

ORNITHOLOGICAL LITERATURE

HELPERS AT BIRDS' NESTS. By Alexander F. Skutch, illust. by Dana Gardner. University of Iowa Press, Iowa City, 1987:298 pp., many black-and-white sketches. \$25.00.—Fifty years ago, Alexander Skutch (*Auk* 1935) launched the study of “Helpers at the Nest” with brief reports on three Central American birds—a jay, a wren, and a bushtit—in which nestlings were attended by individuals other than their parents. At that time only a very few other species were known to exhibit helping behavior. Twenty-five years later, Skutch (*Condor* 1961) surveyed the occurrence of “Helpers Among Birds” and found records for scores of additional species. No doubt Skutch’s earlier paper had triggered other naturalists to search for and report on birds with helpers.

What has been the growth of this field of study since 1961? The answer is “extremely rapid.” “Helpers at Birds’ Nests” lists about 400 titles. Despite an historical bent, 70 percent of the references postdate Skutch’s 1961 review. Why has this field of study grown so rapidly in recent years? In large part, I suggest, because in the early 1960s biologists came to realize that social behavior, like anatomy, is adaptive, and can be studied using modern methods of science. Following this realization, theoreticians, W. D. Hamilton (1964) for example, framed observations such as helping behavior into testable hypotheses. This state of affairs sent the field biologists back to nature to find, observe, and record the activities of bird species with helpers. The differences in approach between these observers and Skutch allow us to predict the design of Skutch’s new book on helpers among birds.

“Helpers at Birds’ Nests” is organized into 53 chapters, 49 of which describe the life histories of species in families of birds known to have helpers. Length of chapters varies many fold; those pertaining to families that include few species with helpers, or for which little information is available about helping, are as short as two pages. Many of the chapters include species Skutch himself has studied. The accounts for those he has not studied seem generally accurate. His bibliography includes ten references from 1984 and one from 1985. With the field growing so rapidly, overlooked references are to be expected. The most unfortunate omissions I found were to the important work done, and being done, on *Campylorhynchus* wrens by Wiley and Rabenold, some of which predate 1985. I found pleasing the black-and-white sketches, which represent more than 60 bird species and emphasize cooperative breeders.

Skutch is renowned for his life history accounts of many species of neotropical land birds. He writes with the familiar, easy style of the good 19th-century naturalists. For this reason, the book is enjoyable, and I can recommend it to students of cooperation in animals as an introduction into the lives of cooperative-breeding birds. However, beware the numerous anthropopathisms. Birds simply are not known to have the emotions Skutch assigns to them.

The 49 taxonomically arranged, descriptive chapters are followed by three short chapters that synthesize and analyze the information Skutch has presented. These chapters make up only 10% of the book; they include no tables and no figures. These facts foreshadow my criticisms of the book.

Chapter 52, “Characteristics of Cooperative Breeders,” discusses topics such as geography, habitat, diet, social structure, sex ratio, dispersal, group composition, number of helpers, and activities of helpers. While almost a necessity for a book of this kind, I find nothing discussed or concluded that has not appeared already elsewhere.

The subject of Chapter 51, “The Significance of Interspecific Helping,” is rarely treated more than casually by other authors. This subject accounts for many of the references in Skutch that do not appear in other books on cooperative birds. Interspecific helping seems relevant to the evolution of brood parasitism, to the proximate mechanisms that cause

helping, and to contemplating possible benefits to the donors in cooperative species. Skutch uses it to support his theory for helpers at birds' nests, which he develops in the last chapter.

The final chapter, "Benefits and Evolution of Cooperative Breeding," is written in the phraseology of natural selection. However, it is frustrating, if not impossible, to follow in detail Skutch's lines of reasoning. He never makes clear the subtle differences in various theories. His discussions wander in and out of individual selection, kin-group selection, intergroup selection, and selection for the good of the species. Even if he does hold the opinion that all these levels of selection operate on cooperative breeders (p. 269), Skutch should distinguish them more clearly.

Skutch outlines his theory on the origin of cooperative breeding in the final five pages of the book. The first two steps are those proposed by many investigators, namely, young birds remain at home for direct fitness benefits (individual selection), and feed close relatives for indirect fitness benefits (kin-group selection). Next he suggests that some species may not need the greater reproductive potential that early breeding by unaided parents might give them (intergroup and/or species selection perhaps?).

As a final step, Skutch proposes "that many birds breed cooperatively because they value the feeling of security that comrades give, enjoy companionship, and find this a satisfying way of life." Skutch freely admits that this step (for which I propose the phrase anthropopathic selection) includes "values that are not amenable to scientific investigation . . ." The idea may stem from his philosophy of life, which he elucidates in the final paragraph. "If . . . evolution did not raise at least some of its creations to higher levels of awareness and enjoyment, it would be . . . producing nothing of worth." Interesting, but defendably outside the scope of a review for a journal of science.—GLEN E. WOOLFENDEN.

BIRDS OF THE PACIFIC SLOPE. With species accounts and field notes by Andrew Jackson Grayson, and with current ornithological identifications to accompany the 156 bird portraits, all his surviving paintings from the Bancroft Library, University of California, Berkeley, reproduced as plates in the companion portfolio. By Lois Chambers Stone. Arion Press, San Francisco, 1986:433 pp., illus., + portfolio of 156 colored and 1 uncolored prints, 19 × 25 in., in heavy cloth-covered box. Limited to 425 numbered copies. \$4500.—Book reviews in *The Wilson Bulletin* and similar journals are intended in large part to present an informed opinion of the quality of the work under review, so as to help the reader decide whether to order a personal or institutional copy. This aspect of reviewing is obviously not pertinent for most readers when a \$4500 limited edition work is under discussion.

Similarly, reviewers for most scientific journals, unlike those for newspapers and commercial magazines, are not paid for their manuscripts, their only tangible reward being retention of the review copy of the book. But publishers can hardly afford to donate copies of \$4500 books to reviewers. For purposes of the present review, therefore, Arion Press provided me with a paperbound copy of the text, and loaned me a dozen of the prints. Subsequently I was able to examine a bound text and a full set of prints that had been presented to the library of Carnegie Museum of Natural History by a private donor.

The name of Andrew Jackson Grayson has been relatively unfamiliar to American ornithologists, but readers with access to a set of *The Condor* will find that 23 of Grayson's paintings were reproduced, much reduced, in volumes 51–59 (1949–1957). With the first of these appeared a brief biographical note on Grayson (*Condor* 51:49–51, 1949) by Lois Chambers Taylor, now Lois Chambers Stone. Of these 23 plates, 9 were reprinted in the "Distributional Check-list of the Birds of Mexico" (*Pac. Coast Avifauna* 29, 1950, and 33, 1957).

The present work was produced by Arion Press and designed by its Director, Andrew

Hoyem, generally regarded as one of America's outstanding living book designers. The text is handsomely printed in a large and eminently readable Van Dijck font. S. Dillon Ripley provided a 2-page Preface, "Rediscovery of a pioneer naturalist"; in this account, the oceanic Isla Socorro is called "offshore" and is erroneously divorced from the "Revilla Gigedo Archipelago" [=Islas Revillagigedos]. Glenn R. Todd, who edited the text for Arion Press, wrote a 10-page Introduction, "Grayson's place in ornithology," with acknowledged input from George E. Watson on Grayson's scientific contribution and Mary LeCroy on Grayson's paintings in the context of 19th-century ornithological art. This Introduction is rather disorganized, especially in its chronological wanderings.

Part One of the text proper (pp. 23-151) consists of a thoroughly researched 10-chapter biography of Grayson by Mrs. Stone. Part Two is a series of notes on the 156 color plates and the uncolored plate of California Quail (*Callipepla californica*), the latter reproduced from the only full-scale print made from any of the art work of Grayson during his lifetime. The notes for each plate include the current A.O.U. English and scientific names; "Depiction," a fine-print paragraph describing the contents of the picture (including scientific names of any identifiable plants); "Distribution" of the species, again in fine print; "Inscription," the wording on the original painting, plus, if not included by Grayson, the date and place of its execution; and "Field Notes" in Grayson's own words. For some species there are additional notes, including quotations from the correspondence of Grayson and Spencer Fullerton Baird, notes on the Grayson specimens in the Smithsonian Institution, etc.

Andrew Jackson Grayson (1818-1869) was a fascinating and, to some extent, a tragic figure in the history of North American ornithology. Born in Louisiana, he was attracted to nature as a boy, and enjoyed drawing, but his father, a wealthy planter, disapproved of such activities. Eventually Grayson, at the age of 28, emigrated to San Francisco with his wife and infant son; the frontispiece of the present work is "The Promised Land," a painting by William S. Jewett commissioned by Grayson in 1850 to memorialize the family's arrival in California. Although his success as a businessman fluctuated with the prevailing economy, he managed to support his family and still have time to study ornithology and practice his painting.

In 1853 Grayson saw a copy of Audubon's "Birds of America," an event that provided him with a lifetime inspiration. As Audubon had painted only a few Pacific Coast birds, from specimens sent to him by correspondents, Grayson was determined to complete Audubon's work by painting the birds of the Pacific Slope. His first efforts were naturally of the birds of California, but on a visit to Tehuantepec, Mexico, he began the series of portraits of Mexican birds that are the principal feature of the present collection. Two years later he moved permanently to Mazatlan, as his business ventures in California were failing, and he hoped to do better in Mexico. Earlier he had formed a connection with the Smithsonian Institution, to which he had sent some of his specimens. In the early 1860s, Spencer Fullerton Baird, then Secretary of the Smithsonian, prevailed upon Grayson to collect bird specimens in some then unexplored areas of Mexico, beginning with the Islas Revillagigedos. During Grayson's first visit to those islands in 1865, he discovered most of their endemic birds, several of which were named either by him or for him.

Grayson continued his ornithological explorations of western Mexico and adjacent islands, adding constantly to his portfolio of paintings. An attempt to secure financial assistance from the government of Mexico failed with the overthrow of the Emperor Maximilian. He nevertheless continued to paint, although his health was deteriorating. During the last few years of his life he was shipwrecked on Isla Socorro in the Revillagigedos, his son Ned was murdered in San Blas at the age of 22, and his financial situation became more desperate. Grayson died in Mazatlan in 1869 from Yellow Fever.

Grayson's widow, Frances Timmons Grayson, sought in vain for ten years to find a publisher for her husband's paintings. She finally decided to donate them to the University

of California at Berkeley, and at her death in 1909, all of her husband's papers were added to the archives, now housed in the University's Bancroft Library.

In reviewing the present edition, it is of course impossible to evaluate the color reproduction of the plates without comparison with the original paintings. Comparison with the much-reduced versions in *The Condor* shows the latter, as might be expected, to have lost some of the subtlety of coloring apparent in the Arion edition. The *Condor* plates are heavy on the yellows and reds, further emphasizing the subdued appearance of the Arion version. The reproduction of the Arion plates was accomplished with the use of the latest state-of-the-art techniques, including laser scanning. Mr. Hoyem informs me that the first copies were so literal that slight irregularities and discolorations in the original paper were faithfully reproduced, and had to be removed by hand retouching. In a sense, therefore, the plates are closer to Grayson's original concept than to the paintings in their present condition.

And what of Grayson as an ornithological artist? Glenn Todd's introduction is cautious on this score, but suggests that Grayson was "the preeminent bird painter of his generation, both for the fidelity of his renderings and for his consummate artistry." Todd places Grayson's "generation" among American bird artists as after Audubon and prior to Louis Agassiz Fuertes and "Allen" [=Allan] Brooks. It is true that Grayson had few competitors in North America during this period, but during his lifetime the great flowering of British bird illustrations was beginning; the magnificent Josef Wolf, for example, was only two years younger than Grayson.

Grayson emulated his predecessor Audubon in several ways. Most of his paintings include botanical and/or entomological materials, and several have recognizable background landscapes (such as Cerro Evermann on Isla Socorro). Like Audubon, Grayson often attempted to portray birds in livelier positions than was traditional in European bird paintings, but he painted many species in rather stiff upright poses. As George Sutton emphasized many times in correspondence and conversations with aspiring bird artists, the degree of "life" in a painting rests to a large extent on the rendition of the eyes. The eyes of Grayson's birds are flat, with the traditional stereotyped wedge-shaped highlight. Audubon generally used the same kind of highlight, but was already beginning, through subtle shading of the iris color, to give the eyeballs of some of his birds a more rounded and thus lifelike appearance. Even Wolf broke away from the wedge highlight in only a few of his paintings; among his more successful renditions of rounded eyes is that in his Greenland Falcon plate for Gould's "The Birds of Great Britain" (1863) (reproduced in A. Lysaght, "The Book of Birds," 1975).

One major decision by the Arion Press editors is understandable, but I regret it nevertheless. The plates are arranged taxonomically, in the sequence of the 6th edition of the A.O.U. Check-list. This isn't really a book about birds, but about Andrew Jackson Grayson. I was privileged to attend an illustrated talk about Grayson by Andrew Hoyem, in which the slides of the plates were presented in *chronological* sequence. This permitted me to appreciate for the first time the maturation of Grayson as a bird painter; leafing through the plates as presently arranged gives an unwarranted and unfair impression of inconsistency of style and accuracy, ranging from grotesque to charming.

Arion Press has done historians of bird art a major service in reproducing the Grayson paintings. Of fully equal importance is the text, which should revive interest in the life and accomplishments of an undeservedly forgotten pioneer in American ornithology. Let us hope that eventually a more modestly priced edition of the text will be made available for the general ornithological community.—KENNETH C. PARKES.

SEABIRD ECOLOGY. By R. W. Furness and P. Monaghan. Chapman and Hall, Methuen, New York, 1987:164 pp. \$45.00 cloth, \$23.00 paper.—This useful little book reduces a complicated subject to simple terms, apparently in response to the "Tertiary Level Biology"

heading on the cover. In doing so, the authors have provided a primer, and reminder, for students interested in seabirds. There is a strong bias toward coastal marine systems of the northeast and southeast Atlantic, as well as gulls and terns, the areas of expertise of the authors. One must remember, however, that other oceans do exist and that larids may not be "typical" seabirds. The first 52 pages in four chapters deal with an exposition of seabird life styles and theories on ecology and population regulation with good short introductory and summary paragraphs. The following four chapters deal with interactions with fisheries (45 pp.), monitoring marine environments (25 pp.), seabirds as pests (10 pp.), and seabird conservation requirements (9 pp.). Twelve pages are devoted to the references, and most of the historical and pertinent primary literature through 1985 is included. The authors do cite heavily summary articles in the text, a method that probably is very useful to beginning students. Throughout the text, the sectional numbered divisions are useful, and alternate theories/hypotheses are presented.

I do have a few quibbles and illustrations of my own biases: on page 7, 5th line from the bottom, in discussing mate fidelity, the statement is made that "they will change mates" if a pair is unsuccessful at breeding. I would suggest *may* is a better verb, at least as demonstrated by the few studies of banded birds that have lasted long enough to show this phenomenon. On page 8, in discussing colonial breeding, a clear distinction between the "consequences" and "functions" of coloniality must be made in order to understand the differences in colonial habits. On page 9, the authors suggest only as an alternative that "sites . . . safe from predators . . . may be in short supply, birds collect together when they occur." I would suggest that from a seabirds' point of view, at least in tropical oceanic species, nesting islands are limited in number and distribution, and thus the social activities we observe in colonial species are the consequences of breeding together, not the "advantages" as noted in this text. On page 12, the authors set up the "r" and "K" selection dichotomy rather than present it as a continuum, although this is discussed in later chapters. For the beginning student, I believe the continuum is a more useful concept. On page 23, I suggest that bill shape and size are as important to feeding as is body size. On page 24, the authors give squid short shrift as a diet item, when in tropical oceans they certainly are equal in frequency and volume to fishes. Figure 3.2 on page 28 is an unfortunate oversimplification, especially since it emulates the excellent drawing by Jon Ahlquist in Ashmole (1971, p. 227, in Farner and King, *Avian Biology*, Vol. 1). On page 29, the authors cite Nelson (1967) to the effect that frigatebirds "have reduced the amount of oil in their feathers to such an extent that they can no longer enter the water." This is clearly nonsense! The discussion on page 77 and following dealing with overharvesting by man in the Peru-Ecuador marine system does not relate the situation with ENSO events as being an important density independent population control mechanism. Several typos mar the text: p. 6 the reference (see section 2.3 last line) is meaningless; p. 15, the reference (see 2.5.4) does not exist in the text; p. 26, the reference to Murphy should be Murphy et al.; and in the references this reviewer's citation title is misspelled as "Respectives" rather than "Perspectives."

These points aside, I find this book a welcome addition to the seabird literature. It's a valuable summary and a major exposition of the interactions among fisheries, man, and birds. The cost of this book seems excessive, but I guess publishers must make a profit. If only authors could also.—RALPH W. SCHREIBER.

AUKS. AN ORNITHOLOGIST'S GUIDE. By Ron Freethy, illus. by Carole Pugh. Facts on File Publications, New York and Oxford, 1987:208 pp., 12 color plates, 23 black-and-white photographs, 22 range maps, 6 tables. (Price not given.)—The auks are a family of 22 extant and one recently extinct species found in cool, northern waters, mainly in the Pacific. After

the penguins, they are the seabirds most highly adapted to life in the water. Ron Freethy's book is a general introduction to the group—a review of the existing literature rather than a presentation of original research. It's popularly written, but with nine pages of bibliography that provide an introduction to the literature. Unfortunately, this list does not include the latest symposium on the family: Nettleship and Birkhead's "The Atlantic Alcidae" (Academic Press 1985).

Freethy gives a section to each species, and finishes with "Auks in the Modern World," a chapter on the influence of man as a hunter, polluter, and rival fisherman. He discusses the birds' distributions, food, behavior, movements, and breeding biology. He has, however, two unfortunate biases. His perspective is land-based, with little to say about auks in their marine environments. He is also firmly anchored in the British Isles: the Atlantic west of Iceland gets short shrift, and his treatment of the Pacific species is perfunctory. These have led to some odd imbalances. For example, Freethy describes the storm-driven 'wrecks' of Dovekies (*Alle alle*) along the coasts of western Europe at some length—yet the birds' principal 'normal' wintering area, off Newfoundland, is not shown on the distribution map. The section on the food and feeding ecology of the Thick-billed Murre (*Uria lomvia*) takes no account of the Japanese work with birds drowned in gill-nets in the Pacific. Freethy cites the famous sketch of Great Auks (*Pinguinus impennis*) on the Grand Banks, from the 'English Pilot' of 1728, but only as a sketch—not for what it tells us about their pelagic ecology. The extinction of the last birds in Iceland is little more than a postscript to a long description of the species' former distribution in British waters. (To make matters worse, quite inexplicably, he doesn't even cite Alfred Newton's classic account [1861. *Ibis* 3:374–399] of the final execution, preferring instead to quote an abridged and unacknowledged version from a secondary source. The great man must be turning in his grave.)

"Auks," then, is not the last, or even the latest word on the group. But these are relatively minor faults. Despite its biases, the book makes a useful introduction to these odd little birds. The author is clearly, and rightly, fascinated by them, and his enthusiasm is infectious. The making of converts, I suspect, is one of the reasons he wrote "Auks" in the first place. I hope he succeeds.—RICHARD G. B. BROWN.

THE BIRDS OF AFRICA. Vol. II. By Emil K. Urban, C. Hilary Fry, and Stuart Keith (eds.), with line drawings by Ian Willis, plates by Martin Woodcock, and acoustic references by Claude Chappuis. Academic Press Inc. (London) Ltd., London, England, 1986:xvi + 552 pp., 28 color plates, 4 black-and-white plates, 2 figs. (maps), Bibliography, Errata of Vol. I and Indexes. £65.00 (\$99.00).—The second volume of this ambitious undertaking (six volumes instead of four are now projected) is written by contributing ornithologists under a joint editorship. Treated are the Galliformes, Gruiformes, Charadriiformes, Pteroclitiformes, and Columbiformes.

"Encyclopaedia of African Birds" might be a more appropriate title of a work which undertakes to summarize the total knowledge of Africa's birds. As in Volume I, orders, suborders, families, subfamilies, and genera are briefly summarized as to diagnostic features, ranges, included taxa, and taxon affinities. Species treatments are compressed into several categories, usually: range and status, description, field characteristics, voice, general habits, food, and breeding habits. One to as many as five references follow each treatment. There is an "all Africa" bibliography and one for each family. With terse and stylized prose, enormous amounts of information are condensed into each page. Imagine, *six* such *folio-sized* volumes!

To an ongoing work of this scope, criticism and suggestions can be of particular importance.

This reviewer's comments are offered in expectation of even more noteworthy succeeding volumes.

The range maps for the species draw my special concern from standpoints of: inadequate "landmarks," accuracy, and readability. "Landmark" inadequacy involves latitudes and longitudes as well as natural features for points of reference. In describing the range of one species (p. 483) the text employs: latitudes 18°N, 21°N, 15–16°N, 1°N and longitude 40°E. Readers can approximate the equator's position on the maps, but latitudinal distances north and south of this are not obvious. The range description can be compared with the maps themselves and from the maps approximation of latitude and longitude gained (but map accuracy can be open to question—see beyond). In the interests of precision, I suggest that the equator, as well as latitude both above and below it, be indicated along the margin of the map; and how about a longitude for orientation?

A point of reference such as the outline of Lake Victoria provides a useful addition to the range maps of Volume II. Some of the great lakes of Africa and their surroundings are hubs of species assemblages. I doubt that the outline of 150-mile long Lake Turkana, for example, would impart undue clutter to the maps. Interpretation of a good many ranges would be enhanced by indication of natural features large enough to allow inclusion in these very small range maps.

Accuracy is a more serious consideration. We are told (p. xiii) that "map and text are complimentary and in all cases should be considered together." However, drawn ranges and the descriptions of them do not always agree. On p. 7 a species is described as "Resident from extreme NE Uganda . . . north to S Ethiopia, Somalia, arid parts of N and E Kenya . . ." The shading of the accompanying map does not include any portion of Uganda although astride that country's northeast border are an "X" and question marks! Now note, the range was said to extend from NE Uganda "north to S Ethiopia." Ethiopia does not lie north of Uganda; the Sudan does but there is no mention of that country in the description of the range and no part of the Sudan is shaded on the range map. ". . . north of S Ethiopia, Somalia . . ." Can one arrive at Somalia by going north from Uganda? Yes, by going north-east (or east and then north-east) but only if you pass through north-west Kenya and that area is not shaded on the range map. Precision is lacking in the description of other ranges. A swamphen's range is described as including Lake Turkana. The map's small patch of shading for this portion of the species' range (p. 119) in no way represents the N-S length of this lake; the shading does not extend to the Ethiopian border where, in the marshes of the Omo River delta fringing the lake, the swamphen can be found. A coot (p. 129) is "common [at] Lake Turkana." Again shading does not cover the N-S extent of the lake, in particular, the Omo River delta marshes. A francolin (p. 43) is said to have a range extending "south through Kenya"; this should read south through *eastern* Kenya to be in accordance with the map which shows the species absent from central and north-west Kenya. These are samples of such inconsistencies.

Range maps should be easily and quickly read. With these maps I do not always find this so. Does every map, no matter how restricted a species' range, have to represent the entire continent? Africa's 11,700,000 square miles are herein reduced to about 6 square inches. If the range is limited, would it not be better displayed by enlarging that portion of Africa to fill the six square inches? Locations of some "isolated occurrences" are emphasized by arrows, but these arrows are small and not always immediately apparent (p. 65). Why not arrows of a size that attracts attention? Some maps have but a few "X" marks set within the continent (p. 385); to have these stand out why not color them? If a range narrowly parallels the marine littoral (p. 189) would this not be better set off by a colored rather than a thin, lightly shaded strip? Editors, scan the range maps in the Cramp et al. 1983 "Handbook of the Birds of Europe, the Middle East and North Africa," Vol. 3. Here versatility in illustration of range maps is noteworthy. The result is that the maps can be read with ease.

Illustrating the birds of a continent is a monumental undertaking. Almost 300 species are shown by the plates of Volume 2. These obviously merit careful consideration. This volume's jacket states that "the beauty of the plates will assure them pride of place on the shelves of ornithologists and bird-watchers everywhere." "Beauty" this reviewer considers too subjective for him to critique. There are aspects of Woodcock's plates which do elicit my comment.

The artist has, I would say, nicely captured the characteristic poses of bustards (plates 10 and 11). My feelings at watching live bustards are refreshed by these plates. I do not think that the artist "captured" shorebirds as nicely as bustards. The adult male Great Sand Plover (*Charadrius leschenaultii*) and some others of plate 15 are to me having balance problems; such stances in life would, I suspect, be unstable.

The plates of flying shorebirds are obviously designed to compare diagnostic features of the many species; they could serve for little else when as many as 43 individuals are crowded onto one plate (21). But compare the flying shorebirds by D.I.M. Wallace (e.g., plate 22) in Cramp et al. 1983, op. cit. All 13 of these figures have room in which to fly and are in realistic attitudes of flight. If figured birds can be life-like—why not!

The backgrounds of the plates are white (not so in Vol. I). Some birds with extensive areas of white plumage—the same shade of white as the background—are not well portrayed (plates 13 and 28). Pastel backgrounds would correct this. Moreover such backgrounds can bring figures into pleasing prominence. Compare Philip Burton's plovers (plates 11–14 in Cramp et al. 1983, op. cit.) with Woodcock's plates (14 and 15) of many of the same species.

The assemblage of guineafowls (plate 5) is a notable one. Some I consider very well executed. The vulturine Guineafowl (*Acryllium vulturinum*) disappoints me. The artist could have better "exploited" such an extravagantly plumaged subject. H. Grönvold's color plate (no. 21 in Mackworth-Praed and Grant, 1952. "Birds of Eastern and Northeastern Africa," effectively posed this bird to show the extent of the striking blue plumage of the breast, the spread of the hackles, and the pinkish-violet of the outer secondary. The latter can hardly be distinguished in Woodcock's plate. The short, dense feathers of the nape are redder in Woodcock's plate than I have observed in life. According to the text (p. 7) these are chestnut. The text describes the legs as black; they are gray in the color plate.

In summary, the plates are good. Some, I think, are better than good. A few, I believe, could have been much more effective. Important in my criteria of evaluation is how effectively the artist has posed the bird—is it lifelike and are the characteristics of the bird well displayed?

Here are some miscellaneous suggestions to the editors. Place the names of the orders covered either on the spines or boards of succeeding volumes. Although space consuming, it will be helpful to have the table of contents include the species. Where, oh where, is a glossary? Proofread the indexes more carefully; in the English Name Index (p. 547) alphabetical sequence is scrambled. Finally, when treating the Bee-eaters (Meropidae) make up for an omission re the Kori Bustard (*Ardeotis kori*). A. H. Neumann (1898, "Elephant-hunting in East Equatorial Africa") was among the first to describe the Northern Carmine Bee-eater (*Merops nubicus*) using these bustards as "animated perches" from which to hawk for insects. Why not include his quaint sketch as a line drawing and his comment that "they sit far back on the rump as a small boy rides a donkey . . . "?

Few avifaunal treatments have been marked by such thoroughness, detailed and, I suspect, devoted attention as the "Birds of Africa." At last the inventory of information about this avifauna is in one place and available to all. Despite my criticisms, which are in good measure subjective, this is an *outstanding* production! The amount of information the volume contains is awesome. Far into the future this will be the basic reference for African birds—and a model for such works. All plaudits and progress to the editors!—OSCAR T. OWRE.

THE TANAGERS. NATURAL HISTORY, DISTRIBUTION, AND IDENTIFICATION. By Morton L. Isler and Phyllis R. Isler, illus. by Morton L. Isler. Smithsonian Institution Press, Washington, D.C., 1987:404 pp., 32 color plates. \$70.00 (cloth), \$49.95 (paper).—The tanagers are a high-profile family of birds of the New World Tropics, known even to many non-birdwatchers. How completely tropical the tanagers are becomes readily apparent when looking at the range maps in this book. Only four of the 242 species listed here consistently occur in North America—for only part of the year—and none occurs farther south than central Argentina.

“The Tanagers” treats all species of the family, and all are illustrated. It is not a coffee-table book, however, in the style of other single-family treatments such as “Parrots of the World” (Forshaw 1973, Lansdowne Press, Melbourne). For one thing, it is considerably smaller (23.5 × 15 × 3 cm). Rather, it is a tool for ornithologists or very serious birdwatchers, those with an interest in tropical birds.

The Islers have not attempted to make any revision of the systematics of the tanager family, but follow the order of Peters’ Check-list (Storer 1970, Check-list of Birds of the World. Vol. 13. R. A. Paynter, Jr., ed., Cambridge, Massachusetts, Mus. Comp. Zool.), with the addition of the five species of tanagers described since the Check-list was published. They do not include a synonymy. “The Tanagers” is mostly a secondary source, although it does contain new information on natural history and geographic ranges. Most of the new information comes from field notebooks of other workers and from museum collections, but the Islers themselves contribute considerable information from their own observations, especially on vocalizations, diet, and behavior. They introduce each genus, most by a single paragraph which describes the generic characters. Usually, they also discuss behavior, and they give some information on the relationships of species in the genus, including a table listing the species and possible species groups. The authors devote considerably more space to large, complex genera such as *Tangara* and *Euphonia*.

The species accounts are highly structured and well done. Each has an initial morphological section giving lengths and weights of the species, some subspecies information, and plumage description if not illustrated (usually subadult). Separate sections cover geographic range, elevational range, habitat and behavior, vocalizations, and breeding. The final section of each account is most useful. It conveniently gives the sources used, by section, for each section of the species account. Using these sources one can quickly find out more about, for example, the stomach contents of the Brassy-breasted Tanager (*Tangara desmaresti*).

The Islers give species with a particularly complex lifestyle or uncertain taxonomic position more than one species account. For example, they give two accounts for the North American migrant tanagers, one for summer and one for winter. They also provide separate accounts for possibly distinct forms in species with taxonomic uncertainties. A range map accompanies each species account, although often not on the same page. Many of the maps take up more than half of a page, and a few have a page to themselves. This gracious use of space allows detail not usually found in range maps. All of the maps are drawn to the same scale, with national boundaries and most large rivers drawn on each one. The features, however, are not labelled. While most people who study tanagers probably would know where Paraguay is without it being labelled, many people probably would have difficulty identifying the Marañón, Huallaga, and Ucayali rivers on a line map. Yet all three are important in distributions of tanagers. The Islers often refer to minor political divisions or to cities in the range descriptions, but these are not marked anywhere in the book. A single base map on the endpapers with the major features labelled would have enhanced the book a lot. It would keep readers from having to flip through their atlas while trying to use this book.

Mort Isler’s color plates are grouped in the center of the book. As many as six different plumage types in highly variable species, such as the Common Bush-Tanager (*Chlorospingus*

ophthalmicus) are illustrated. Both males and females are shown when their plumage is different. The plates are done adequately, although some of the shapes and positions seem a little off. Isler seems to have paid attention to eye and soft-part colors; he is correct for those I know. Some of the deep, saturated reds (*Calochaetes*) and blues (some *Tangara*) I'm sure are difficult to paint and print. The color of iridescent species, such as many in the genus *Tangara*, changes with the viewing angle, an effect impossible to render in a painting. Isler does reasonably well, certainly well enough to be useful. The quality of the color printing is fair, but not as high as two other recent books I compared it to (Hilty 1986, *A Guide to the Birds of Colombia*. Princeton Univ. Press, Princeton, New Jersey; Pratt, Bruner, and Berrett 1987, *A Field Guide to the Birds of Hawaii and the Tropical Pacific*. Princeton Univ. Press, Princeton, New Jersey). In fact, in both copies I have seen, Plate 15 (mainly *Thraupis*) seems to have been printed with the blue tint slightly out of register, giving the birds a watery, out-of-focus look.

The references at the end of the book seem to be complete. Two references for E. P. Edwards are duplicated, a minor editing lapse. The printing of the book is probably its greatest disappointment. Numerous places in the book show smudges as if the printing plates were over-inked or the pages put together before they were completely dry. One blob almost obliterates two entries in the index. Another page in the index has almost every a, e, g, and o filled in, giving it a cheap, mimeographed look. The two copies I have seen both have identical smears, so the fault lies with the printing plate.

On the whole, I think this book makes a very welcome contribution. Because the text is well-organized and sources carefully cited, it can be a useful tool to someone who is getting to know the tanagers, as well as a convenient reference book for someone who already knows them. The Islers present a great deal of natural history data. They provide a source that can give ornithologists a way to know a tropical family well and a good starting point when studying problems in tanager systematics, biogeography, and ecology. I recommend this book.—DAVID A. WIENFELD.

THE ATLANTIC PUFFIN. By David Boag and Mike Alexander. Blandford Press, Dorset, England, 1986:128 pp., 70 color plates with caption figs., 2 figs. with captions. \$22.50 (\$32.95 in Canada).—In 1986, Michael Harris published his thorough treatment "The Puffin" (see review in *Wilson Bulletin* 98:326). This was the first recent book on the Atlantic Puffin (*Fratercula arctica*) since R. M. Lockley's classic title, "Puffins," which appeared in 1953 (Devin-Adair Co., New York 186 pp.). Now, only two years after publication of Harris' "Puffins," David Boag and Mike Alexander have authored another book about this popular seabird.

While Harris' book was intended for the professional ornithologist and serious amateur, this new puffin book is written for the beginning-level bird watcher, the kind of person who would travel to Skomer Island in Wales or Machias Seal Island off the Maine coast to obtain a first glimpse of puffins. In contrast to the graphs and tables which give Harris's book an in-depth perspective, "The Atlantic Puffin" contains 70 color photos and summarizes in a popular way much of the information reported by Harris and other field researchers. David Boag has written the text based largely on his and Mike Alexander's experiences at Skomer Island National Nature Reserve in West Wales where Alexander served as a wildlife warden.

In addition to a careful overview of puffin natural history condensed from the literature, the book contains some original observations by the authors. Boag and Alexander obtained unusual photos of puffins in the water by swimming with the birds and they have added to our understanding of chick behavior by excavating burrows in order to see puffins at home

underground. These techniques provide some new insights about courtship and feeding behavior as well as the behavior of chicks in their burrows.

The book contains chapters about world distribution, life at sea, courtship and egg laying, chick development, mortality and kleptoparasitism, and conservation problems such as oil spills. It is surprising that the conservation chapter does not refer to the problems of entanglement in gill nets or concerns about overfishing of puffin food stocks. While the book has too many mediocre color portraits, there are also some very unusual photos such as views of puffins swimming at eye level, diving underwater, and young with parents in nest burrows.

The book creates some confusion about western North Atlantic puffin colonies by stating that "By 1887 there were no puffins on Machias Seal Island, which was the largest colony in Maine." This statement actually refers to Matinicus Seal Island. Although puffin numbers declined to about 60 individuals during this period at Machias Seal Island, they were not eliminated. There is also confusion about the location of Gulf of Maine puffin colonies on a distribution map on page 124 which shows Eastern Egg Rock off the coast of New Hampshire and Matinicus Rock almost in the Bay of Fundy. Actually, both colonies are off mid-coast Maine.

The above details do not detract from my overall view that "The Atlantic Puffin" is a well-written and informative natural history about this appealing seabird. I recommend it as a very readable introduction for the beginning bird watcher.—STEPHEN W. KRESS.

THE EAGLE'S NEST: NATURAL HISTORY AND AMERICAN IDEAS, 1812–1842. By Charlotte M. Porter. Univ. Alabama Press, University, Alabama, 1986:251 pp. \$24.95.—In this our centennial year, Charlotte Porter's treatise on the early history of the Academy of Natural Sciences of Philadelphia offers an intriguing glimpse at the world of Alexander Wilson and his contemporaries. The book, which appears to be the published version of Porter's Harvard University dissertation of 1976, offers much for those interested in the historical role of Alexander Wilson in American Ornithology, including the suggestions that Wilson's "American Ornithology" (1808–1814) quickly became the benchmark "against which all other works of natural history would be judged," and that its publication "inspired" the founding of the Academy of Natural Sciences.

Porter depicts the period of the late 18th and early 19th centuries as being a rather trying one for North American naturalists, especially those dealing with taxonomy. In 1766, Buffon had proclaimed in his widely read "Histoire naturelle, général et particulière" (1749–1767) that many supposed newly discovered New World species were, in fact, merely degenerate versions of Old World forms. Although North American authors spent considerable time and effort demonstrating otherwise, the lack of a viable evolutionary theory posed considerable problems for these early naturalists. Jefferson, for example, struggled with the "problem" of North American extinctions. Without Darwinian theory in hand to explain such events, he challenged Buffon's claim that extinctions reflected the inferiority of the New World climate by proposing that mammoths, although extirpated in eastern North America, might still exist in the unexplored interior of the continent. Porter suggests that only with the publication of Wilson's work could New World authors dispense with what was until then an obligatory introductory argument debunking Buffonian taxonomy. But it was not until much later, when Asa Gray championed Darwinian thought in North America, that naturalists possessed the theoretical framework needed to address the taxonomic problems their discoveries created; and even then, many refused to embrace the theory.

Porter has written a feisty book filled with strong personalities arguing what were then

important, and what are now seemingly inane questions of natural history and taxonomy, including numerous acrimonious clashes between Wilson's and Audubon's disciples. (I wonder whether our era of ornithology will offer similar grist for an historian's mill.) Written in a thesis style (end notes comprise 20% of the text), the book is interesting, but not easy reading. There are also a number of passages that lead me to suspect that Porter is not as well versed in evolutionary theory as one would hope. With these caveats in mind, I recommend the book to those whose interests in ornithology include its historical aspects.—
KEITH L. BILDSTEIN.

BIRDS OF THE ROCKY MOUNTAINS. By Paul A. Johnsgard. Colorado Associated University Press, Boulder, Colorado, 1986:504 pp., 42 color plates, 15 numbered text figs. \$39.50.— This book summarizes bird distribution and abundance information from 8 U.S. and Canadian Rocky Mountain national parks and one national monument in the north central Rocky Mountains. It also offers a brief compilation of notes on identification, habitats and ecology, and seasonality for 354 Rocky Mountains species from "latilong" studies, park checklists, and unpublished sources. "Birds of the Rocky Mountains" shares many similarities with Johnsgard's 1979 "Birds of the Great Plains" (BGP): the chosen boundaries do not encompass the entire region suggested by the title; the maps emphasize the distribution of breeding rather than migrating or wintering birds; and attractive photos and line drawings are interspersed throughout the text. Written for a nontechnical audience, the book is useful as a cursory overview of the distribution and natural history of Rocky Mountain birds. It may be of assistance to birders visiting the north-central Rockies for the first time, but as a reliable technical reference "Birds of the Rocky Mountains" is lacking.

The introduction provides an overview of the physiography and ecology of the region, with maps summarizing aspects of the climate, mountain ranges, drainages, vegetation communities, and land use. A useful synopsis of the areas with the greatest bird-watching potential in each of the parks and numerous other refuges is included. The author provides for each species a summary of the latilong status and a map showing the species breeding distribution within the study area, which consists of southern Alberta, Montana, Idaho, Wyoming, and northern Colorado. The latilong information and the map are difficult to cross-reference visually, but careful comparison often yields contradictions. Johnsgard notes that the range maps are "usually more 'generous' than is indicated by available data" reflecting the author's "belief that, based on its general distribution and habitat characteristics, the species may eventually be found there." The book was designed for use in the field and, therefore, the page size is smaller than in BGP. As a result, the quality of the identification and comments sections are compromised. Much space is devoted to 30 or more vagrant species that tell us little about the bird life in the Rockies.

An operating assumption of the book is that "the bird life of the Rocky Mountains is surprisingly uniform." The narrow scope of inquiry is such that this idea is not seriously challenged, and thus we come no closer to the many fascinating aspects of Rocky Mountain biogeography: the influences of fauna from the coastal Cascade Range, the Chihuahuan mountains, and the Great Basin on the Rockies. I wish that the author had included a discussion of geographic variation within the Rocky Mountain region and a biogeographic comparison to the Sierra Nevada, for example.

The greatest problem I have with the book is the contradiction between the apparent scope of the book, as suggested by the title, and the actual area analyzed. At most, 40% of the Rocky Mountains comprise his study area, and approximately 40% of this consists of habitats well within the Great Plains. Thus, when nesting periods are cited for the species,

one wonders whether these truly represent nest dates for birds from the Rockies or from other regions. I suspect the latter because for several species he cites egg records from North Dakota.

Two critical stages in the production of this book seem to be lacking: professional review and editing. Errors in the species accounts include Black-backed Woodpecker (*Picoides arcticus*), which does occur in central and southern Wyoming, but not in Colorado and Barred Owl (*Strix varia*), which has not yet been confirmed to nest in Colorado. Scott's Oriole (*Icterus parisorum*) is omitted from the species accounts, but it breeds in several areas in western Colorado and southwestern Wyoming. Errors, omissions, and incorrect entries abound in the photo captions, the suggested reading list (referenced at the end of the text), and the appendix. I found 27 errors in citations alone. Codes used to designate categories in the species checklist are not defined.

This book is less of a well-coordinated synthesis than I had hoped for. A detailed, comprehensive study of Rocky Mountain avian biogeography still awaits us.—MARK A. HOLMGREN.

BREEDING BIRDS OF ONTARIO: NIDIOLOGY AND DISTRIBUTION. Vol. 2: PASSERINES. By George K. Peck and Ross D. James. Royal Ontario Museum Life Sciences Miscellaneous Publications, Toronto, Canada, 1987:xi, 387 pp., 2 maps of localities and regions, 140 range maps, 96 figures of habitats, birds and their nests. \$36.00 (Canadian).—This volume is organized in a similar format to the first volume which covered the nonpasserines (see J. M. Speirs' review, *Wilson Bull.* 96:510, 1984). After a brief introductory section, the main body of the work consists of 140 full species accounts, followed by brief accounts of 4 unconfirmed species. Each full account includes a distribution map showing the locations of definite breeding records, based on information in the Ontario Nest Records Scheme. A section headed Nidiology summarizes the number and distribution of records, describes breeding habitats, nest sites and structures, and gives information on numbers of eggs per nest, cowbird parasitism, incubation period, and egg dates. Finally, a section on Breeding Distribution briefly describes what is shown in the maps, sometimes drawing on additional information from other sources. Some of the accounts are illustrated with attractive drawings by James. The photographs of habitats, birds, and nests, mainly by Peck, are generally of good quality but are gathered together at the back of the book following appendixes, literature cited, and index. Appendix A gives corrections and additions to volume 1 and Appendix B is a chart of egg dates for species in both volumes.

This book has limited objectives which it achieves quite well. It provides the first detailed maps of the distribution of breeding records for Ontario and summarizes nest and habitat data from the Ontario Nest Records Scheme, but little attempt is made at interpretation of the observed patterns. This volume has benefited greatly from new records accumulated in the course of the intensive fieldwork conducted in 1981–85 for the recently published "Atlas of the Breeding Birds of Ontario," but the two books tend to complement rather than duplicate each other. The maps in this book show only confirmed breeding records (nests or unfledged young), including both recent and historical data, whereas the Atlas maps are based on a wider range of breeding evidence collected over a five-year period. The texts here emphasize details of nesting sites, nest structures and habitats, in contrast to the Atlas which provides extensive commentary on breeding distributions and abundances.

My main criticisms concern the unconventional approach to clutch sizes and incubation periods adopted by the authors. The introduction to volume 1 says that each account lists all "clutch sizes" given on nest-record cards unless it was specifically indicated that the clutch was incomplete. Thus the frequency distributions given are of observed egg numbers

rather than of completed clutches. The authors recognize this by using bold face type for sizes of clutches that were known to be complete and incubated by one pair, but the frequency distribution of such clutches is not given. Therefore, it is not possible to calculate mean clutch size from the data presented, nor do the authors provide this statistic. Indeed, they justify its omission by saying that it often results in "an unrealistic number," such as "an average clutch size of 3.5 eggs." Instead they provide "the average-clutch range," which is actually the size range of the middle 50% of egg counts.

Incubation periods are usually measured from the laying of the last egg to the hatching of the last egg, because this method provides the greatest certainty that the egg was actually incubated during the measured period. For most species, Peck and James use instead the interval between the laying of the last egg and the start of hatching—so their incubation periods will be reduced by an amount determined by the extent to which the onset of incubation preceded clutch completion, as the authors often note in explanation of unusually short periods. However, "for those species that commence incubation with the laying of the first egg (e.g., cuckoos and owls)," they defined the incubation period as the interval between laying of the first egg and first hatch. Therefore, it will be longer than the standard incubation period if, in fact, full incubation did not start with the first egg. Thus anyone wishing to use the clutch size and incubation period data for comparative purposes would be well advised to examine the original nest record cards rather than relying on the information presented here.

Nevertheless, the authors have done a valuable job of concisely summarizing the distributional and nesting data from over 67,000 passerine nest record cards. J. M. Speirs' conclusion that the first volume was an important reference work on the distribution and nesting habits of birds applies equally to the second volume.—DAVID J. T. HUSSELL.

THE ATLAS OF WINTERING BIRDS IN BRITAIN AND IRELAND. Compiled by Peter Lack. T. & A. D. Poyser, Ltd., Calton, Staffordshire, England, 1986:447 pp., 192 species illustrations, 202 distribution maps, 16 numbered text figures, 4 tables. \$55.00 (distributed in the U.S. by Buteo Books, Vermillion, South Dakota 57069).—In 1976, the British Trust for Ornithology, in cooperation with the Irish Wildbird Conservancy, published "The Atlas of Breeding Birds in Britain and Ireland," the first published atlas of breeding birds for a major land area. Following the lead of the United Kingdom, breeding bird atlas projects have become a global activity, with more than a dozen countries having produced breeding bird atlases by now. In North America, more than thirty states and seven Canadian provinces have fielded breeding bird atlas projects. Now, the appearance of "The Atlas of Wintering Birds in Britain and Ireland" marks yet another milestone of excellence in the fifty-year tradition of bird study of the British Trust for Ornithology.

The new winter bird atlas follows very closely the pattern of the earlier breeding bird atlas. There are 192 natural history accounts of wintering birds, each introduced with a handsome line drawing of the species. The species accounts were prepared by 101 authors. Twenty-three artists, coordinated by Robert Gillmor, are responsible for the illustrations of species, which are executed with clarity, accuracy, and imagination. I found the series of winter *Paridae* drawn by Norman Arlott especially endearing. Shorter accounts and smaller maps are printed near the end of the book for eight summer species of very rare winter occurrence. Those eight species are not illustrated. In general, the species accounts are well-written, carefully edited, and very readable. The accounts relate details of the species' natural history during the winter season in Britain and Ireland. Particular attention is paid to how winter weather can affect species abundances. References for further reading are included at the end of each species account.

On the page facing each species account and its illustration appears an outline map of Britain and Ireland showing the winter distribution for the species, mapped for 3761 survey squares of 10×10 km each. The winter distribution maps employ an innovation over the earlier maps of breeding bird distributions, however. For each survey square from which a species was reported, a blue dot shows the species estimated relative abundance at either low, medium, or high levels. Although the actual numeric values for relative abundance can be different, depending upon the species mapped, the smallest colored dots always represent the lowest relative abundance, medium dots correspond to medium relative abundance, and the largest dots represent the greatest relative abundance. As a result, one very easily can ascertain at a glance not only where a species occurs in the United Kingdom during the winter, but also those regions where the species is likely to be most abundant. An introductory chapter presents a detailed discussion of the distribution maps and how they were derived and should preclude their misinterpretation by all but the most careless readers.

"The Atlas of Wintering Birds in Britain and Ireland" cross references "The Atlas of Breeding Birds in Britain and Ireland" extensively, and yet there is remarkably little duplication of information between the two atlases. At the end of each account for a wintering species which also breeds in the region, a page number indicates where a corresponding account for the species can be found in the breeding bird atlas. And for those winter species which also breed in Britain and Ireland, a small map of the species' breeding distribution is reproduced from the breeding bird atlas in the upper right corner of the winter distribution map for comparison. Information from other surveys of the British Trust for Ornithology (e.g., wading bird surveys, garden bird surveys, Common Birds Census, and Nest Record Scheme) also is skillfully integrated into species accounts.

Survey work for the winter atlas took place during the winters of 1981–1982, 1982–1983, and 1983–1984. An introductory chapter, *The Weather in the Three Winters*, helps the reader to place the survey in the context of winter weather patterns during the period of the survey. Another chapter, *Birds in Winter: Patterns and Movements*, is especially stimulating reading and a good illustration of the kinds of biogeographic patterns which can emerge from careful analysis of the extensive information which atlases provide. That chapter examines in detail the biogeography of groups of wintering birds in Britain and Ireland, based on habitat requirements or feeding habits (e.g., freshwater species, wader species, and seed-eating species). Patterns of winter distribution and abundance also are discussed in the context of body weights for wintering species. Irruptive species reported during the survey and the effects of cold weather on selected species also are given special attention. This broad analytical overview and synthesis of the biogeography of birds wintering in Britain and Ireland makes a fine introductory complement to the individual species accounts which follow.

If one is interested, a separate set of twelve transparent overlay maps, for use with both the winter atlas and the breeding bird atlas, can be ordered from the British Trust for Ornithology (available in the U.S. from Buteo Books for \$10). The set of overlays maps rainfall patterns, winter and summer temperatures, elevations, river systems, plant associations, and other features. Combining the transparent overlays with the printed maps helps the user gain greater insight into factors relating to where birds are found in Britain and Ireland. It is unfortunate that the overlays are an option and are not automatically included with each copy of the atlas, even though it would increase the price. They can add a whole new dimension of fascination to the study of the distribution maps for either the winter atlas or the breeding bird atlas.

More than 10,000 volunteers contributed over 180,000 hours of observation to the field surveys which made "The Atlas of Wintering Birds in Britain and Ireland" possible. Not until substantial numbers of North American observers regularly commit themselves to large-scale cooperative efforts to collect basic information about birds with the same en-

thusiasm as shown for life lists, Christmas Bird Counts, or "ecological activism," will there be any base of information about North American birds comparable to that for Britain and Ireland. And although a "North American Trust for Ornithology," modeled after the British Trust for Ornithology, has been rumored in various quarters for more than a decade, there seems little hope for the emergence of such an organization in the foreseeable future. Large numbers of carefully trained and coordinated volunteers can make significant contributions to our knowledge and understanding of the distributions and abundances of birds, especially in cooperation with well-trained professionals who have a sound knowledge of avian ecology. The two published atlases of birds of Britain and Ireland show clearly what can be done. "The Atlas of Wintering Birds in Britain and Ireland" is yet another illustration of the exceptionally fine field studies pioneered by the British Trust for Ornithology over the past fifty years.—CHARLES R. SMITH.

BIRDS OF BRITAIN AND EUROPE. NEW GENERATION GUIDE. By Christopher Perrins. Univ. Texas Press, Austin, 1987:320 pp., over 1500 col. paintings, many range maps. \$14.95.— There seems to be no limit to the number of British field guides, and this latest entrant is an American edition of a book originally published by Collins of Great Britain. This one is more than a field guide. Approximately 160 of the 320 pages are devoted to an introduction to bird biology. This is divided into three sections: The Evolution of Birds, The Life of Birds, and The Ecology of Birds. They are profusely illustrated with small sketches, graphs, and diagrams. These are written in authoritative but readable style and should serve to introduce the novice bird-watcher to bird study beyond the "ticking" stage. The emphasis on European species and examples will decrease the interest of American readers in these sections.

The remainder of the book is devoted to "The Directory of Species." This is in standard modern field guide format with 6–8 species covered per page with illustrations opposite text. The text for each species occupies a space of 100 × 22 mm which includes 2 tiny range map as well as text. On the opposite page, the illustrations occupy a similar space with as many as 4 or 5 figures. Thus, as many as 4 plumages and one flying bird are illustrated. The illustrations, by Norman Arlott, are quite good and clear despite their small size. I am not currently up on the latest techniques for identification of European birds, but I would judge that the beginner can do well with this book, but that as with others, will have his troubles with such things as *Phylloscopus* and *Acrocephalus* as well as waders in the autumn. The small size may be a definite handicap in using the pictures, and it certainly is in studying the range maps.

Americans making their first trip to Europe might well consider this guide, but they will probably find one of the others more satisfactory.—GEORGE A. HALL.

ANNOUNCEMENTS

NORTH AMERICAN BLUEBIRD SOCIETY RESEARCH GRANT AWARDS

The North American Bluebird Society is proud to announce the presentation of the fifth annual research grant awards. The 1988 recipients are:

Bluebird Grant

Dale L. Droge.—The effect of parent-offspring interactions on parental care in the Eastern Bluebird. \$1000