

ORNITHOLOGICAL LITERATURE

ESTIMATING NUMBERS OF TERRESTRIAL BIRDS. By C. J. Ralph and J. M. Scott (eds.). Studies in Avian Biology No. 6, Cooper Ornithological Society, Allen Press Inc., P.O. Box 368, Lawrence, Kansas 66044, 1981:630 pp., numerous numbered text figs., tables, 8 appendices, literature cited, Readers Guide. \$20.00.—Although an impossible task, this book comes very close to summarizing all of the major techniques for counting birds, along with their strengths and weaknesses, although more attention is paid to the latter. Besides the Introduction and Summary of the Symposium sections, the presented papers are divided into nine major topics: Estimating Relative Abundance (14 papers), Estimating Birds Per Unit Area (7 papers), Comparison of Methods (8 papers), Species Variability (4 papers), Environmental Influences (11 papers), Observer Variability (10 papers), Sampling Design (10 papers), Data Analysis (8 papers), and Overview (10 papers). Most of these sections have introductory and summary remarks by well known authorities in the field. Besides the presented papers there were also 36 poster papers, unfortunately listed by title only in the back of the proceedings. For a North American symposium, this had a decided International flair, with many of the presented papers by scientists from throughout the world.

The first major section, “Estimating Relative Abundance,” mostly covers the Christmas Bird Count (CBC) and Breeding Bird Survey (BBS). Although both methods have strengths and weaknesses the latter seems to have a better “quality control” program and the data should be viewed as slightly more reliable than the former. Notwithstanding all of the problems associated with CBC data, Bock and Root do present some interesting uses of the data, especially for long term studies of wide geographical population shifts. It is certain that the BBS survey data are being under utilized by researchers and approaches to their use such as presented by Geissler and Noon should be encouraged. In Dawson’s paper we are advised to census birds “. . . between 0930 and 1530 to avoid the rapid change in birds’ conspicuousness near dusk and dawn.” By so doing, a major component of the variance will be reduced. I might add that if you count when there aren’t any birds out, naturally the variance will be low. Robbins presents information about the use of Winter Bird Population data in the concluding paper in Part I of this section.

Part II of this section is a hodge-podge of most of the remaining relative abundance estimators including: mist netting; playback techniques; playback/mapping; migration counts; atlasing; and Bull’s indirect estimate paper covering nest counts, roost counts, fecal counts, track counts, feeding sites, dusting sites, and auditory cues. In his excellent summary of this section Rao compares statistical difference and biological difference. Being as guilty or more so as most in this regard, I am in the process of repenting and will no longer be content to say “significantly different at $P < 0.05$ ” and leave it at that.

The next major section covers “Estimating Birds Per Unit Area,” better known as density. Despite the variety and elegance of methods presented in this section David Trauger’s statement on p. 5 still obtains, “Bird censuses, that is total counts of birds in a prescribed area of natural habitat, are probably impossible at the present state of the art.” The goal of the bird ecologist is, therefore, to come as close as possible to the correct value by using some type of density estimator. The major problem with using density data is that the various methods are not interchangeable, i.e., densities derived by one of the many line transect approaches are not comparable to mapping or mark-recapture data. Indeed, the cry for some type of standardized approach is justified. The dominant theme of the papers in this section is that various methods discussed are fraught with errors (e.g., Hildén’s paper). Is it possible to measure density?

In his introduction to the section on "Comparison of Methods," Robbins states that we should view the papers with the objectives of determining "... which method or combination of methods may be best" The problem with that is to what do we compare the method in question? To another method as in the Franzreb; Edwards et al.; Anderson and Ohmart; O'Meara; Redmond et al.; Tilghman and Rusch; or Svensson papers? Or to some "parameter" of population based on intensive sampling as in the DeSante paper? The problem with the first approach is obvious, you have no real density upon which to base your test (see for example Tilghman and Rusch who determine bias in estimators by comparing them to their "... best estimate of actual bird density."). The problem with the second is that by the time you use "... an intensive program of color banding, spot-mapping, and nest monitoring" to determine your parameter who knows what your variable circular plot technique will show? Surely there must be some investigator effect. However, I can think of no good way to improve on DeSante's approach and clearly it gives better results than the others in this section. I don't think there is a satisfactory way to determine which method is best.

The next three sections, totaling 25 papers deal with sources of variability (and ultimately error) in sampling techniques. Just about every possibility is covered with the most intriguing being the extreme likelihood that investigators hearing ability decreases with age, thereby biasing censuses that rely on aural cues. And although the Ramsey and Scott recommendation that all potential field workers have their hearing tested before sampling is not cost effective nor even practical in most situations, it would definitely seem warranted based on their sample of 274 (including myself) symposium attendees.

I feel the real meat of the symposium lies in the next two sections on sampling design and data analysis. Although some of the papers in these two sections require a little mathematics (e.g., the papers by Gates, Pollock, and Johnson), the material should not be viewed as too hefty and if the reader will expend a little effort the reward is great. One wonders why the Burnham et al. paper was published in this symposium when most of the material is already covered in their 1980 Wildlife Monograph.

The last section, "Overviews," seems to be a catch-all for papers that didn't fit too well into the other sections. Wiens paper makes a good point about the pitfalls surrounding "single-sample surveys" and advises the reader about types of scale problems (e.g., space and time) inherent in bird population sampling. Anderson effectively summarizes the often mis-used approach of using multivariate statistics to correlate habitat variables and bird presence (not habitat selection as some might think). Appropriately enough, the symposium is summarized by John Emlen who, recognizing all of the sources of error, maintains that the methods presented should be "... promoted for the present as the best we have been able to devise." That is not to say, however, that research into techniques should decrease.

I recommend this symposium to all bird ecologists with the caution that just because it's said in print doesn't make it true. My only major complaint is about the study organism to which this symposium is directed. Is it birds or avians?—ROBERT C. WHITMORE.

MATE CHOICE. By Patrick Bateson (ed.). Cambridge University Press, Cambridge, United Kingdom, 1983: xv + 462 pp., text figs., tables, and black-and-white photos. \$59.50 (hard cover), \$19.95 (paper cover).—This book is a collection of papers presented at a conference on mate choice held at Cambridge in July, 1981, to which have been added some "specially commissioned" chapters. As with many such edited volumes, the result is very much a mixed bag. Broadly focussed literature surveys mix with narrowly focussed reviews, empirical studies with theoretical models, and exciting chapters with dull ones. There is even an admixture of the completely irrelevant (e.g., W. Wickler and U. Seibt on "Monogamy:

an ambiguous concept"). The editor states in his preface that the authors "re-wrote their papers as surveys rather than as presentations of new data." Accordingly, few new results are included, and when a new result is reported we are often not shown enough data to evaluate its validity. Nevertheless, many of the chapters are useful as summaries of the literature, and some new ideas and interpretations are introduced.

One useful feature of the volume is the presence of non-technical treatments of various mathematical models of the evolution of mate choice. P. O'Donald discusses his major gene models, in which both female preferences and the attractive male traits are controlled by single loci; S. J. Arnold discusses R. Lande's polygenic models, in which both preferences and attractive traits are controlled by many loci; and G. A. Parker discusses his ESS models, which seek to determine what mixture of male and female choosiness will be proof against invasion by mutant strategies. These three chapters all provide easily-understood summaries of sophisticated modelling efforts. Less successful are R. I. M. Dunbar's superficial rehashing of life history theory, and M. Petrie's rambling discussion of mate choice in species showing sex role reversal. A chapter by J. F. Wittenberger on decision making strategies in mate choice adds little to the earlier work of A. C. Janetos.

Several chapters will be of particular interest to ornithologists. I. Rowley provides an innovative review of re-mating in birds that also serves as a good introduction to the literature on the breeding ecology of Australian species. F. Cooke and J. C. Davies summarize the superb work on assortative mating by color phase in the Lesser Snow Goose (*Anser caerulescens*). J. C. Coulson and C. S. Thomas give an update on the long-continuing work on mate choice in the Kittiwake Gull (*Rissa tridactyla*). A chapter by J. B. Hutchison and R. E. Hutchison demonstrates that, surprisingly, something is known about hormonal control of mate choice in birds. By contrast, J. W. Bradbury and R. M. Gibson's chapter emphasizes how little is known about mate choice in lekking birds, despite years of effort by researchers.

Several papers reflect the interest of the editor, P. Bateson, in optimal outbreeding, the idea that mate preferences are a compromise between the need to avoid inbreeding depression and the benefits of preserving local adaptation and coadapted gene complexes. Under this hypothesis, individuals are expected to prefer mates that are "a bit different but not too different" from close relatives. Bateson's summary of his own work with Japanese Quail (*Coturnix coturnix*) provides some empirical support for the hypothesis. However, L. Partridge's thorough discussion of the genetic consequences of mate choice turns up little evidence of harmful genetic effects of outbreeding. Moreover, the review of mate choice in Snow Geese by Cooke and Davies demonstrates how species isolating mechanisms can lead to apparent outbreeding avoidance within a species, and B. D'Udine and E. Alleva's discussion of preferences of house mice (*Mus musculus*) for familiar versus unfamiliar individuals illustrates how widely the preferred degree of familiarity can vary depending on the strains, traits, and rearing procedures used in the experiments.

Emphasis throughout the volume is on mate choice based on genes, with little attention to choice for mates that possess good resources or that will make good parents. Taxonomic coverage is also patchy; studies of birds and mammals are emphasized while fishes and insects get short shrift. Taken together, the book provides a good introduction to some, but not all, of the active areas of research on mate choice.—WILLIAM A. SEARCY.

JOHN GOULD—THE BIRD MAN: A CHRONOLOGY AND BIBLIOGRAPHY. By Gordon C. Sauer. University Press of Kansas, Lawrence, Kansas, 1982:xxiv + 416 pp., 36 color plates, 80 text figs. \$65.00.—It is surprising that a satisfactory biography of John Gould was not written in the century following his death (1881) in view of the fact that "In the field of natural history the accomplishments of this man in his 76 years of life from 1804 to 1881 are truly

monumental. No other ornithologist has ever exceeded (or will ever exceed) the number of Gould's bird discoveries and the magnitude and splendour of his folio publications." (Quoted from the introduction to the present volume.) The work reviewed here is also not a biography but rather a comprehensive compendium of biographical and bibliographical information. As such it goes a long way toward filling the biographical void. Gordon Sauer has been pursuing the story and myth of John Gould for nearly 40 years and has accumulated an enormous amount of information found scattered over three continents and locked away in dusty (!) museum archives. It is to his credit that this information is now compiled and accessible to others, particularly in view of the current interest in the history of ornithology and in bird art and illustration.

The book is divided into four major sections: (1) genealogy (8 pp.); (2) major published works (54 pp.); (3) chronology of life and works (68 pp.); and (4) bibliography (235 pp.), plus a comprehensive index (22 pp.). Parts (2) and (3) are profusely illustrated with black and white reproductions (67 of the 80 text figures illustrate these sections). The 36 excellent color reproductions of original drawings by Gould and others are spread throughout the book, further illustrating the text as well as adding considerably to the aesthetic quality of the work.

The section on genealogy is short, being two standard tables covering the Gould and Coxen families starting from John and Elizabeth [Coxen] Gould's paternal grandparents and continuing to the present. The short (2 pp.) introduction acknowledges the sources of much of this information.

Part (2), "John Gould's major published works," is a careful and thorough conspectus of the 30 most prominent of Gould's many publications. For each work the following topics are discussed (where applicable): prospectus; number of plates; dates of publication of the parts; contents of the separate parts; reviews. Sauer has examined many copies of each of the works and has especially benefitted from the Ellis collection at the University of Kansas, by far the largest single collection of Gould materials in existence. Much original scholarship is evident in this section; some of Gould's works are collated for the first time (the unique Ellis material, often in original parts as issued, was indispensable). It is surprising, given the prominence of the Gould folio works, how much is unknown regarding these publications. For example, precise dates of issue for the various parts of some works are not known nor is the number of plates in each part in some cases. A considerable number of published bibliographic errors are identified and (where possible) corrected, and Sauer indicates a number of avenues for further research. In addition, this section is a gold mine of notes on specific sets of Gould's works as well as various letters, unpublished manuscripts, and other pertinent bibliographic material.

Part (3), "chronology of the life and works of John Gould," is the raw material of a biography. The brief (2 pp.) introductory text provides a concise historical context of Gould's time by listing a number of facts pertinent to his development and career (e.g., extant printing methods, modes of transportation, attitudes about birds, etc.). The chronological list includes all important events in Gould's life as well as a great many minor ones. Also included are numerous references to Gould's relatives and associates and to the ornithological community of the time. The list is profusely illustrated with black and white figures as well as excerpts from many letters from, to, and about Gould.

The final section (and at 235 pp., by far the longest) is a bibliography of John Gould, his family and associates. It appears on the surface to be an alphabetic list of every book, manuscript, article, or other printed work (and some not printed) bearing any reference whatever to John Gould. It is quite a list and a number of the entries seem only just faintly relevant. I would have preferred a more complex organization, with at least some judicious separation of the more minor references into a separate section. However, there are many possible organizations and it was, perhaps, not clear which would best serve Sauer's audience.

Sauer has included information in this last section on a large number of unpublished items including original drawings attributed to Gould or his artists, miscellaneous correspondence, and manuscripts. As always throughout the book, complete sources of these materials are given. The sections pertaining to Gould in several major bibliographies of ornithology (e.g., Zimmer 1926, Wood 1931, Anker 1938) are reproduced in their entirety, a useful inclusion since some of these works are now difficult to obtain. Also included are quotations (some extensive) from important and/or obscure sources. Finally, a number of major references are thoroughly indexed (with respect to Gould and his associates) for the first time. Among these are Whittell (1954. "The literature of Australian birds"), Palmer (1895. "The life of Joseph Wolf"), and several journals (Emu, Ibis, etc.).

The book concludes with a carefully compiled (no surprise at this point) comprehensive index. If one must find a flaw it is that Latin names are indexed only by genus. Most important in the index are the names of people mentioned in the text; as far as I can tell, none are missed. It is nice to see such care taken on a section of such significance to a book so filled with facts and names.

Gordon Sauer is (by his own admission) neither a bibliographer nor an ornithologist and he is not yet a biographer. He has, however, amassed and compiled an enormous quantity of information on the life and works of John Gould. A few ragged edges occasionally show but historians of science, future biographers, and anyone interested in this larger-than-life man owe a great debt to Sauer for his efforts. We must thank him for making the information available rather than hoarding it for another decade or two until a more polished (perhaps) version could be produced.

This book is not for everyone. It cannot be easily read like a novel; there is far too much raw data—overwhelming. As a gold mine of information on not only Gould but also many of his contemporaries, this book is a must for anyone seriously interested in the history of ornithology or in zoological illustration. It belongs in every major library. I now look forward to the next steps (already suggested and outlined by Sauer as projects for himself and others) incorporating new information and interpreting the present data to produce a more integrated picture of the life of John Gould.—D. SCOTT WOOD.

THE BIRDS OF AFRICA. Vol. I. By Leslie H. Brown, Emil K. Urban, and Kenneth Newman, with illustrations 1–17 by Peter Hayman, 18–32 by Martin Woodcock. Academic Press Inc. (London) Ltd., London, England, 1982:xiv + 521 pp., 28 color plates, 4 black-and-white plates, 9 figs. of which three are maps, two tables. £53.40 (\$99.00).—This is the type of handbook I wish I had had 20 years ago when I lived in Africa. It would appear that the front flyleaf comment "These volumes are sure to be acclaimed as the authority of the avifauna of Africa for many years to come" will be a reality. The first hope of the authors is certainly fulfilled by filling a need for "a comprehensive handbook." I trust that the other two hopes will be realized viz. to pinpoint further study subjects, and to stimulate "much needed research" on the African continent.

The planned four volumes will cover 1850 species. In Volume I there is a well written, readable comprehensive introduction of 29 pages. It is unfortunate that Brown's death on August 1980 has curtailed some of the preparation and research, but certainly Urban and Newman are to be commended on a job well done. The introduction is laid out under three headings: the main Features of African Bird Faunas, including the Geological Past, Climate, Vegetation, Habitats, Kinds and Numbers of Birds in Africa and Bird Movements Within Africa. The next section deals with Some Possibilities for Research, namely, Systematics and Distribution, Nest and Eggs, Breeding Seasons, Voice and Song, Daily Routine and Energy Budgets, Food and Feeding Methods, Ringing, Marking and Migration Studies,

Numbers and Census Data, Pesticides, and Longer Term Studies. The third section covers Scope, Contents and Layout of the text, dealing with Existing Reference Works, Scope of the Book, Nomenclature and Systematics, Ranges and Status, Descriptions, Field Characters, Voice, General and Breeding Habits, and References. There follows two pages of general references. The parts of African birds are drawn on two unnumbered pages. This seems to be redundant especially since most handbooks include it. The main text covers 447 pages. The bibliography is given in three parts: general and regional references (consulted for all families), references for each family, and sources of sound recordings. The indexes gives scientific, English, and French names.

Almost every species is illustrated on the 28 color plates. The illustration of sex, immature plumages and color phases are a needed and useful addition. I can well remember submitting color drawings of hawks to the late C. W. Benson whose only comment on returning them to me was "excellent drawing, but I don't know to what species they refer." The line drawings are interesting and portray typical behavior patterns. The head drawings of birds of prey are most useful. The four black and white plates of birds of prey as seen overhead are diagnostic and will prove very useful. There are maps for every species and these appear to be very accurate. One could wish that the eggs had been illustrated, but the task would be an immense one.

One learns that of the ca. 1850 species none is resident in every part of Africa. Twenty-five endemic species, four essentially montane are found in Ethiopia. About 50 species are irregular or vagrant visitors; ca. 95 species are regular visitors that do not breed; ca. 90 species are Palearctic land birds, which have breeding populations in north Africa and winter in the tropics; 165 Palearctic land birds have breeding populations in northwest Africa, but do not breed into sub-Sahara Africa; 1450 species are residents south of the Sahara in the truly Afrotropical region and two orders, Coliiformes and Struthioniformes, are endemic to this region, as are 13 families and subfamilies. Much could be said about the variations of Palearctic migrants that come into Africa.

The species accounts of necessity are variable, relating to our existing knowledge of each kind of bird. Terms such as "intimately known" and "little known" will tell the reader immediately concerning the ecological and behavioral aspects of the individual species biology. I found the account of the Ostrich (*Struthio camelus*) very fascinating. The nest-building and courtship of the Hamerkop (*Scopus umbretta*) should be read by everyone. The accounts of the African Open-bill Stork (*Anastomus lamelligerus*) and the Marabou Stork (*Leptoptilos crumeniferus*) were of special interest since I have studied colonies of these, and observed hundreds of them. I read the accounts of 20 birds of prey with great interest and learned a great deal.

Naturally in a work of this scope some data would appear to be missing. From my own background in Africa I wondered why no mention was made of the White-necked Cormorant (*Phalacrocorax carbo*) using live sticks with green leaves on them in nest-building, or the Long-tailed Cormorant (*Phalacrocorax africanus*) using trees for nesting as it does in southern Malawi. One wonders why the Malawi breeding dates were left out for the Marabou Stork, or why little was said concerning the movements of Pink-backed Pelicans (*Pelecanus rufescens*).

The authors have used the sequence of Voous' "List of Holarctic Bird Species" (1973-77) and his proposed sequence in the forthcoming edition of "A New Dictionary of Birds" by Campbell and Lack, for orders and families. In certain instances, e.g., Falconiformes, the authors' arrangement is followed. Generic and species names follow Hall and Moreau (1970) and Snow (1978) for species south of the Sahara. Areas not covered by these follow Peters et al. (1934-79). I hope that these volumes will become a standard in systematics for a number of years. I have at least four systems in my African library!

The authors and publishers are to be congratulated on a job well done. If the remaining volumes live up to the standard of Vol. I, there is not a doubt that the authors' dreams will be fully realized. Unfortunately in the copy I received pages were coming loose. It does seem a shame with such a high price that better binding was not possible. The price will be too high for many. One can only trust that most libraries will purchase the series.—R. CHARLES LONG.

ONCE A RIVER. By Amadeo M. Rea, illus. by Takashi Ijichi. University of Arizona Press, Tucson, Arizona, 1983:285 pp., 30 figs., 15 distribution maps, 14 tables. \$24.50.—According to the author, this book has three major functions: to provide a regional account of the bird life of the Gila Indian Reservation and adjacent areas, to focus on the migration of birds through this section of Arizona, and to provide a study of the avifaunal changes within the past century. In addition, the book provides an excellent historical account of habitat changes along the Gila River and an interesting historical and ethnographic account of the Pima Indians.

The book is divided into two sections: "Changes on the Middle Gila," which includes most of the above topics, and "Species Accounts," which emphasizes the regional account, migration, and ethnographical aspects. As well as subject matter, the two sections differ in style. The first is a mostly descriptive, easy-to-read, informative account which will appeal to a wide audience. The emphasis is as much on habitats and history as on birds. The second section is more technical. Most of it, which is more than half of the book, is composed of species accounts. From a strictly scientific standpoint, the first chapter of this section is the meatiest. Here, the author expounds upon his views on taxonomy and his philosophy of ornithology as a science. Birds are mentioned only by latin names, not common names as in the rest of the book. Because of the subject matter and its treatment, this part will appeal mostly to ornithologists, though the ethnographical accounts should be interesting reading for almost anyone.

Overall, "Once A River" fulfills its functions well. The first part, especially, is a well-written account of habitat and avifauna changes in central Arizona and provides an excellent documentation of the sorrowful destruction of riverine and riparian habitats. It is this section that sets this work apart from the typical regional bird book. It serves well to remind us of the drastic changes that have occurred in the Southwest after the arrival of European man. The 244 species accounts are more interesting than those in most regional works because of the inclusion of sections on archaeology, ethnography, history, and taxonomy as well as the usual modern status and the expected section on change in status.

Problems that I found with the book were the overall lack of quantitative data and the sometimes inadequate documentation for some of the conclusions. Emphasis is on presence or absence of species and population statuses are usually described only by such terms as "common" or "a few pairs." When population sizes are given, no area is specified and densities cannot be ascertained. Though we are told that the author spent over 1000 days in the field over a 20 year period, we are not told at which seasons and in what habitats they were spent. These are important omissions when conclusions are made about changes in population sizes, changes in wintering status, changes in departure times of winter residents, and, to a lesser degree, local riparian recovery. Though few quantitative data were provided by earlier ornithologists for comparison, the author could have provided some for present and future comparisons. Though this lack of quantitative data and documentation does not usually detract from the veracity of the author's conclusion, it is emphasized by his own careful distinction between "birdwatching as a pastime and ornithology as an empirical science." His statement that "science must be based on verifiable evidence pre-

served for reexamination" also contrasts with his extensive use of the notes of early ornithologists and ethnographic accounts. Are these accounts of no ornithological value because there is no specimen for each observation?

The only glaring error I found in the book was the author's statement that his discovery of Orange-crowned (*Vermivora celata*), Black-throated Gray (*Dendroica nigrescens*), Townsend's (*D. townsendi*) and Hermit (*D. occidentalis*) warblers in November 1977 constituted the first winter records for southern Arizona. All of these species had been recorded years earlier on Christmas Counts and Orange-crowned and Black-throated Gray warblers were almost regular. But then, perhaps these were not considered to be "empirical" observations.

The above criticisms pertain to a relatively small section of the book and the problems described do not detract appreciably. They will be of little importance to most readers. This book is excellent reading material for anyone interested in the environment or Arizona history, and is a valuable contribution to our knowledge of Arizona birds.—G. SCOTT MILLS.

SOUTH AMERICAN LANDBIRDS, A PHOTOGRAPHIC AID TO IDENTIFICATION. By John S. Dunning. Harrowood Books, Newtown Square, Pennsylvania. 364 pp., 1200+ color photographs. \$37.50; soft cover \$32.50.—Those of use who are becoming accustomed to seeing the comprehensive and detailed field guides entering the marketplace with regularity, dealing with various geographic regions (National Geographic Society: North America; de Schauensee & Phelps: Venezuela) and also specific groups of birds (Harrison: seabirds) might be somewhat disappointed in Dunning's book. So would those who are looking for the definitive guide to South American birds, covering in a more detailed and comprehensive fashion, most, if not all of the diversity of species on that continent. In this case, the days of carrying two, or even three or more, books to use in the field in many areas of South America have not yet ended, if indeed they ever will.

But, as every year goes by, the literature on the avifauna of South America grows, and the Dunning book is a fine contribution to add to the resource list of that continent's birds. In conjunction with field use of such regional guides as that for Venezuela and the forthcoming Colombian book, it will prove useful and educational. More appropriately, the almost overwhelming array of photographs (illustrating over 100 species of hummingbirds alone!), of consistently high quality and often illustrating little known birds, or characteristic birds of seldom travelled avifaunal areas, will appeal to all naturalists interested in the richness of bird life of the Neotropics. About 1100 species of birds are illustrated in this book, usually 12 to a page. The photographs are rather small in size, usually about 1½" × 1½".

The 1100 species represent less than half of the known South American landbirds. The remainder are covered in the second half of the book, and are described only. The term "landbird" is somewhat loosely applied, as there are photographs of Cattle Egret (*Bubulcus ibis*), Spotted Rail (*Rallus maculatus*), and some waders. Some groups are well represented, particularly tanagers, of which over half the known species are illustrated. In contrast only 21 species of parrots are illustrated. However, parrots are obviously more difficult to capture for photographic purposes using Dunning's technique, and this explains why this family and several others are relatively poorly represented. Of the parrot photographs, six are by Robert Ridgely, the book's collaborator, who also contributed about 30 other photographs.

It is unfortunate that none of the species of diurnal raptors were represented by flight shots. While there are many good photographs of species of ovenbirds, antbirds, and flycatchers, unfortunately not enough of these species are illustrated. In my copy, some of the photographs seem to have suffered in reproduction. For example, the Slate-colored Grosbeak (*Pitylus grossus*) 176-11 appears too greenish and the blue cap of the Blue-hooded Euphonia

(*Euphonia musica*) 174-4, seems to have been re-touched to a more vibrant shade of blue. There also appear to be some misidentifications. The obvious ones are the apparent transposition of the elanias on p. 110, numbers 5 and 6, and the female Barred Becard (*Pachyrhamphus versicolor*) posing as a Dusky-tailed Flatbill (*Ramphotrigon fuscicauda*) on p. 112, number 4. Other apparent misidentifications have been described elsewhere (Parker, Auk 100:775, 1983).

The descriptions of all the species cover plumage characteristics and are generally well done as is the layout of the book and the typography. While no information is given on habits, vocalizations, or behavior, an alphabetical coding system is used to identify species' elevational zones and preferred foliage types. Beyond the plumage characteristics, a substantial lack of other relative information limits field identification usefulness, particularly for those species for which there are no photographs. A chapter on the methods and equipment John Dunning used in his field photography is also included. My hardcover came with an addenda and corrigenda to some of the descriptions.

Each species description also includes a rather small range map. From experience in trying to use these maps in the field, I have found their accuracy somewhat wanting. For example, on planning a recent trip to the forests of southeastern Brazil, I was unable to satisfactorily determine if I could expect to see the Striped Manakin (*Machaerpterus regulus*) in the Brazilian state of Minas Gerais. However, the endpaper maps in the hardcover edition might be useful in interpreting distribution a little more precisely. Quality of these maps has also been described elsewhere (Parker, Auk 100:775, 1983).

As a contribution to ornithological literature on the broadest scale Dunning's book is excellent and most welcome. It deserves the support of everyone—from the professional ornithologist to the casual bird observer. (Ten percent of the publisher's sales receipts are to be donated to the World Wildlife Fund-U.S., to be used for the purchase and protection of bird habitat in South America.)

The purpose of the book seems somewhat ambivalent. Dunning introduces it as being "designed to help the beginning bird-watcher identify the land birds of South America . . . through photography." Yet he also states that "the basic reason for this book, . . . is to try to interest more people in the battle to save habitat" (in South America).

In my view the book may not serve the novice birder as well as it could, without suitable cautions, and perhaps could serve a general audience better if the product were presented or packaged a little differently for that audience.

Identifying birds in the field has come a long way in the last 20 years, with the improvement in resources, guides, equipment, knowledge, and logistics. With these advances, has come a direct improvement in the identification skills of experienced field ornithologists who now go far beyond traditional field mark techniques before identifying a bird. They evaluate voice, behavior, habitats, distribution, and an ephemeral quality the British birders call "jizz" which can loosely be defined as a "combination of everything!" This latter characteristic can often be captured through a series of paintings or by a particular painter, but it is a very difficult quality to replicate in photographs. Photographs, even a series of them, often "freeze" a bird under a particular set of conditions and often, those conditions while not totally artificial, are not entirely the ones under which the bird might be normally observed. The representation of birds in the photographs in Dunning's book have to be evaluated in terms of lighting, backgrounds, poses, focus, apparent feather damage (from mist-netting), and production processes. The latter has resulted in the severing of some bills and tails and some apparent color-bleeding. Thus to translate a field observation, particularly in South America, where often the vicissitudes of lighting conditions, species behavior, and habitat magnify observational difficulties, to a positive identification using photographs (even those as good as Dunning's) requires wariness on the part of advanced field observers, let alone novice birders!

On the other hand, interesting more people in preserving habitat in South America might work better if the book were aimed at a wider audience. I think the book can stand alone, as a photographic essay. In this sense, the second half of the book, consisting of descriptions of unphotographed species, could have been omitted, and the descriptions for the photographs presented more generally, rather than describing plumage characteristics alone.

Having had time to examine the book a little more closely, one might also come away with the feeling that John Dunning may have simply tried to accomplish too much. Combining a photographic review of bird species of the world's greatest bird continent and aiming it at a general audience, along with trying to develop a fairly comprehensive guide for use by the field ornithologist, seems more than difficult. But this is understandable, given that it is a reflection of John Dunning's personal love, accomplishments, and contributions to knowledge of South American avifauna.

All naturalists will enjoy scanning the pages of this interesting book to view the remarkable variety, color, and form of South American birdlife. I for one, appreciate being able to add this volume to my collection and to view at leisure, species of birds which I may never be able to see in the wild. At the field level, observers (particularly beginners) need to be aware that for best results they should use the book in conjunction with current published regional guides and that the photographs as identification aids should be employed with discretion. However, if one is visiting an area in South America for which no good guide now exists, this book will prove an excellent starting point.—LOU MARSH.

HAWAII'S BIRDS, 3rd Edition. By Robert J. Shallenberger (ed.). Hawaii Audubon Society, Honolulu, Hawaii, 1981:96 pp., numerous color photos, paintings, and maps. Paper cover. \$3.95.—The latest edition of this attractive and compact guide is a must for birders in the Hawaiian Islands, and a useful brief introduction to the Hawaiian avifauna. It includes sections on marine birds, waterbirds, urban birds, upland birds, and forest birds. For each species there is a brief text covering distribution, description, voice, and habits. Each species is illustrated in color, either by a clear photograph, a reproduction of a painting from the classic Rothschild monograph of the turn of the century, or an attractive new painting by H. D. Pratt. A table gives the abundance of each species in various habitats, and there are lists of migratory birds, introduced birds, and selected references. Maps of birding locations are provided for the islands of Kauai, Oahu, Maui, and Hawaii. The book may be ordered by mail from the Hawaii Audubon Society, Box 22832, Honolulu, HI 96822. Add \$0.70 postage for surface delivery or \$1.03 for air mail.—R.J.R.

BREEDING BIRDS OF THE BARABOO HILLS, WISCONSIN: THEIR HISTORY, DISTRIBUTION AND ECOLOGY. By M. J. Mossman and K. I. Lange. Wisconsin Department of Natural Resources and Wisconsin Society for Ornithology, Madison, Wisconsin, 1982:198 pp., ill. Price not given.—This is much more than an annotated list of the breeding birds of the Baraboo Hills—a small but relatively undisturbed area in southern Wisconsin. A major focus of the book concerns a detailed analysis of avian habitat requirements, resulting from transect surveys on 77 stands in the hills, accompanied by detailed habitat sampling within the territories of birds. Habitats selected by each species with respect to parameters measured, and a discussion of habitat differences among various members of several foraging guilds are given. Statistical comparisons are set out in a number of easily understood figures and tables.

Maps and descriptions of the study area, a listing of species characteristic of various

habitat types (forested and more open), a comparison of census results with those of previous authors who worked in southern Wisconsin, the results of phenology studies, a discussion of changes in land use patterns, and previous ornithological work in the area, plus qualitative information on changes in the avifauna since settlement compliment the above discussion, as well as contribute to an historical perspective.

An equally large portion of the book is then devoted to accounts for all species which have been found in the hills in the month of June, a limitation that I found attractive. The accounts present information on distribution, abundance (present and historical), arrival and departure dates, location and timing of nesting events, and the habitat associations for each species. Also included for each species is a list of other birds that were noted as being closely associated during transect counts. This offers a first step in an attempt to understand changes in habitat selection throughout a species range, and the factors that may contribute to such changes.

A discussion of the conservation needs for the Baraboo Hills, descriptions of birdwatching spots, a summary of breeding information for each species, descriptions of transect count areas with the specific results of those counts, and a bibliography "round out" the work. There are a number of photographs of people and places, that add a pleasant touch.

Nomenclature generally follows the 1957 AOU Check-list, but there are a number of exceptions and no standard is cited. The inclusion of Reeve's Pheasant (*Syrnaticus reevesi*) under "extinct and extirpated" seems somewhat unusual. In general, the text appeared to be free of errors, except for headings in species accounts (Vieillot is misspelled on pages 81 and 102, as are *sialia* and *pedioecetes*). A figure on page 8 is printed upside down, and the reproduction of one map and an aerial photograph is rather poor. However, these do not detract greatly from the overall usefulness of the publication. The authors seem to have met their objectives of documenting the value of the region for study as well as contributing to and understanding of species-habitat interrelationships. I would recommend this work to anyone interested in similar studies or in the bird life of the southern Wisconsin area.—R. D. JAMES.

A GUIDE TO THE BIRDS OF PUERTO RICO AND THE VIRGIN ISLANDS. By Herbert A. Raffaele. Fondo Educativo Interamericano, San Juan, Puerto Rico (available through Addison-Wesley Publishing Co., Reading, Massachusetts 01867), 1983:253 pp., 24 color plates, 15 illustrations, 2 tables, 9 maps. \$13.95.—The "Introduction" presents the author's goals, an explanation of how to use the book, a discussion of the composition of the avifauna and a short discourse on field hazards—of merit as a warning to the unwary birder. Biogeography of the islands is discussed and the uniqueness of the area is made known by the author. Conservation is covered quite thoroughly because this is island avifauna and its conservation cannot be stressed enough. A table of endangered species and what may be contributing to their demise is included at the end of this section.

The plates are generally representative of the species they are intended to depict, with a few exceptions. The Spotted Sandpiper (*Actitis macularia*) (p. 11) should have flesh-colored legs, and the Pearly-eyed Thrasher (*Alenia fuscatus*) (p. 30) has a tapered and pointed lower bill; it does not terminate abruptly as shown.

The flying waterfowl (p. 17) appear to have the browns washed out making them appear too light, the Red-legged Thrush (*Turdus plumbeus*) (p. 30) has too much of a blue tinge on the upper breast and belly, the Yellow-shouldered Blackbird (*Agelaius xanthomus*) (p. 36) has a black bill which does not show up in the plate, the Puerto Rican Tanager (*Nesospingus speculiferus*) (p. 37) is darker brown on the dorsal surface than is shown.

While leafing through the "Biogeography" section for a second time pages 15 through 24 literally fell out of the binding. It is unfortunate that a reviewer gets a copy that may be

atypical of the product. However, as a field guide this book will get more abuse than simply being leafed through, so the binding may be a problem.

The species accounts are interesting, especially the comment sections which provide up to date vignettes of the biology of each species. Unique to this field guide is a section (pp. 199–213) with maps showing specific “places to bird” on the islands. This section is followed by a locality checklist (pp. 216–230) in tabular form.

Anyone planning to study birds in Puerto Rico or the Virgin Islands will find this book a valuable and informative guide.—JAMES A. DICK.

THE BIRDS AND BIRDLORE OF SAMOA: O MANU MA TALA'AGO O MANU O SAMOA. By Corey and Shirley Muse. University of Washington Press, Seattle, Washington, 1983:x + 156 pp., 76 color photographs, paintings, maps. \$15.00 (paper).—The authors of this book, a husband-and-wife team who spent 6 months in Samoa gathering material, wanted to write a guide that would be useful both for visitors and for the native Samoans. This aim is a laudable one. Unfortunately the result falls short of its goal in many ways.

An introduction provides a brief and incomplete ornithological history of Samoa, and a concise account of the geography of the islands with maps of the group. Unfortunately the maps have been reproduced at too small a scale and are difficult to read. The bulk of the text is taken up with species accounts, interspersed with native legends and proverbs about birds or featuring them. The species accounts are grouped under four headings: seabirds, migratory birds (northern-hemisphere shorebirds and the Long-tailed Cuckoo [*Urodynamis taitensis*]), waterfowl, marsh and land birds, and accidental occurrences. The last category documents sightings by the authors of Laughing Gull (*Larus atricilla*) and Common Sandpiper (*Actitis hypoleucos*), species previously unknown from the region. A concluding section includes a checklist, pronunciation guide to Samoan, and “Suggestions for Successful Birding in Samoa”—not bird-finding information but a guide to local etiquette.

The introductory and concluding sections are the best parts of the book. Most readers, however, will be interested in the species accounts and the illustrations. The accounts give brief descriptions of each species, with notes on habitat and local distribution. Unfortunately they suffer from a vague and often confused style. The description of the Red-tailed Tropicbird (*Phaethon rubricauda*), for example, sounds like a bad translation from another language: “The entire bird is white except for a black spot before the eye and a black shaft of the wing feathers.” So little has been recorded about Samoan birds that I wish the authors could have been more precise with their descriptions of behavior. Telling us a song is “delightful” informs us about the authors’ preferences but gives us no real information about the bird, for example. There are some useful, if highly qualitative, bits of information here but the authors, in their desire to avoid becoming too technical, have gone too far in the other direction. Furthermore, the numerous misspellings of scientific names (e.g., “Megli-phagidae,” “*Lalagi*,” “*faciatus*”) do not inspire confidence.

The illustrations are highly variable. The color photographs of many species range from quite acceptable (Blue-crowned Lory [*Vini australis*], Polynesian Triller [*Lalage maculosa*]) to almost useless (Sanderling [*Calidris alba*], Polynesian Starling [*Aplonis tabuensis*]). Seventeen species are illustrated with color paintings by Norman Adams. Most of these are useful for identification, but they are stiff and betray an ignorance of the appearance of the birds in life. The slim figure of the Samoan Broadbill (*Myiagra albiventris*) has little resemblance to the chunky, chickadee-like creature Adams portrays (nor, I might add, to the similarly erroneous figure in DuPont’s “South Pacific Birds” [1976, Greenville, Delaware Museum of Natural History], a work the artist seems to have consulted). The fantastic

illustration of the Tooth-billed Pigeon (*Didunculus strigirostris*), a species I have admittedly never seen in life, has the bill totally wrong in both shape and color and fails to show the bare skin around the eye. Samoa's most distinctive bird deserves better in a book such as this.

Although it contains snippets of information hard to come by in other bird books, I cannot recommend this book to ornithologists or visiting birders. They would be far better off spending the extra money required for Watling's "Birds of Fiji, Tonga, and Samoa" (1982, Wellington, New Zealand, Millwood Press), a book with a much more valuable text and vastly superior illustrations. But how does the Muses' book fare as an introduction to birdlife for the local Samoans? I find this point difficult to comment on. I found the various legends and proverbs, all but one of them drawn from previously published works, often difficult to follow or appreciate, but then I lack the cultural background necessary to put them in perspective. However, the Muses' efforts have, I fear, been to a great extent undone by the publishers. If this book is aimed at all at the citizens of a poor country, why pick a format guaranteed to inflate its price? There must be some sort of record that this book breaks for the most white space per section of text or illustration. Of its 156 pages, sixteen are totally blank and nine others have less than a half-dozen lines of text. It is the rare illustration that is bigger than the blank margins surrounding it. Furthermore, why have the publishers chosen to present a book for field use bound along the narrower side, a most inconvenient format? This book could have been half the size at half the price, and then it might have had a real chance of being used by native Samoans. As it is, it is clear that whatever ideas the authors might have had in this direction, they were not shared by the people in the publisher's design department.—RONALD I. ORENSTEIN.

THE HUMMINGBIRDS OF NORTH AMERICA. By Paul A. Johnsgard, illus. by James McClelland. Smithsonian Institution Press, Washington, D.C., 1983:303 pp., 16 color plates, 20 range maps, 6 appendices, glossary. \$35.00.—In keeping with the relatively frequent hybridization among hummingbird species, this book is itself somewhat of a hybrid. The first fifth of the book is a quick summary of some aspects of the biology of hummingbirds. This section draws on material about species from throughout the range of this New World family of birds. Much of the remainder of the book is devoted to detailed discussions of the biology of species that breed or have been reported in the United States. Johnsgard also provides a taxonomic listing of all hummingbird species and their ranges, guides to identifying hummingbird species, and a list of "hummingbird-adapted plant" species in North America.

The tremendous research interest in these birds, both for their own sake and as models for general biological problems, has produced an explosion of reports in the last decade that cannot be covered adequately in the first-section summary of the general biology of hummingbirds. The coverage is broad, but also detailed in some aspects of hummingbird biology, especially when hummingbirds are noticeably different from other birds. In general, the material provided is up-to-date, but does not include the full range of biological problems for which these birds are good study organisms. There appear to be only a relatively few mistakes, such as the details of body temperature reduction in torpid hummingbirds.

The second section of the book offers detailed accounts of the biology of species reported from the United States and is the core of the book. This section is a modern treatment somewhat in the style of Bent's life history reports. Included are details of identification, range, breeding, evolutionary relationships, and ecology. The length of this section is expanded by including species that are only vagrants to peripheral areas of the U.S. and for

which rather little is known. However, this does allow Johnsgard to introduce some of the diversity of this primarily tropical family of birds.

The general appeal of hummingbirds has seemed to spawn a number of rather fanciful stories about the behavior of these birds. Some of these are repeated throughout the book, with an apparent acceptance by Johnsgard. However, this book is not designed for the expert in ornithology, but for the amateur, who, along with Johnsgard, may have had a "close encounter" with a hummingbird and has a newly opened interest in these birds. At this level I think the book is an admirable success and I recommend it as good, informative reading.

At first glance this volume may appear to be another "coffee-table" book, but the ratio of text to plates dispels that idea. The plates themselves are generally well-done, although the curvature of the bill of the Green Violet-ear (*Colibri thalassinus*) on the cover jacket could have been slightly greater. Johnsgard is to be commended for having written a book about hummingbirds, rather than having provided some minimal text for a book of pictures of hummingbirds.—LARRY L. WOLF.

THE WILDFOWL OF BRITAIN AND EUROPE. By Malcolm Ogilvie, illus. by N. W. Cusa and Peter Scott. Oxford University Press, New York, New York, 1982:vii + 84 pp., 50 color plates, endpaper map. \$16.50.—This book is essentially a reprint of the color plates of Anatidae from Volume 1 of "The Birds of the Western Palearctic" (Oxford University Press, 1977; reviewed *Wilson Bulletin* 93:430, 1981). The endpaper map from the same book has also been re-used here. Page size is the same in the two books, and the color registration has altered very little in the reprint. Stanley Cramp, chief editor of the earlier volume, contributes a brief forward, and the text is by its editor in charge of accounts of breeding biology.

The text consists of a 21-page introduction to the general biology of waterfowl, and brief notes accompanying each plate (usually less than half a page in length). There are no references. The notes to the plates give only a brief description of range, status, field marks of the different plumages, and voice for each species. The general introduction, however, contains a considerable amount of information on individual species. This introduction is a very well-written essay, stressing the variety of waterfowl habitats, diets, and breeding behaviors. A few of the generalizations it contains—such as the statement (p. 13) that "All young wildfowl feed themselves"—are true for European species but are not valid worldwide, but in general the text is a model of concise presentation of biological information for the general reader.

Oxford University Press is to be congratulated on making this excellent set of plates available at a modest price and in a form that will appeal to the amateur birdwatcher, and for accompanying them with a first-rate new text. My only quibble is that the publishers could have included more material from the original handbook, such as the range maps and the outline drawings of different behaviors. They have not stated whether or not this book will be followed by similar volumes drawn from other sections of "The Birds of the Western Palearctic," but I hope that they are considering it.—RONALD I. ORENSTEIN.

REPORT OF THE 1979 GREENLAND WHITE-FRONTED GOOSE STUDY EXPEDITION TO EQALUNGMIUT NUNÂT, WEST GREENLAND. By A. D. Fox and D. A. Stroud (eds.). Nimsfeilde Press Ltd., Aberystwyth, Wales, 1981:319 pp., numerous figs., tables, black-and-white photographs and illustrations. £8.00 from the Greenland White-fronted Goose Study, School

of Biological Sciences, University College Wales, Aberystwyth, Dyfed.—This report documents 1082 man-days of field work in West Greenland focusing on the breeding ecology of the Greenland White-fronted Goose (*Anser albifrons flavirostris*). The Greenland White-fronted Goose winters in the British Isles and its decline in Wales prompted the expedition. One third of the report discusses movements, foraging, and associated behaviors of flocked geese as well as detailed observations taken at seven nests. Two chapters, one on the significance of plumage variation, the other on banding returns would be of general interest. Another third of the book relates general observations on other bird species, mammals, fish, and plants. For the most part, only distribution and abundance are considered, however breeding data are given for about 25 species of birds. As well, there is a study of morphological variation in the atlas vertebrae of caribou (*Rangifer tarandus groenlandicus*) and a chapter on growth in the three-spined stickleback (*Casterosteus aculeatus*). The remainder of the report describes logistical problems and gives personal accounts associated with the 3-month venture in West Greenland.

From the viewpoint of those involved in bird studies in Greenland, the reference list would be a useful addition to a personal library. The notes on trip planning made interesting reading and might be helpful to those considering fieldwork at any isolated high-latitude site.

My two major complaints concern print size—so small that reading is difficult and tiring and secondly, the mixture of anecdotal and scientific reports. A reader interested only in the technical material should be prepared for much browsing. Most likely, only individuals working on White-fronted Geese or on Greenland biota would find sufficient material in this study to warrant a copy in their personal library.—W. BRUCE MCGILLIVRAY.

A DICTIONARY OF ECOLOGY, EVOLUTION AND SYSTEMATICS. By R. J. Lincoln, G. A. Boxshall, and P. F. Clark. Cambridge University Press, Cambridge, England, 1982:298 pp. \$47.50.—The authors are staff members of the British Museum (Natural History) working in evolutionary biology. They perceived a need for a dictionary concerned with the vocabulary of scientific natural history, which they term “evolutionary biology,” the resultant of overlaps between ecology, evolution, and systematics. This is an advance over the common practice of referring to “natural history” as an outdated synonym of “ecology,” and fairly reflects the underlying tone of the work as a whole.

Readers familiar with other biological dictionaries will find this new one to have a fresh and contemporary flavor. This is evident not only in definitions but also in the range of terms included. In common with other biological dictionaries is an emphasis on current, working definitions of terms. Etymology is avoided.

The virtues and deficiencies of a dictionary are determined over time and as a consequence of repeated use. I suspect this dictionary will receive good marks overall. Some terms associated with biology, but which are not biological, are included (e.g., algorithm, heuristic, paradigm), and a few terms that ought to have been entered are not (e.g., isozyme, electromorph). Some terms are only fractionally defined (asymmetry: skewness q.v.).

Having thus demonstrated that I did poke around in the corners of the book (one cannot conventionally “read” a dictionary), I must now repeat that it is a good book, with a remarkable range that should satisfy users. I think users probably are college undergraduate and young graduate students. Even so, some old-timers will welcome definitions of what they may suspect to be neologisms. The applications of this dictionary to ornithology are marginal for many users, but persons entering the field could put it to excellent use.—RICHARD F. JOHNSTON.

SCANS KEY TO BIRDWATCHING. By Virginia C. Holmgren, illus. by Florence M. Walker. Timber Press, Portland, Oregon, 1983:176 pp., 8 color plates, many photos and sketches. \$12.95.—Of field guides there seems to be no end and this one is the latest attempt to provide an introduction to bird identification for beginners. The title, SCANS, is an acronym for Size, Color, Action, and Notes the operative words, in that order, of the key on which the book is organized. The user must first place the bird in one of four size classes, by comparison with four well-known birds. The key then leads to the overall color, and hence to cap color followed by breast. At this point only a few species remain and one continues to the bird seen. Unfortunately, while the book attempts to cover all the birds in North America, not all are given in paragraphs. From one to several others are included under a given species as “Look-alikes” or “Close Look-alikes.” This system has some unfortunate situations brought about by the too-rigid following of the system. Thus the Black Rail is included as a look-alike of the Lark Bunting—yes it does work out that way.

The write-ups for the various species include descriptions of the color pattern, brief mention of Actions, which is largely a description of feeding habits, Notes, a brief description of the song, and Habitat, described in a few words. A small range map accompanies each. These suffer from the usual faults of range maps. The “Look-alike” species are described very briefly and a brief mention of range is given. There are also 8 color plates illustrating all of the 200 species described. These are a little crude but I think they would be helpful to the beginner.

The system would seem to work well for the species included, especially for the adult males, although females and immatures are included. As a test I successfully keyed out a female Black-throated Blue Warbler (*Dendroica caerulescens*), but failed on a fall Tennessee Warbler (*Vermivora peregrina*) with a green head. The song descriptions are not very helpful: all the warblers are said to have a “sewing machine trill”.

Besides the key there are brief sections on “Birds for the record book”, “About names and Latin labels”, “Inviting birds to your yard”, and “For the birdwatchers bookshelf”.

All field guides suffer from the necessity of forcing a complex array of information into some kind of rigid system. Learning to identify birds is a complex process, and different people do it in different ways. Mrs. Holmgren’s system will not help some people but in general I feel that this could be a useful tool for beginners.—GEORGE A. HALL.

THE BIRDWATCHER’S ACTIVITY BOOK. By Donald S. Heintzelman. Stackpole Books, Harrisburg, Pennsylvania, 1983:250 pp., 72 photos, 8 figs. Paperback. \$11.95 in U.S., \$14.95 in Canada.—Readers of The Wilson Bulletin will be familiar with the number of recent books aimed at beginning bird enthusiasts. These books describe techniques of bird photography, how to build a nest box, a blind, a better bird feeder, and, generally, what sorts of things to do if bird identification and listing don’t give complete satisfaction. The intent of these books, to rekindle an interest in Natural History, is admirable, but the quality varies greatly. Although not without merits, the present volume is not one of the best. The text tends to be superficial, lacking the details and complexities that excite. The reader is frequently told that certain activities are interesting, but, I think, rarely convinced. Parts of the text and a number of photos appear in a similar format in Heintzelman’s previous volume on bird-watching, “A Manual for Bird Watching in the Americas” (Universe Books, 1979), to which the author makes repeated reference starting from the third sentence of the preface. In fact, the current volume appears to be a scaled down, slightly reoriented version of the 1979 book.

Recommended projects include: censuses of waterfowl and raptors; nest box construction;

locality studies; breeding bird atlases; bird feeding; and life-history studies (the section on observing nesting behavior lacks any caution about the risks of interference). A thorough and enjoyable chapter focuses on "Collecting Bird-Related Items": bird stamps, decoys, art, autographs, post cards, and shoulder patches. Concluding chapters on conservation projects, and on promotion of bird appreciation are also interesting and of a practical nature. Examples within the text draw strongly on raptors, and, geographically, on locations in the New York-Pennsylvania area.

The book is liberally sprinkled with photographs, mostly Heintzelman's own. The reproduction is not of high quality, but the photos are clear and illustrative and represent one of the strong points of the book, even if many have appeared elsewhere.

There is interesting and well-organized information here. I'm sure beginners would enjoy browsing through it. But since there are some first class books available in the same genre, I must recommend them instead: Pasquier's "Watching Birds" (Houghton Mifflin Co., 1977) is a clear introduction to ornithology; Stokes's "A Guide to the Behavior of Common Birds" (Little, Brown & Co., 1979) is a beguiling approach to bird behavior; Kress's "The Audubon Society Handbook for Birders" (Charles Scribner & Co., 1981) is much like Heintzelman's volume in organization and intent, but far more detailed.—PETER F. CANNELL.

OSTRICH INDEX, Vols. 21–50, 1951–1979. By L. P. Phipson and G. L. MacLean. Southern African Ornithological Society, Johannesburg, South Africa: 225 pp. \$15.00.—This 30-year index lists English as well as scientific names, but both should be checked as the duplication is incomplete. Authors' names, subject matter, and titles of contributions are also listed, with the latter including entry by different key words. This book is undated, but apparently was published in 1982. A basic reference work for ornithological libraries, it may be ordered from the Southern African Ornithological Society, P.O. Box 87234, Houghton, Johannesburg, South Africa 2041.—R.J.R.

XIX INTERNATIONAL ORNITHOLOGICAL CONGRESS

The XIX International Ornithological Congress will take place in Ottawa, Canada, from 22–29 June 1986. Prof. Dr. Klaus Immelmann (West Germany) is President and Dr. Henri Ouellet (Canada) is Secretary General. The programme is being planned by an international Scientific Programme Committee chaired by Professor J. Bruce Falls (Canada). The program will include plenary lectures, symposia, contributed papers (spoken and posters), and films. There will be a mid-congress free day. Pre- and post-congress excursions and workshops are planned in various interesting ornithological regions of Canada.

Information and requests for application forms should be addressed to:

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Ottawa, Ontario, Canada K1A 0M8