

ORNITHOLOGICAL LITERATURE

THE WORLD OF BIRDS. By James Fisher and Roger Tory Peterson. Doubleday, Garden City, New York, 1964. [year not shown]: $9\frac{3}{4} \times 12\frac{3}{4}$ in., 288 pp., many col. illus. and maps, bl. and wh. photos. and drawings, col. end papers and jacket. \$22.95.

This is a handsome addition to the new generation of large, ornate bird books aimed at a popular audience. The text was written by Fisher and Peterson; the bird illustrations were done by Peterson.

The first word that comes to mind in describing this work is *colorful*. Anyone who is moved by beautiful hues will turn the pages with pleasure, pausing particularly at the double-page spread of members of 23 families (pp. 10–11), the brilliant assortment of feathers (p. 19), the group of nectar-eating birds at their blossoms (p. 39), and others. Even the range maps and diagrams are eye-catching. The lavish use of color extends to the jacket, which has large, vivid portraits of the Mandarin Duck, Wood Duck, Roseate Cockatoos, and Cardinal, which do not appear in the book itself. Generally, the colors are sharp and true, with the exception of the plate of birds' eggs (p. 87) where the blue did not come through strongly enough, and the Catbird's and Veery's eggs, for example, give no hint of their actual shades.

By turning the pages, more easily than by studying the table of contents, we see that the book has four main parts. The first, consisting of six chapters abundantly illustrated in color, summarizes much of what we know about birds as animals. The second, consisting of one chapter illustrated with black-and-white photographs and drawings, describes the methods and tools of bird watching. The third, consisting of one very long chapter, treats 200 avian families, living and extinct, giving range maps, bird silhouettes, the geographic origin, and a count of genera and species for each. The fourth, consisting of one chapter, discusses the relationship of birds to man. There is an index and a bibliography, not of literature cited but of readings on the subjects contained.

Probably the first part (six chapters) will prove of greatest interest to most readers. It deals with the variety of birds, how birds live, birds of the past, birds on the tree of life, the distribution of birds, and bird society. Although fully half of these 86 pages are taken up with illustrations, the use of double columns of type and compact treatment of the subjects has permitted a great deal of information to be put into this space. Different readers will single out different parts of this excellent account for mention, but I believe the imaginative paintings of extinct birds from various geological periods and the portrayal of the whole family tree of bird families on one diagram particularly may catch the attention of more experienced readers.

To active field students and conservationists, the second and fourth parts, which are concerned with methods of study and birds' relationships to man, will be interesting but for the most part familiar. The authors, however, have shown special concern for historical origins, and nearly every reader will learn something about the beginnings of bird-song recording, bird listing, observation records, censusing, banding, birdhouse building, bird protection, bird hunting, egg harvesting, guano digging, falconry, aviculture, and so on.

The third part of the book, the list of families, differs in presentation from that of Van Tyne and Berger (1959, "Fundamentals of Ornithology," John Wiley, New York) principally in its inclusion of extinct families, range maps, counts of genera, and the geographic origin of each family; also it omits the summary of family characteristics, habits, food, breeding, and literature references given in the earlier work. In the

present book the families are listed in the European order. The fact that these two recent works do not often agree on the number of species in each family will confirm the impression of some readers that the judgments of taxonomists are as shifting sands. But the authors point out that their total count of species, 8,663, varies less than one per cent from most other recent counts and therefore the classification of birds at the species level has become fairly stable.

The equal-area maps centering on London or the North or South Pole are effective in portraying the spherical earth on a flat page.

As might be expected from authors of world-ranging interests and experience, and as promised by the title, the subject matter touches all continents, although examples are drawn most often from Britain and America. Also, as we might expect from men of such enthusiasm for *everything* about birds, the topics considered range from the erudite to the merely amusing, such as the necktie patterns of British bird clubs. One cannot escape the suspicion that the authors started out to write a very elementary book but were drawn by their own interests into some topics more deeply than they had intended—to the benefit of the more serious reader.

Technical subjects are handled according to the most recent scientific viewpoint—very advanced indeed in the discussion (pp. 90–91) of “pullus . . . adopted as the official word to represent a bird that has hatched but cannot yet fly.” This term has merit but it seems not yet to have come into universal use if we may judge from its absence from the indexes of recent American textbooks and journals. In a similar category on the same page may be the use of *juvenal* as a noun (“As soon as a bird can fly it is a juvenal.”). In American usage, “juvenal” is an adjective referring to a plumage.

Insofar as I am able to judge, the text is technically sound. Nevertheless, not surprisingly in the first edition of a work that dips into so many phases of a broad subject, it is not infallible in some minutiae. For example, in a mention of two censuses of the Kirtland's Warbler (p. 73), there were errors in one of the dates and in the amount of area occupied by the bird. Also I would quibble over the statement (p. 89) that the Brown-headed Cowbird lays “usually just after the first egg has been laid by the host.” Yet none of these slips of the pen damage the point of the account. John Emlen will be surprised to be called James (p. 98), and George Lowery, to read that he is at Kansas University (p. 125); but these items will be noticed only within the family of American ornithologists. Certainly I do not mean to imply by them that the book was carelessly written or that typographical errors are numerous.

Although the book was aimed at a wider public, I think many serious students of birds will want it in their libraries. Why? Most obviously, it is a beautiful book to have in your home for visitors to thumb. Further, some of its chapters with their examples from all parts of the world, deserve to be read by all beginners and will claim the attention of more advanced students. And finally, this book contains a remarkable number of curious bits of information that would be difficult to find elsewhere, such as the following: a list of endangered species (pp. 268–271), species that have become extinct since 1600 (pp. 272–273), many historical origins (first use of bird bands, date of founding of the oldest zoos, etc.), bird densities in various types of habitats over the world (p. 112), largest and smallest eggs (p. 86), wing-spans of the largest flying animals and the weights of the largest birds (p. 24), and size of the check-lists in different regions of the world (pp. 12–13). A few readers might wish some of these facts were presented in conventional scientific form, with references, measurement of variation, and size of sample, but these could hardly be expected in a book for the general public.

In brief, this is both a picture book and elementary textbook of ornithology.—HAROLD MAYFIELD.

SONG AND GARDEN BIRDS OF NORTH AMERICA. By Alexander Wetmore and Other Eminent Ornithologists. National Geographic Society, Washington, D.C.: $7 \times 10\frac{1}{4}$ in., 400 pp., 550 photos. (mostly col.) and paintings; bird-song album (inside back cover) of six LP vinyl recordings produced by Cornell Laboratory of Ornithology. \$11.95.

This latest volume in the National Geographic Natural Science Library is a typically handsome production filled with gorgeous pictures, chatty captions, and informative text. It wins extra points for being a comfortable size to handle in a day of increasingly unmanageable bird books.

The color photographs are by such top wildlife cameramen as A. A. Allen, Allan D. Cruickshank, and Eliot Porter, supplemented by paintings by Allan Brooks, Walter A. Weber, and George Miksch Sutton. Each of the 327 North American species from the hummingbirds through the fringillids is portrayed. In addition there are many fascinating action pictures which serve to enliven the text.

After introductory chapters on "The Way of a Bird" and "Birds in Your Garden" by Wetmore, chapters follow on each of the bird families. Each chapter contains an introductory essay by a well-known ornithologist such as Aldrich, Lowery, Pettingill, and Sutton, or by staff writers, and write-ups of each species which give details and anecdotes about the bird's habits and in a final paragraph its range and characteristics. For good measure there are also included a chapter on "Courtship and Mating Behavior" by Robert M. McClung and a final one by Roger Tory Peterson entitled "What Bird Is That?"

The truly unusual aspect of this book is the inclusion in a pocket inside the back cover of an album of bird songs narrated by Peter Paul Kellogg of Cornell University. This is a most ingenious arrangement of records which permits playing them without removing them from the booklet into which they are bound merely by folding the pages back and placing the entire booklet on the turntable. Careful and clear instructions tell how to play the records on an automatic changer as well as manually. It is possible to select individual bird songs on any record and each song is cross-referenced to the page of the text where the singer is described. Songs of seventy birds are grouped either by family ("An Evening With Thrushes") or geographically ("At Sunset in a Midwest Meadow"). The records are first-class as would be expected from Cornell.

"Song and Garden Birds" should be a very popular book. It is both attractive and instructive with a "zestful text" (to quote the jacket) and handsome pictures.—EDWARD F. DANA.

INTRODUCTORY ORNITHOLOGY. By George E. Grube. Wm. C. Brown, Dubuque, Iowa, 1964: 6×9 in., x + 294 pp., many photos. and drawings. \$4.75.

In recent years the instructor has been able to choose from a number of excellent texts in ornithology. These reflect the great strides made in ornithological research and the accumulation of data. When one considers that over 1,000 serials contained material on avian biology during the early 1960's (Baldwin and Oehlerts, 1964. "The Status of Ornithological Literature," Biological Abstracts, Inc.), the need for still more texts to digest and organize this material is obvious.

An instructor examining a new text looks for a fresh approach to the subject matter, or a different emphasis; and he expects at least to be brought up to date on current

findings in the field. This author's approach is curiously outdated; his homogenized treatment produces an inevitable superficiality; and he fails to bring the reader into the present decade of ornithological knowledge. Although professing to be an introductory text and manual for a one-semester college course, the book falls far short of meeting those goals.

Eleven chapters in this book deal with the external features of birds, their internal anatomy, origin and history, taxonomy, distribution, ecology, migration, life history, song, and economic value. Final chapters discuss the history of American ornithology, bird art, methods in ornithology, and attracting birds. Appendices include an illustrated key to the orders and families of North American birds, a series of range maps to be completed by the student, and some suggested problems in ornithology.

One of the book's shortcomings is its lack of comprehensiveness. Aside from the key and appendixes, the text is only 177 pages including bibliographies, numerous illustrations, and "exercises." It is impossible for even the most laconic writer to present a college text on ornithology in a mere 177 pages. The material is bound to be superficially treated or misleadingly simple, and the narrow spectrum of ideas will greatly limit the instructor.

Grube does not present ornithology as the dynamic science it is, but rather, I suspect, as it must have been taught many years ago. He does not mention recent advances in the field. Although evolution is the main theme of biology, he fails to discuss the evolution of birds per se, except as it appears in the fossil record. Evolutionary mechanisms are not explained. Species concepts and speciation are not mentioned. Not even the classic example of the Galapagos finches appears in the text.

The chapter on ecology does little more than characterize the major environments and list the principal birds that belong in them. The author does not examine the anatomical, physiological, and behavioral features that permit various species to live in the desert or arctic environments. Salt glands and thermoregulating mechanisms are not mentioned. Although theories of orientation and the effects of weather on migration have received a great deal of attention on both sides of the Atlantic in recent years, this text disposes of them in slightly more than one page.

Studies of bird behavior have contributed much to the thriving young science of ethology. It seems strange, then, that one cannot find any reference to the terms "displacement activity," "agonistic behavior," "imprinting," and others that appear so frequently in papers on bird behavior. In the brief section on territory, Grube does not show the actual size of territories in different groups of birds, or state the functions and requirements of territoriality in species about which these things are known.

An eight-page chapter on bird song is primarily a discussion of the methods that a student might use in recording songs and calls with words, symbols, and tape. The author fails to treat the development, significance, and variety of vocalizations, or their use as a taxonomic tool. In spite of the fact that this chapter deals with methods, he does not mention the use of the audiospectrograph as a tool of research; nor does he do so in the chapter on methods in ornithology.

Throughout the text, examples are lacking, often where they are most needed. For instance, the author states that "The sequence of plumages is quite variable in different species of birds and sometimes varies within species depending upon geographical distribution." No examples are given. Nor does he furnish the reader with any of the twelve names of families restricted to the Australian Region, or those endemic to the Holarctic Region. Migration routes are briefly discussed without giving any instances

of the species of birds that follow certain routes. The author discusses the plumage changes occurring in the life of a bird. Not one example is given.

There are few typographical errors, but three words are consistently misspelled in the index as well as in the text: *Archaeopteryx*, *Archaeornis*, and Hoatzin. The illustrations by William C. Dilger definitely enhance the text. A few (not done by Dilger) are misleading or, such as the drawing of the avian eye, inaccurate. The illustrated key attempts to combine a synopsis of orders and families with a guide to identification, thereby limiting its intended usefulness.

At the end of each chapter the author includes a list of publications that have a double purpose, a bibliography plus suggested references to students. A number of basic works are omitted including those of Heilmann and Swinton on the fossil history of birds, Darlington's "Zoogeography," and Dorst's "The Migrations of Birds," all primary references which students should read. Although the book contains a discussion of extinct and vanishing birds, Greenway's excellent treatment of the subject is omitted from the bibliography.

One might well argue that ornithology is so broad a science now that there is room for many texts with different approaches and varying degrees of comprehensiveness, and that the merits of a text should be judged on the accuracy of its contents, since a consideration of anything else is likely to elicit only the biases of the reviewer. Let us turn our attention, then, to the veracity of the material presented in the text.

Surprisingly, we learn that "This [the alula] is composed of a group of feathers which apparently function as flaps which brake flight when the bird alights." No aerodynamic function of the alula in soaring or slow flight is mentioned. On avian anatomy the author states that the synsacrum includes the pelvic girdle and the lumbar, sacral, and "urosacral" vertebrae; and that the tibia, fibula and some of the tarsals are fused together to form the "tibiofibula." On reproduction, the author writes that "it normally takes the egg from 3 to 12 hours to pass from the ovary to the cloaca in the domestic hen and as much [sic] as 18 hours in some wild birds." "The sandpipers produce pear-shaped or conical eggs. . . ." The egg tooth "cuts a groove around the large end of the egg shell."

In every chapter I found incorrect and misleading statements. In comparing the avian and mammalian lungs the author remarks that "One-third of the capacity [in the mammalian lung] holds residual air which serves to prevent the lungs from collapsing." Actually, it is the negative intrapleural pressure that prevents the lungs from collapsing. Concerning fossil forms, Grube states that "*Hesperornis* was already a degenerate form. . . ." and that "*Ichthyornis* had its teeth inserted in separate sockets. . . ." We learn further that *Archaeopteryx* and *Archaeornis* are now placed "in separate families."

It will come as a surprise to many to learn that, according to Grube, the only family of birds restricted to the Oriental Region is not the family Irenidae, but Paradoxornithidae. Students may well challenge such statements as "The variations [in pigmentation of eggs within a species] probably are caused by differences in the vigor of the reproductive system." and "Most young are forced from the nest by starvation." The statement that "Grebes, rails, gallinules, coots, etc., have laterally lobed toes." is inaccurate; it applies only to grebes and coots. "The screech owl (*Otus asio*) in the eastern United States is often erythristic while in the western United States it is always normal gray." Not so. Two races in the west have color phases, one of which is usually dark brown. The range of body temperatures in birds is listed at 110 to 115 degrees Fahrenheit. This is too high. Farner and King (*in* Marshall, "Biology and Comparative Physiology of

Birds," volume 2) have compiled a long list of body temperatures that range from 99.8 to 110.3 degrees Fahrenheit.

In the paragraphs above I have mentioned only a few of more than 80 misleading and erroneous statements that appear throughout the text. Although the book is very superficial, the author does include a number of ludicrous statements that should have been omitted: such as "Migration . . . is a manifestation of flight." and "The fore part of the skull is covered by a horny layer to provide a bill or beak, hence birds do not have fleshy lips." Even if this book made no claims as a text, one could not excuse its multitude of errors. Since Grube does indeed designate his book as a teaching guide, one can only wonder at the naïveté of an instructor who could suppose that this presentation would be adequate for today's sophisticated students.—DOUGLAS A. LANCASTER.

THE BIRDS OF NATAL AND ZULULAND. By P. A. Clancey. Oliver and Boyd. Edinburgh and London, 7 $\frac{3}{8}$ × 10 $\frac{7}{8}$ in., xxxiv + 511 pp., 41 col. pls., text figs., photos., map. 84s.

We are happy to welcome Mr. Clancey's volume to the growing list of African bird books. It is unique in two ways: it is the first major work on one of the political subdivisions of southern Africa, and more important, it is the first to be written for a resident population of ornithologists. Bannerman's "Birds of Tropical West Africa," Jackson and Sclater's "Birds of Kenya Colony and Uganda Protectorate" and Archer and Godman's "Birds of British Somaliland" were written at a time when bird study in the colonies was limited to a few, and these books were directed as much to the specialist and bird lover in England as to the man in the field. In Natal, however, there is a large body of indigenous ornithologists, both professional and amateur, and it is for them that Clancey writes.

For many years the basic bird book of South Africa has been Roberts' "Birds of South Africa" (1940), revised and rewritten by McLachland and Liversidge in 1957. More recently, it has been joined by Mackworth-Praed and Grant's "Birds of the Southern Third of Africa" (1962-1963). In both these volumes, descriptions of variant plumages have been of necessity kept to a minimum and geographic ranges given only in general terms. To supplement them, Clancey set himself the task of "preparing detailed colour descriptions not only of the breeding adults, but of sexual, seasonal and other differences, as well as the plumages of the sub-adult and juvenile stages" and "to provide a reasonably complete and accurate statement on the past and present status of any given species." In this he has succeeded very well.

Following his introduction, Clancey gives a brief historical summary of collecting done in Natal and Zululand (the two are one for administrative purposes, but were politically separate until the time of Union and are still thought of as such, much like the present status of the United States and Alaska). Then comes a description of the physical conditions and vegetation of the country, which are important for an understanding of the distribution of the birds and the comparative richness of the avifauna. Although Natal lies wholly outside the tropics, the coastal evergreen forests act as a corridor down which many tropical birds penetrate from Mozambique, while the higher, more arid interior supports a large part of the temperate Cape avifauna. Altogether 592 species are known from Natal (*sine lat.*), a respectable number for a small subtropical area.

In the heart of his volume, the systematic list, the author includes all species for which there are specimen records, plus two conspicuous species for which there are sight records. Birds of doubtful occurrence or which appear in adjacent areas and are of probable occurrence, are placed in brackets in their appropriate places, thus obviating the need for hypothetical lists. American readers particularly will be pleased to see

that the order of families is that of Wetmore (1951), which is essentially that of Roberts as well. Under each species appear the scientific and vernacular names, with the citation of the original description. Then follow detailed descriptions of the various plumage stages as noted above, colors of soft parts, length of the bird in inches as a rough indication of size, and wing length in millimeters. These descriptions are clearly and meticulously prepared, and are the finest I have seen for South African birds. The geographic ranges appear in two paragraphs, first a detailed description of the range in Natal and Zululand with comments on any recent changes in status, and second the extralimital range. The latter is of great use to the specialist, for there is little agreement among taxonomists on the races of African birds, and a name may mean different things to different workers. The account concludes with a concise paragraph on the ecological requirements of the species, general remarks on its biology, and the date of commencement of the breeding season. Where two or more subspecies of a single species occur, the first receives full treatment while the others are compared to it.

A most attractive feature of this book are the illustrations, 41 color plates showing 70 species, all done by the author. They are portraits of birds in their natural habitat rather than illustrations for identification, and show the same accuracy and care that characterizes Clancey's scientific work. The cost of reproducing these plates was met by voluntary subscriptions from individuals from all over South Africa, and the readers as well as Mr. Clancey are indebted to them. There are also pen and ink sketches of 40 more species scattered through the text, and 17 photographs showing the vegetation types described in the introduction.

The outstanding characteristic of Clancey's work is the care and thoroughness with which it has been done. Not only has he devoted all his time since 1950 to personal research on South African birds, but he has thoroughly studied the relevant literature. His taxonomy is up-to-date, as one would expect from the Secretary of the S.A.O.S. List Committee. There will undoubtedly be disagreement with his recognition of subspecies, for he has often been accused of enthusiastic over-splitting. This criticism is unfair, however. Although I have disagreed with him on several occasions, I have always found his work carefully done, based on all material available, and with a thorough appreciation of the varying ecology of Africa. While there will always be room for legitimate differences in the recognition of subspecies, one is not justified in dismissing Clancey's races without studying the relevant material as closely as he did. In this volume there are some taxonomic notes that should be mentioned. On page 65 Natal is substituted as the type locality for *Plectropterus gambensis niger* Sclater; on page 145 *atra* is used instead of *afra* as the trivial name of the Black Korhaan, an error initiated by Peters (1934); and on page 397 a new race of pipit, *Anthus caffer traylori*, is described from Sul do Save, Portuguese East Africa.

As Clancey specifically states, his book was partially planned to supplement Roberts, and for some information, including measurements other than wings and details of nests and eggs, the reader is referred to that book. Similarly, there are few aids to field identification in Clancey's book, and a copy of Roberts or Mackworth-Praed and Grant is still essential to anyone bird watching in South Africa. Which leads us to the problem of vernacular names, which will plague African ornithology for many years to come. Roberts and Mackworth-Praed and Grant selected their names independently with a large area of disagreement, and Clancey has drawn from both. This will lead to serious misunderstandings, as when Roberts' Cape Reed Warbler is Clancey's Swamp Warbler, and Clancey's African Reed Warbler is Roberts' African Marsh Warbler. The only immediate solution is to learn the scientific names, for even if agreement is reached

in South Africa, there are other sets of names already in use in East and West Africa. I would have preferred to see Roberts' names perpetuated no matter how inappropriate, for his book is a household item throughout southern Africa, and his names are at present the only truly vernacular names.

To sum up, "Birds of Natal and Zululand" is an excellent book, handsomely illustrated, which accomplishes the objectives of its author. While it lacks the more leisurely word pictures of the habits of various species to which we are accustomed in our state books, this was outside his intent. Typographically, it is without any flaw that I have found, and the color reproduction is excellent. Although written primarily for the resident ornithologist of Natal, it will appeal to anyone with an interest in South African birds.—
MELVIN A. TRAYLOR.

GEOGRAPHIC VARIATION IN THE WHITE-CROWNED SPARROW, *ZONOTRICHIA LEUCOPHRYS*.

By Richard C. Banks. University of California Publications in Zoology, Volume 70. University of California Press, Berkeley and Los Angeles, 1964: 123 pp., many tables and maps. \$2.50.

The White-crowned Sparrow, *Zonotrichia leucophrys*, has been studied intensively for at least 25 years. Much of the work has been of a physiological nature, particularly with regard to the effects of light and other environmental factors on the gonadal cycle. These studies contain a certain amount of information on variation among the races of the sparrow, but their emphasis is primarily elsewhere. Now, Banks has published an excellent and detailed report on the extent of variation in morphological characteristics within the species.

In his analysis of 2,103 specimens, Banks limited himself to museum study skins of breeding White-crowned Sparrows. His method of selecting populations reduced this number to 1,928 birds, which are the subject of his report. The selection of areas to be regarded as containing discrete populations is admittedly arbitrary, and at times difficult for someone who did not actually do the work to understand. In his "Montane Population" category, for example, the map of specimen localities shows no obvious reason for separating the northeastern Utah birds into Wasatch and Uinta populations. The reason may be obvious in the field, and judging by the careful treatment given the birds throughout the whole report, it probably is.

Banks has arranged the White-crowned Sparrow populations in five major divisions, with 62 individual populations. He has 24 groups in the Pacific Coastal Populations category; 15 in the Montane Populations; 10 in the Alaskan Populations; 5 in the Rocky Mountain Intergrade Populations; and 11 in the Trans-Canadian Populations. Each individual population has been analyzed for the following factors: wing (chord), tail (data not presented, because of too much wear and tear), bill, tarsus, middle toe, tarsus/wing ratio, and weight (males only).

Banks finds the best character for separating *Zonotrichia leucophrys nuttalli* from *Z. l. pugatensis* to be the longer tarsus of the former. Color differences he found to be largely a result of differential wear of the feathers, resulting from a less complete nuptial molt in *nuttalli*. He considers both *Z. l. oriantha* Oberholser and *Z. l. nigrilora* Todd to be indistinguishable from *Z. l. leucophrys*.

An interesting proposal is made on page 43 regarding the sexual dimorphism of wing length. Banks notes that the male, which has longer wings than the female, patrols the territory, and also flies considerable distances when alarmed, whereas the female stays near the nest or disappears into nearby thickets when disturbed. By implication, he suggests that the longer wing of the male is associated with this greater flying distance,

just as Averill (1920, *Auk*, 37:572-579) in his study of related species or races of North American birds found longer wings in migratory groups and rounded wings in sedentary groups. I doubt very much that an additional 6- to 10-mile flight each day for 5 or 6 weeks would be reflected in a discernible difference in wing length—and 6 miles is all that would be added if the male were flushed and flew 300 yards every half hour of a 16-hour day. Perhaps the origin of the variation could be found in distance or duration of migratory flight. This information might be obtained from banding files.

My only other adverse comment is on a deficiency. The publication is so long, and contains so much interesting and useful material, that it needs an index. Aside from this drawback, "Geographic Variation in the White-crowned Sparrow" is a valuable addition to our information on a frequently studied laboratory and field bird.—ORMSBY ANNAN.

JOHN JAMES AUDUBON. By Alice Ford. University of Oklahoma Press, Norman, Oklahoma, 1964: 6½ × 9½ in., xiv + 488 pp., 24 illus. by John James Audubon and others, and 16 photos. \$7.95.

Earlier books by Alice Ford—"Audubon's Animals," "Audubon's Butterflies and Other Studies," and "Bird Biographies of Audubon"—did much to widen appreciation of Audubon's varied talents as an artist and as a reporter of wildlife in the first half of the nineteenth century. Now through careful research in France and England as well as in the United States, Miss Ford has discovered some new, well-documented facts about the birth and life of the man who has become a household name in the world of birds and conservation. She has dispelled many popular notions about the great artist and records his prolonged and often discouraging efforts to publish his "The Birds of America." It is doubtful if any really important facts about Audubon's life will be added to those contained in this biography and in Francis H. Herrick's "Audubon, the Naturalist," that indispensable biography published in 1917.

John James Audubon was the natural son of Captain Jean Audubon and Mlle. Rabine. Mlle. Rabine, the daughter of a French farm worker, traveled as a chambermaid on the same ship with Audubon's father to Santo Domingo in 1783. She died on his plantation there a few months after their son was born. When trouble with slaves made Santo Domingo dangerous for whites, Captain Audubon returned to France with his young son and his daughter, Rose, who was only half white, but whose skin was so pale that it was not safe to leave her on the island. Both children were finally adopted by the captain and his only legal wife, who remained childless.

At the age of eighteen, young Audubon was sent to manage Audubon properties in America. He married Lucy Blakewell in April, 1808. Lucy was a lovely, cultured young lady who shared with great courage the difficulties of physical hardships and financial crises that continually plagued the Audubons.

While still a child, Audubon displayed an interest in birds and began to draw them. He had little formal teaching in art but as he continued to paint and observe, his skill increased. His profound interest in birds and love of the wilderness deepened as time went on and contributed heavily toward his succession of business failures. With the help of his wife and kind friends, he managed to keep himself and his family alive (though two small daughters died) through an endless number of vicissitudes that would have killed or at least completely discouraged a lesser man. He persisted in his collection of birds, in painting them, and writing notes about them.

In 1826 Audubon, with a great portfolio containing more than 400 drawings of birds, sailed from New Orleans for England. His head was filled with the dream of publish-

ing the drawings full size and with the color perfectly reproduced. His discouragements interspersed with small successes were almost intolerably exhausting. In spite of constant financial worries added to difficulties with engravers, the vast project was completed in 12 years.

During the years that remained to Audubon, he continued to paint birds, began work on "The Viviparus Quadrupeds," and made many journeys, the last taking him on a collecting trip into the Upper Missouri in 1843. In all his later work he was assisted by Lucy, their sons, Rev. John Bachman of Charleston, and his two daughters both of whom became Audubon's daughters-in-law, and many others.

Miss Ford calls Audubon "the greatest delineator of American birds," a statement nobody can challenge. Her thorough research has resulted in a biography which is scholarly in its bibliography, in its footnotes, and in its location of many Audubon materials. This can truly be termed a definitive biography. It reveals Audubon's tremendous physical stamina and his inflexible determination to carry his work as a painter and observer of birds to a successful conclusion.

The book is less successful in presenting the enthusiasm and exuberance of Audubon's spirit and his devotion to the wilderness and appreciation of wildlife as we know these qualities from his "Journal" and his accounts of birds and mammals. Ornithologists will regret the fact that such mistakes as the incorrect labeling of the Audubon drawing of a Red-shouldered Hawk and also the slip which resulted in a "black-haired grosbeak" were not caught by a proofreader.—HELEN G. CRUICKSHANK.

ARGEN THE GULL. By Franklin Russell. Alfred A. Knopf, New York, 1964: 5½ × 8¾ in., 239 pp., 9 photos. \$4.95.

The protagonist in Franklin Russell's "Argen the Gull" is both flexible and variable, lending himself easily to the author's imaginative pen. The gull family is distinguished by its very lack of specialization—gulls fly, swim, and walk equally well. *Larus argentatus*, the Herring Gull, provides a closer focus on the versatility of the group.

The inexorability of death to the weak is one of the more striking themes in Argen's life. Impassively, the living feed upon the dead, and life continues. The rainstorm that washes nestlings from their ledges, that swells into rivers whose eddies clot with the bodies of drowned rabbits, insects, Robins—this rainstorm throws up new sources of food for the animal life that has survived. A harsh winter starves the gull colony, and foxes prowl the beaches to devour the birds which drop from want of food.

Russell's images are often as fresh and clear as the morning mists that move in off the sea, bringing ocean birds. In describing a "black cap" of thousands of murrelets on a small island, we see them "now much more distinct and in places boiling up blackly into the air and splitting into specks of motion which formed into lines and wound sinuously away from the island."

Unfortunately, his style is wobbly, and we too often meet with crippled analogies, end-less detail that could easily have been pruned, and awkward, uncomfortable descriptions.

Nine evocative photographs by Russell illustrate stages in Argen's life, although it is rather unfair of him to use a kittiwake as a photographic stand-in for Argen (last photograph in the series) and not say so. Russell is talented and energetic; more the pity, then, that careless editing allowed too many imperfections to go into print.—

BILLIE JEAN LANCASTER.

BIRD SONGS. By Norma Stillwell. Doubleday and Company, Inc., Garden City, New York, 1964: $6\frac{1}{2} \times 8\frac{1}{2}$ in., xix + 194 pp., 16 photos. \$4.95.

This slim book, introduced by Dr. Peter Paul Kellogg, Professor of Ornithology and Biological Acoustics, Cornell University, is an account of two people who determined to contribute in their retirement years to our knowledge of bird songs. Norma Stillwell tells a straightforward tale of how she and Jerry Stillwell began recording bird songs and followed through until three fine volumes of bird songs were produced. To all those who enjoy field work of any kind, "Bird Songs" is a book to open with anticipation which is delightfully fulfilled. One follows the Stillwells through their early difficulties with their recording equipment and also with their trailer transportation. The pursuit of bird songs led the Stillwells to the far corners of this country as they sought out new species whose songs they could record. End-paper maps of the United States indicate key areas for many of the species whose songs were collected. Photographs of their equipment, of the Stillwells in action, and some of the places where they worked add interest. This is a story of successful achievement of a goal which should be an inspiration to others who, rather late in life, wish to take up a new and useful project that can lead to an extension of our knowledge of wildlife.—HELEN G. CRUICKSHANK.

THE OXFORD BOOK OF BIRDS. By Bruce Campbell. Oxford University Press, London, 1964: $7 \times 9\frac{1}{2}$ in., xvi + 207 pp., 96 col. pls. by Donald Watson, 9 line drawings. \$8.00.

There are numerous books on English birds, and one wonders what niche a new one might fill. It speaks well for ornithology in England that so many publishers in that country, as in our own, are able to find a receptive market for books with so much overlapping content.

This book is one of a series published by Oxford University Press on various animal groups. Its author proposes to encourage an interest in the identification of birds and in their conservation, and "to show readers of any age the great range of bird life to be found in the British Isles. . . ."

The book consists largely of species accounts. Of 452 species discussed, 307 are refreshingly illustrated on 96 colored plates that show the sex, age, and seasonal differences. A seven-page introduction to the species accounts provides a classification and a descriptive paragraph of each of the orders and families of British birds. Each account describes the species and offers additional information on identification clues, distribution, food, calls, nesting, behavior, migration, and flight. With the numerals 1 to 12 representing the months of the year, the book employs a concise system to show the status of each species in the British Isles. Numerals underscored, in bold type, and in parentheses tell the breeding time of each species, its song period, months during which it can be seen in Britain, and whether it is a regular or occasional visitor.

Following the species accounts at the end of the book are short, two-page sections on "Special Features of the Bird's Anatomy," "Flight," "Behaviour and Breeding," "Migrations, Numbers, and Age." A list of suggested readings and a species index conclude the book.—DOUGLAS A. LANCASTER.