

ORNITHOLOGICAL LITERATURE

THE LIFE AND LETTERS OF ALEXANDER WILSON. By Clark Hunter (ed.). American Philosophical Society, Philadelphia, 1983:456 pp., 21 figs., 3 maps, 4 color plates. \$40.00.—The last major biographical work on Alexander Wilson, by Robert Cantwell, appeared nearly a quarter of a century ago and is still considered the definitive Wilson biography. The present work is not intended to supersede Cantwell's effort, but rather to be vehicle for bringing forth about 40 of Wilson's unpublished letters and gathering in one place over 100 additional letters previously published in scattered sources over the last 160 years. Many of the latter had been altered by contemporary editors squeamish about naming names, and they appear unadulterated here for the first time. Hunter's life of Wilson occupies about 100 pages of the volume and is offered, as the author avows, as an explanatory companion for the real stuff of this work, Wilson's own letters. Included in the four appendices are Wilson's United States naturalization certificate, his last will and testament, and the court records from a political scandal that Wilson brought upon himself in his native Paisley, Scotland, prior to his departure for America.

Clark Hunter, himself a Scotsman, confesses to being a bibliophile rather than an ornithologist. The book is a scholarly work, however, and a relatively modest production, although the somewhat steep price is partly a reflection of the book's high quality paper and antique type face. The annotations of the letters might appear to leave something to be desired in their quantity, but this I believe to be due not to any lack of zeal on the editor's part, but rather to the difficulty in securing accurate information. It is nearly 200 years since some of these letters were written, and time and the overprotectiveness of Wilson's earliest biographers have done much to conceal facts from the modern editor. Hunter has done admirably in the face of these obstacles. In general the letters require little comment; such passages as this one, in a letter to William Bartram in 1804, speak volumes about the milieu in which Wilson worked: "I have been drawing Woodpeckers this sometime. Pray be so good as inform me if there is not 4 different species besides the Flicker in these parts I suppose that none of the large red Crested Ones can be found within 20 miles of Philada I would not begrudge 2 days sacrificed in getting possession of One." An ornithological editor might, however, remark on the following passage from the same letter: "I lately discovered a new and most extraordinary Blackheaded Woodpecker on the trunk of a large tree in your [eastern Pennsylvania] woods of a perfect nondescript species. The largest of my Hawks was a mere Tom Tit to it [W]ith what Genus to class it I am totally ignorant. One thing I am positive of, that it was a *Woodpecker*, a *black-headed* one and a very expert one too." The identity of such an extraordinary beast is a mystery.

I did object to the absence of a means of readily determining which were the previously unpublished letters, and would have liked to know the source of a quotation from Daniel Defoe on page 19 and the identity of "a bird previously undescribed by naturalists," mentioned on page 77. The reference on page 90 to Charles Willson Peale as the founder of America's first natural history museum would be more meaningful if it were also noted that that museum was the Philadelphia Academy. Such criticisms aside, this book is an important one for scholars interested in Alexander Wilson's life in particular and for anyone interested in the history of American ornithology in general.—MARY C. MCKITRICK.

THE FEEDING SYSTEM OF THE PIGEON (*Columba livia* L.). By Gart (A.) Zweers. Advances in Anatomy, Embryology, and Cell Biology, Vol. 73. Springer-Verlag, Berlin, Heidelberg,

New York, 1982:vii + 108 pp., 45 numbered text figs., 3 tables. \$26.00.—Avian feeding adaptations have always held a special fascination for ornithologists because of the seemingly unlimited variety of bill shapes, diets, feeding behaviors, and feeding strategies in birds. It is, therefore, remarkable that today still relatively little is known about the functional anatomy of the avian feeding apparatus. Though the continuous trickle of publications dealing with some aspects or the other of the anatomy of the avian feeding system had never completely ceased to flow, more functionally oriented studies on a variety of species started to appear at an increasing rate during the past two decades.

Gart Zweers has been working for more than a decade on the anatomy of the avian feeding system in relation to feeding and drinking adaptations, and the pigeon (*Columba livia*) represents the second species for which he has produced extensive and detailed data on the functional anatomy of the feeding system. His previous work on the Mallard (*Anas platyrhynchos*) (Zweers, Netherl. J. Zool. 24:323–467, 1974; Zweers et al., Contributions to Vertebrate Evolution, Vol. 3, Karger, Basel, New York, 1977) focused on functional-morphological aspects of the jaw and lingual apparatus, whereas his work on the pigeon (see also Zweers et al., Zoomorphology 99:37–69, 1981; Zweers, Behaviour 80:274–317, 1982) has dealt so far with the functional morphology of the tongue, larynx, and mouth cavity. (The morphology of the pigeon jaw apparatus was recently studied by Bhattacharyya, Proc. Zoo. Soc. Calcutta 31:95–127, 1980.)

Zweers's approach is typical of that of the "Leiden school of morphology" in which not only selected structures of a system are studied (e.g., muscles and bones) but in which the structural elements are viewed as parts of a whole system (e.g., tongue). Several such systems, in turn, interact with one another and are responsible for the integrated functioning of the entire organism. With this approach, detailed anatomical descriptions and functional interpretations of the structures are of special importance. Zweers's work is characterized by this and by state-of-the-art electrophysiological techniques.

The volume consists of three parts. "Part 1: The lingual apparatus" is a macroscopic description of the surface structures, orifices of the salivary glands, skeletal elements, articulations and ligaments of the hyoid, and of the lingual extrinsic and intrinsic musculature. The description of the surface structures and salivary glands is very brief and relies heavily on literature references; the other structures are treated in greater detail. The nomenclatures suggested by different authors for the salivary glands, hyoid skeleton, and lingual muscles are synonymized. The table on muscle terminologies is extensively annotated.

In "Part 2: The mouth and pharynx," the shape of the buccal and pharyngeal cavities and the histology of the tongue and surface structures are described with the help of 17 figures representing cross-sections through the palatal region, lower mandible, tongue, and larynx in situ. Larger nerves and blood vessels are also described here. This type of anatomical description allows the assessment of the relative positions of the various components of the feeding apparatus but is not conducive to arriving at a three-dimensional visualization of the anatomy of the feeding system.

In "Part 3: Mechanism of the feeding system," the anatomical structures described in parts (1) and (2) and functional studies from slow-motion cinematography and radiography and from electromyography are combined to formulate three models describing the functioning of the feeding systems. (1) The "slide-and-glue mechanism for pecking" explains how seeds are picked up by grasping them between the upper and lower mandibles and transported into the buccal cavity by gluing them to the sticky tip of the retracting tongue. Larger seeds are swallowed by a "catch-and-throw" mechanism. (2) As a drinking method, a "double-suction mechanism" is proposed in which capillary action is responsible for bringing water between the slightly gaping tips of the beak and in which the tongue acts as a piston to pump the water into the pharyngeal cavity. No peristalsis of the esophagus is

observed during drinking. (3) The "drill-chuck mechanism" of the larynx is a model describing the opening and closing of the glottis.

Due to its clear organization, broad range of topics, and extensive bibliography, this paperback booklet (the binding is excellent!) will be of interest to ornithologists working on the behavior and ecology of drinking and feeding in birds in general and to those studying pigeons. It is of special interest to avian functional morphologists, and should be acquired by university libraries as a useful reference.—DOMINIQUE G. HOMBERGER.

DORSAL VENTRICULAR RIDGE: A TREATISE ON FOREBRAIN ORGANIZATION IN REPTILES AND BIRDS. By Philip S. Ulinski. John Wiley & Sons, Inc., New York, New York, 1983:284 pp., 114 numbered text figs. \$39.95.—The dorsal ventricular ridge (DVR) of the reptilian and avian brain is involved in the control and modulation of complex and "subtle" behaviors, and is comparable to much of the cerebral cortex of mammals. As such, it demands the attention of those interested in understanding the neural basis of animal behavior, especially more intricate behavior such as singing in birds. Recent technical advances in tracing neural connections within the brain have led to a great increase in information on forebrain structure in reptiles and birds, and Ulinski has accumulated and organized these data to provide the first comprehensive treatment of the morphology, physiology, and functional significance of the DVR. While a major goal of the author is to formulate a paradigm to help guide further research on the DVR, the book also summarizes the available information and presents it in a way that any biologist can appreciate. The result is a book that is essential for neuroscientists dealing with this or related systems, and also useful for anyone interested in keeping up with advancements in the melding of brain and behavior.

The book basically has two components: a major part devoted to an exhaustive (and to the non-specialist exhausting) review of the structure and physiology of the DVR, and a briefer section devoted to consideration of more general functional and evolutionary aspects of the system. The main purpose of the first part is to define exactly what the DVR is and to then relate it both structurally and functionally to the rest of the nervous system. Information on the development, morphology, and physiology of both the DVR and brain systems which project to or receive projections from the DVR is included. Fortunately for the ornithologist, birds have received a fair amount of attention and avian studies are well represented. The treatment is detailed and the non-specialist may stagger under the weight of the neuroanatomical terminology, but summary sections in the last chapter are a consolation to any such victims. The text is clearly written, logically organized, and illustrative figures plentiful.

While the accumulation and integration of all pertinent data is clearly a boon to the neurobiologist, the conceptual framework provided in the last chapter is the boon for the general zoologist. Here the author considers the significance of the DVR in the most basic sense, as a linkage between sensory input and motor control that allows the proper expression of complex behavior. Included in the chapter is a discussion of evolutionary aspects of the DVR. The amount that can be said without resort to rampant speculation is limited, however, and comparative biologists have to take what they can get. (The presence of two fundamental patterns of DVR organization, one observed in snakes, lizards, and turtles, and the other in crocodylians and birds (and archosaurs?) may have some phylogenetic relevance.) Significantly, evolutionary speculation is centered on a coherent discussion of the hazards and difficulties of establishing structural homologies. The author is more interested in understanding the DVR in a functional sense, and comparing it to other systems that serve the same function. In this case, the analogous system is the well-studied isocortex of the mammalian cerebrum, and while both have similar general functions, pronounced differences in

certain aspects of design demand explanation. Any complete explanation is relegated to the future after more work (especially physiological) is done on the DVR, but Ulinski at least has set the stage by skillfully formulating what may be the pertinent questions to ask.—
THOMAS E. HETHERINGTON.

POPULATION ECOLOGY OF THE DIPPER (*Cinclus mexicanus*) IN THE FRONT RANGE OF COLORADO. By Frank E. Price and Carl E. Bock. Studies in Avian Biology No. 7, Cooper Ornithological Society, 1983:84 pp., 20 numbered text figs, 19 tables. \$9.00.—The principal objective of this study by Price and Bock was to assess factors that influence the dynamics of Dipper populations. To this end, they spent 2½ years observing marked populations of birds in two creek drainages in the Front Range of the Colorado Rocky Mountains, collecting year-around data on individual movements, density, and dispersion, estimating annual survival and productivity, and measuring a variety of habitat attributes (biotic and abiotic) thought to affect all of the above.

Perhaps the salient feature of this research is its demonstration of the enormous advantages that can come when one has most of the members of a group individually marked (here, over 550 birds). Indeed, virtually all their information on dispersion, movement, territoriality, recruitment, and survival (much of which was in contradiction to previous assumptions about Dippers) could not have been obtained otherwise. Besides being easy to catch and mark, other features of Dipper biology render them convenient organisms for population studies, and each is exploited by Price and Bock in their sampling. This leads to the strength of the monograph: its breadth. Very few attributes that might affect the number of Dippers in the study area have been overlooked. Rather than focusing on only one or a few processes that might be important in regulating population size (e.g., competition, food resources, nest predation), they attempt to examine a wide variety. Predictably, their conclusions parallel those of similar broad studies of other species; even in a relatively simple system, a large number of processes interact in a complex manner to produce population dynamics.

Unfortunately, their breadth comes at the sacrifice of depth, which is particularly apparent in the relatively short duration of the study. They share this weakness with the majority of population studies: the phenomena they wish to address simply cannot be thoroughly assessed over a time span that includes just two annual population cycles.

Nonetheless, this study paints a broad picture of factors likely to be important in determining Dipper numbers. Given the relative simplicity of the system and the ease with which many of the salient features may be sampled, one can hope that Price and Bock's data form the basis for long-term observations of what ultimately could prove to be a model species.—
JOHN T. ROTENBERRY.

ESTRILDID FINCHES OF THE WORLD. By Derek Goodwin. British Museum (Natural History), Comstock Publishing Associates, a division of Cornell University Press, Ithaca, New York, 1982:328 pp., 8 color plates by Martin Woodcock. \$45.00.—This is an excellent volume on a very colorful family of birds. For years estrildids have been popular as cage birds, partly due to the ease with which they are bred in captivity, and a book that examines them from a distributional, behavioral, and nomenclatural standpoint is a welcome addition to the literature. In his introduction Goodwin discusses, among other things, the relationship of the whydahs and indigo-birds (*Vidua* spp.) to the estrildids. The whydahs and indigo-birds are brood parasites of estrildids. Traditionally two separate families are recognized, Ploceidae and Estrildidae, and the placement of the viduines then becomes a problem. The author notes that Delacour, Mayr, and Nicolai have demonstrated that each viduine closely

resembles in some way only one particular estrildid, namely its host. Goodwin therefore suggests that the viduines are to be "rightly included in the Ploceidae." Later he states (p. 8) that the book "does not include any detailed anatomical descriptions or voice analysis but references to work on those subjects are given where possible." Unfortunately it is information from anatomical disciplines such as osteology, myology, and pterylosis that provides conflicting evidence. In a classic paper Sushkin (1927, Bull. Am. Mus. Nat. Hist., 57:1-32) found *Vidua* and *Steganura* to be the most primitive of all Estrildinae on the basis of cranial osteology. Bentz (1979, Bull. Carnegie Mus., 15:1-25) on the basis of appendicular myology found *Vidua* to more closely resemble the Estrildidae than the Ploceidae. Friedman (1960, Bull. U.S. Natl. Mus., 223:VIII + 1-196) also considered the viduines to be more closely related to the estrildines. Thus it seems probable that the rightful placement of the viduines is with the estrildids. At any rate this has little to do with the book's main objective. Also included in the introduction is a concise and thorough characterization of the family Estrildidae.

Chapter 1 (2 pp.) deals briefly with nomenclature and describes how the estrildids are treated as a separate family, Estrildidae, rather than as a subfamily, Estrildinae, of the family Ploceidae. Goodwin simply mentions the use of tribes and rightly states that the genus is of greater concern to the non-taxonomist. He states that as far as possible he has adhered to the genera as they are listed in Peters' "Check-list of Birds of the World." Bentz (op. cit.) pointed out that Peters (Vol. 14, p. 306) subdivided the Estrildidae presumably into "tribes," but without the proper tribal termination -ini (Estrildae, Lonchurae, Poephilae) without it having first been divided into subfamilies. Again this is a small point.

Chapter 2 (3 pp.) deals briefly but adequately with the distribution and adaptive radiation of the group. Chapter 3 (3 pp.) discusses plumage and coloration.

One of the longer and more informative sections is Chapter 4 (31 pp.) on behavior and biology. This chapter includes such topics as feeding habits and bathing, anting and preening. Most estrildids feed on the seeds of grasses and all estrildids bathe in water and none dust bathe. This chapter also discusses behavior of the young and nest-decorating. Young estrildids beg for food with their head and neck supinated at an angle that ranges from 90-160 degrees and they only receive food that has first been swallowed by the parent. Also, many species of *Estrilda* build accessory nests on top of or along side the main nest. These "cocknests" are often decorated with bits of paper or white feathers. According to Goodwin, such nests serve to deceive predators and thus distract them away from the main nest below. Much has been written about the spotted and colored mouths of estrildid nestlings. In this regard Goodwin cites an interesting article by Swynnerton (1916, Ibis, 10th series, 4:264-294). Swynnerton had apparently been told by an African native that while adults of certain species of small passerines were quite tasty when eaten, their young were most unpleasant tasting. Brightly colored mouths of nestlings therefore might function as warning coloration. A detailed section on display and social behavior points out the vast amount of information that can be gained by careful and persistent observation of birds in captivity. The contribution of aviculturists in this regard has been great. So substantial has that contribution been and so popular are these birds as pets that the next chapter (5, 14 pp.) is devoted to estrildids in captivity.

Chapter 6 (255 pp.) discusses the species of estrildids. For each, the common and scientific names are given, as well as a range map. In addition each species is discussed with respect to field characters, distribution and habitat, feeding and general habits, nesting, voice, display and social behavior, and other names. This chapter also contains the color plates which are of good quality. Indices of common names and scientific names are provided.

This book is thorough and attractively priced. As such it will undoubtedly be of great use to both professional ornithologists as well as aviculturists.—GREGORY DEAN BENTZ.

BREEDING BIRDS OF ONTARIO: NIDIOLOGY AND DISTRIBUTION. VOLUME 1: NONPASSERINES. By George K. Peck and Ross D. James. Royal Ontario Museum Life Sciences Miscellaneous Publications. Toronto, Canada. 1983:xii, 321 pp., 3 maps of regions and localities, 139 range maps, 42 figs. of habitats and some species. \$25.00.—For each of the nonpasserine birds for which at least one nest has been found in Ontario, there is a range map and a descriptive text on the opposite page. Different symbols have been used to indicate if the records are recent or historical and whether they have been documented by collection or photography, or are based on sight records. For southern Ontario, the symbols are given by counties but in the north where the administrative districts are very large, the actual localities have been mapped. There is an introductory section on methods, an index of species names, a short bibliography, and a longer section on literature cited and acknowledgments. My only criticisms are somewhat trivial: burying the map symbols on page 9, inserting the illustrative figures after the index, and the somewhat incomplete citations in the bibliography and literature cited sections.

Both authors have done extensive field work in most regions of Ontario and have contributed photographs illustrating this work. Since 1966 the senior author has published an annual summary of the nest record results for the preceding year, but here for the first time range maps have been given and a summary of the total number of nests reported, the number of provincial regions represented, the habitats preferred, the character of the nests, the numbers in each clutch-size category, the range of egg dates, and, if known, the incubation period. The junior author has provided a number of sketches of some of the species mentioned. This is an important reference work for anyone interested in the nesting habits and distribution of birds.—J. MURRAY SPEIRS.

A GUIDE TO BIRD BEHAVIOR. VOLUME II. By Donald W. Stokes and Lillian Q. Stokes. Little, Brown, and Company, Boston, 1983. 334 pp., numerous line drawings. \$14.95.—This book is a companion volume to D. W. Stokes' *A Guide to the Behavior of Common Birds*, which has now been renamed *A Guide to Bird Behavior, Volume I*. Together, the two volumes seek to promote "a new approach to birdwatching," one that stresses "observing what birds do rather than simply identifying them." To this end, the authors provide descriptions and interpretations of some basic behavior patterns for 50 species of North American birds, 25 per volume. The information presented in these books is accurate and well organized, the writing is concise and lucid, and in sum the authors deserve to succeed in their admirable purpose.

Both volumes are broken into 25 sections, each dealing with the behavior of one species. An index on the inside cover allows quick access to the desired species account. The bulk of each section consists of the "behavior descriptions," narratives that describe territory, courtship, nest-building, breeding, plumage, and seasonal movement. Additional subsections on flocking and feeder behavior are added where appropriate. These narratives describe the sorts of behavior a birdwatcher is likely to see, and provide information on the function of the behavior in the life of the bird. The behavior descriptions are supplemented by a "behavior calendar," which shows the months during which various categories of behavior can be seen, and by a "display guide," which gives fuller descriptions of some of the principal visual and auditory displays of the species. By reading the behavior descriptions, and making occasional reference to the display guide and behavior calendar, the reader should be able to categorize and understand most of the behavior he observes in a particular species. The volumes are compactly and sturdily bound for field use.

The authors have done a praiseworthy job of familiarizing themselves with the scientific literature on the species they cover, and of abstracting the important information on be-

havior. There are occasional oversimplifications and omissions; for example, in the section on Red-winged Blackbirds (*Agelaius phoeniceus*) (in Volume I), polygamous females are said to defend subterritories on the territory of the male, which is or ought to be controversial, and no mention is made of the use of multiple song types by the males. On the other hand, a degree of oversimplification is inevitable, given the task of describing a species' behavior in so short a space. Some of the treatments are actually quite sophisticated, as in the discussion of variation in mating system according to habitat in the Brown-headed Cowbird (*Molothrus ater*) (in Volume II). This and others of the species accounts employ the results of very recent scientific studies. Species were chosen for coverage based on the conspicuousness of their behavior; the choices are reasonable ones, though West Coast readers should be warned that a number of exclusively eastern birds are included.

Now that we have one, the need for a field guide to bird behavior is apparent. It seems a natural, and healthy, development for birdwatching to move beyond simple counting of species towards fuller observation and understanding of what birds are doing, and a book such as this is essential in promoting this development. Donald and Lillian Stokes are to be commended, both for the inspiration to produce a field guide to bird behavior, and for producing such a fine one.—WILLIAM A. SEARCY.

ENJOYING ORNITHOLOGY.—Edited by Ronald Hickling. T. and D. Poyser, Calton, Staffordshire, England (dist. in U.S.A. by Buteo Books, Vermillion, South Dakota 57069), 1983: 296 pp., 39 figs. \$30.00—We have no census to prove it, but few of us doubt that Britain has the densest population of bird watchers in the world. It was to mobilize this enormous enthusiasm and talent constructively that the British Trust for Ornithology was formed in 1933. It was appropriate, therefore, that on the fiftieth anniversary of its founding the Trust should have sponsored a report on the progress of British Ornithology through cooperative projects, mainly by amateurs, during this century.

Very early the Trust chose its niche, namely, to gather facts about the birds of the British Isles at large. It has deliberately avoided dispersing its efforts into fields preempted by other established societies such as the British Ornithologists' Union (general ornithological science), the Royal Society for the Protection of Birds (conservation), the Wildfowl Trust (wildfowl preservation and research), and regional societies (local topics). Its journal, *Bird Study*, started in 1954, has consistently reflected this scope.

In many respects the Trust continues to serve as a model for the rest of the world. It has wedded the enjoyment of birds, as indicated in the title of this book, with ornithological science to yield unparalleled results. For example, it has managed all bird banding for the nation since 1937; it has coordinated visual and radar observations of migration; with the aid of more than 10,000 participants, it has completed the "Atlas of Breeding Birds of Britain and Ireland," and "Bird Habitats in Britain," the first such works of their kind; it continuously monitors populations through its Common Birds Census; it amasses vast stores of information in its Nest Record Scheme; and along the way it has sponsored and published the results of more than 150 specific studies. As we marvel at these accomplishments, we note the central role played by amateurs. Although professional help has been used, and financial support has come from grants and research contracts, the millions of hours of field and office work could not have been hired. Bird banders individually pay for the privilege. Even construction work at the headquarters was donated. The Nature Conservancy Council has been a consistent source of support through research contracts, but the Trust has never had a financial "angel" to guarantee its survival.

E. M. Nicholson, one of the founders, was invited to speak at the 1980 American Ornithologists' Union meeting in Fort Collins, Colorado, and J. M. McMeeking, then president

of the Trust, gave the keynote address at a special Cornell Laboratory meeting in 1978 on the amateur role in ornithology.

This book is much more than a history of the British Trust for Ornithology. Its chapters were contributed by a score of authors, each recounting aspects in which he was involved. Major sections deal with conservation, the role of sister organizations, and environmental problems in different habitats. Nearly 40 pages of facts and figures summarize important data gathered to date: banding recovery rates, longevity, causes of mortality, population densities, weather records, and bird weights. Many of these facts are not readily available elsewhere.

This report should be required reading for people organizing cooperative projects or searching for topics suitable for amateur research. American readers, however, may find some portions a bit parochial. The frequent use of initials to refer to organizations and projects may be like ABC to British readers but a challenge to the memories and ingenuity of the rest of us. Reading these pages and scanning the references, one gains little inkling of similar projects and environmental concerns elsewhere in the world. Yet, I cannot with good grace accuse the Trust of insularity after the Nest Record Scheme adopted my method of calculating nest success from fragmentary data, and its Common Birds Census adopted my device, a population index for tracing long-term trends from a changing sample base.

It is surprising to note how slight has been the involvement of the British Ornithologists' Union in all of these affairs. It does not even appear in the index. Indeed, a more detailed index would have been helpful, since many people will use this book by dipping into it for special topics. The Trust's own journal and other British journals are not listed. It is not obvious how the references in the published list were selected, since they are not cited specifically in the text.—HAROLD F. MAYFIELD.

AMERICA'S FAVORITE BACKYARD BIRDS. By Kit Harrison and George Harrison. Simon and Schuster, New York, 1983:288 pp., 10 color plates, 188 black-and-white photographs, 10 line drawings, appendix, glossary. \$15.95—Using simple language and abundant photographs, the Harrisons present basic phenology and behavior for 10 common, widespread, "backyard birds," a chapter apiece. Eight of the species occur on both coasts, but two, the Blue Jay (*Cyanocitta cristata*) and Northern Cardinal (*Cardinalis cardinalis*), are essentially eastern. Close relatives of featured species are also discussed and illustrated, and a closing chapter briefly surveys a variety of other common backyard birds. The glossary summarizes plants used for food, roosting, and nesting by each featured species.

For those with little or no formal knowledge about birds, this should be an extremely informative and enjoyable book. A surprising breadth of avian natural history is presented in an easy conversational tone that does seem to convey the spirit of the species. Frequent anecdotal reference to the observations of ornithologists lends a scientific credence, and gives something of the air of a modern, simplified Bent "Life Histories" volume. The numerous photos and their captions support and add to the text.

This book is not written for ornithologists. Although worth a browse, it cannot compete on an already crowded "science-books-to-buy" list. On the other hand, ornithologists should place it high on their list of appropriate gift items or references for amateur bird watchers and naturalists. It is a carefully crafted book that is quite successful at its intended level.—PETER F. CANNELL.

BIRD CONSERVATION. 1 Edited by Stanley A. Temple. Univ. Wisconsin Press, Madison, 1983:vii + 148 pp. \$12.95—The first number of a proposed annual publication sponsored

by the United States Section of The International Council for Bird Preservation is devoted primarily to a series of papers on raptors. The principal articles are: "Restoration of the Peregrine Falcon in the Eastern United States" by John H. Barclay and Tom J. Cade; "The Bald Eagle in the Northern United States" by James W. Grier et al.; "California Condor Reproduction, Past and Present" by Noel F. R. Snyder; and "The California Condor Recovery Program: An Overview" by John C. Ogden. There is a series of short papers on a variety of timely conservation matters, and a review of bird conservation literature listing 162 titles. This promises to be a very informative series filling an unoccupied niche.—GEORGE A. HALL.

NAME THAT DUCK. By Steven M. Cohen and Timothy Nowicki. Illus. by Timothy Nowicki. Name That Bird, 26349 Dundee Road, Huntington Woods, Michigan. 8 pp. field card, 108 black-and-white drawings. \$1.95 + \$0.25 postage.—The authors have devised a simple key for waterfowl identification based on the amount and location of white in the plumage. There is no text but the somewhat diagrammatic figures should enable the novice bird watcher or the sportsman to identify the ducks he sees on the water.—G.A.H.

INFORMATION FOR AUTHORS

The Wilson Bulletin publishes significant research and review articles in the field of ornithology. Manuscripts are accepted for review with the understanding that the same or similar work has not been and will not be published nor is presently submitted elsewhere, that all persons listed as authors have given their approval for submission of the ms, and that any person cited as a personal communication has approved such citation. All mss should be submitted directly to the Editor.

Text.—Manuscripts should be prepared carefully in the format of recent issues of The Wilson Bulletin. Mss will be returned without review if they are not properly prepared. They should be neatly typed, double-spaced throughout (including tables, figure legends and "Literature Cited"), with at least 3 cm margins all around, and on one side of good quality paper. Do not use erasable bond. **Mss typed on dot-matrix printers are not acceptable.** The ms should include a cover sheet (unnumbered) with the following: (1) Title, (2) Authors, their institutions, and addresses, (3) Name, address, and phone number of author to receive proof, (4) A brief title for use as a running head. All pages of the text through the "Literature Cited" should be numbered, and the name of the author should appear in the upper right-hand corner of each. The text should begin in the middle of the first numbered page. Three copies should be submitted. Xerographic copies are acceptable if they are clearly readable and on good quality paper. Copies on heavy, slick paper, as used in some copy machines, are not acceptable.

Tables.—Tables are expensive to print and should be prepared only if they are necessary. Do not repeat material in the text in tables. Tables should be narrow and deep rather than wide and shallow. Double space all entries in tables, including titles. Do not use vertical rules. Use tables in a recent issue of the Bulletin as examples of style and format. Tables should be typed on separate unnumbered pages and placed at the end of the ms.

Figures.—Illustrations must be readable (particularly lettering) when reduced in size. Final size will usually be 11.4 cm wide. Illustrations larger than 22 × 28 cm will not be accepted,