughout the year in Northern and Southern Wisconsin.

A second part of the text gives the season and county for the records of 98 species that were not reported at least ten times per year during the 1975–85 period. An appendix describes the details of the project.

Southern Wisconsin lies in the southern forest ecological region while Northern Wisconsin is in the northern forest region. Diagonally across the state from northwest to southeast there is a “tension zone” where the transition between regions occurs. Many of the range maps illustrate these three regions beautifully in so far as the distribution of birds is concerned. Thus this publication can be extremely valuable, not only for Wisconsin birders, but also for biogeographers elsewhere.

This represents a notable and successful attempt to harness the energies of amateur birdwatchers. Compared with the usual atlas project, the expense of conducting this one was minimal although the manpower and time involved was approximately the same. While the resulting distribution maps lack the fine-scale results of an atlas project, they are in no way inferior. In addition, this method gives year-round information on all common species rather than just information on breeding birds in the breeding season.

A comprehensive book on Wisconsin birds has been in preparation for some years, and this volume will both make the final preparation of that treatment easier and will serve as a more than adequate substitute until the major work appears.—GEORGE A. HALL.

**THE CAROLINA PARAKEET IN FLORIDA.** By Daniel McKinley. Florida Ornithological Society Special Publication No. 2, Gainesville, Florida, 1985: v + 64 pp., 1 map and cover drawing. \$6.00 (obtainable from Treasurer, F.O.S., 1701 N.W. 24th St., Gainesville, Florida 32605).—It is a matter of great regret that for one reason or another Daniel McKinley has not been able to publish his long-term research on the Carolina Parakeet (*Conuropsis carolinensis*) as a single definitive (and also monumental) publication. The bibliography of the publication at hand lists 25 papers published so far. Most of these are in local publications, often hard for the average person to obtain. Be that as it may, we have here a very fine summary of the status of the Carolina Parakeet in Florida. Despite its English name, Florida was clearly the stronghold of the eastern race of the species.

McKinley has examined the numerous specimens and consulted the scattered literature to compile the records of the parakeet from the earliest days down to its extinction. Early travelers mentioned “Parrots” in Florida, but prior to the Civil War, there was little more information than this. William Bartram, George Ord, and Audubon said very little about the species. The first Florida specimens still extant were apparently collected in the 1850s. In the 1870s reports and collections increased. All the well-known ornithologists of the time made at least one trip to Florida and all collected parakeets. From 1870 on McKinley gives a detailed account of all known specimens and literature accounts. By 1880 some observers were commenting on the decrease in the species, and this served to attract more collectors. McKinley comments that from the reports from those years it would be easy but “—unfair to call the 1890s the decade when bird lovers of the world lined up for a chance to shoot the last Carolina Parakeet.” But collect they did. Frank M. Chapman shot 15 in March of 1889.

There is much disagreement and a host of confusing reports and rumors about the last bird to be seen in the wild. Chapman collected 4 in April 1904, although he did not publicize

this fact until the 1932 edition of his *Handbook* and these may have been the last collected, although a specimen of uncertain authenticity has a 1908 date. The species continued to be reported occasionally, even as late as the 1930s.

McKinley has cleared up a widespread misconception about the Carolina Parakeet. Apparently, in Florida at least, it was not an agricultural pest and was not widely shot for this reason.

Daniel McKinley has accomplished a prodigious piece of scholarship and succeeds in presenting it to us in a fascinating manner.—GEORGE A. HALL.

#### BRIEFLY NOTED

**THE BIRD FEEDER BOOK.** By Donald and Lilian Stokes. Little Brown and Company, Boston, Massachusetts, 1987:vi + 85 pp. \$8.95 (paper).—The subtitle, "An easy guide to attracting, identifying, and understanding your feeder birds" explains the purpose of this book, written primarily for the complete beginner.—G.A.H.

**TYPE LOCALITIES OF BIRDS DESCRIBED FROM GUATEMALA.** By Robert W. Dickerman. Proceedings of the Western Foundation of Vertebrate Zoology, Vol. 3, No. 2. Los Angeles, California, 1987:57 pp. \$9.00.—G.A.H.

The following publications are available from the Publications Unit, U.S. Fish and Wildlife Service, Room 148 Matomic Building, Washington D.C. 20240.

**CHECKLIST OF VERTEBRATES OF THE UNITED STATES, THE U.S. TERRITORIES, AND CANADA.** By Richard C. Banks, Roy W. McDiarmid and Alfred L. Gardner. U.S. Fish and Wildlife Service Resource Publication 166, Washington, 1987:ii + 79 pp.—A useful list of 226 species of amphibians, 394 species of reptiles, 1100 species of birds, and 467 species of mammals.—G.A.H.

**MOURNING DOVE NESTING: SEASONAL PATTERNS AND EFFECTS OF SEPTEMBER HUNTING.** By Paul H. Geissler et al. U.S. Fish and Wildlife Service Resource Publication 168, 1987: 33 pp.—G.A.H.

**WATERFOWL STATUS REPORT, 1980.** By A. N. Novara, J. F. Voelzer, and A. R. Brazda. U.S. Fish and Wildlife Service Technical Report 11, 1987:93 pp. and **WATERFOWL STATUS REPORT, 1981.** By A. N. Novara and J. F. Voelzer, U.S. Fish and Wildlife Service Technical Report 12, 1987:99 pp.—The two reports are combined in one volume.—G.A.H.