

ORNITHOLOGICAL LITERATURE

THE FALCONS OF THE WORLD. By Tom J. Cade, paintings by R. David Digby. Cornell Univ. Press, Ithaca, New York, 1982:192 pp., 44 color plates, 9 black-and-white drawings, 4 graphs, 5 tables, 31 range maps. \$38.50.—Anyone remotely familiar with falcons will recognize the name Tom Cade either for his scientific research or his successful program of breeding Peregrine Falcons (*Falco peregrinus*) at Cornell University for release into the wild. We are fortunate that he has now chosen to share his vast knowledge of the genus *Falco* with us in this book. It is one of the few books of its kind that successfully bridges the gap between professional and amateur.

The text is divided into two parts. The first is a general synopsis of *Falco* dealing with special characteristics of falcons, classification, distribution and migration, size and flying performance, hunting success, reversed sexual dimorphism, social behavior and reproduction, and the relationship between falcons and humans. The second part contains 39 species accounts (the complete genus). For each species general characteristics, distribution, habitat, food, hunting tactics, breeding behavior, population status, and conservation are usually discussed.

Thanks to Cade's enthusiasm, the text of Part One is both interesting and informative. However, a reader unfamiliar with non-raptorial birds might be led to think that falcons are truly exceptional, when in fact, for many aspects of their biology they are similar to other birds. More comparisons of falcons to other birds, therefore, would have been useful in putting falcon biology in perspective. We are told that a falcon can fly effectively with both alulas missing or damaged, but is this any different than other birds? I would like to have known in what ways falcons are unique.

Many discussions are based on the most recent information available, but some topics and conclusions leave me questioning Cade's source. An example is the recurrent theme of relative size, shape, and flying performance among falcons. Changes in shape that are the result of increases in size are a mathematically complex problem. Comparisons of size, shape, and flying ability made among species must take allometry into consideration if speculations regarding the ecological adaptation of shape are invoked. I therefore question some of Cade's comparisons among species, and disapprove of the rather loose manner of referring to relative size. For example, Cade says that insect eaters (kestrels) have relatively smaller and weaker beaks than those falcons like the peregrine that kill difficult quarry. Do they? Using data from Brown and Amadon (Eagles, Hawks and Falcons of the World, Country Life Books, Feltham, Middlesex, United Kingdom, 1968) and White (Biosystematics of the North American Peregrine Falcons, Ph.D. diss., Univ. Utah, Logan, Utah, 1968) my calculations show that the culmen lengths of peregrines (*F. p. anatum*) and American Kestrels (*F. sparverius sparverius*) are in exactly the same proportion to the lengths of their respective wing chords (often used as an overall measure of size). If weight is compared to culmen length, then it is the kestrel which has the relatively larger (or at least longer) bill. Such calculations are of little use except to emphasize the problems associated with "size" and "relative."

Some of the qualitative comparisons made among species are confusing or difficult to understand. For example, the Saker (*F. cherrug*) is described as a "rough and tumble version" of, and "more rangy in appearance" than, a Gyrfalcon (*F. rusticolus*). Perhaps the advantages of such a writing style in making the text more interesting, or in conveying an impression of the ecological or behavioral relationships among species, outweigh the disadvantages of such scientific laxity.

Data on wing loadings and other flight-related variables are badly needed for raptors. Cade's two tables and two graphs on the subject are most welcome, but unfortunately some

hard-to-get data like wing widths are only presented on graphs and hence are not available to other researchers. Species' flight performances are frequently compared in light of their behavior in, and suitability for, falconry, although this is not often explicitly stated. Cade's enthusiastic support for falconry is well illustrated by his description of the peregrine as, "a bird of the gauntlet and the mews just as much as it is a creature of wild river gorges and coastal palisades." Cade emphasizes what he believes is the lack of evidence for falconers having a negative impact on wild populations of falcons. One particularly insightful and lengthy example is that of Arab falconers who harvest about 2000 Sakers per year (about 90% of which are females!).

Cade's passion for falconry is matched only by his concern and conscience for the conservation of all falcons. He presents good reviews of what is known about each species' distribution and biology, and speculates as to their global population status. Some of his numerical estimates may be of limited value, however, because of the dearth of information about some species. For example, we are told that if the Australian Kestrel (*F. cenchroides*) occurs at the same density as the Common Kestrel (*F. tinnunculus*) then there could be 75,000-750,000 pairs of *cenchroides* in existence. The book frequently reminds us that if falcons are to have a future in this world they must do so in coexistence with mankind. Examples of how this is now the case, or how it could be are explored.

Although I have praised Cade's efforts at satisfying both the scientist and amateur alike, there are shortcomings in this regard. The book suffers from the lack of a glossary. Will most non-scientists know what phylogeny or a hallux are? Will non-falconers know what a tiercel, haggard, or passage bird are? Falconry jargon is rampant throughout the book. Furthermore, there are annoying editorial and publication errors. The style of referencing published papers is rather loose; there are inconsistencies and errors between the text and bibliography. Some animals are referred to by both their common and scientific names, while others lack one or the other. The inside of the jacket claims that the book has 40 color paintings and 30 maps. I count 44 paintings (not including the cover) and 31 maps. There is no reason why four maps should each illustrate two species in the same color with no distinguishing labels.

Scientifically speaking, there are three disappointing omissions. Firstly, immature falcons are sadly ignored. There is little information about any aspect of their life history, their plumage is often only very generally described, and some are not depicted in the plates. Secondly, the morphometric data are scant at best, and then often rehashes of measurements from earlier publications. This book could have been far more valuable as a reference text if an appendix of data for as many morphometric characters as available had been included. Thirdly, beyond omitting some immature plumages, the usefulness of plates has been reduced further by not providing the locales from which the specimens used for the paintings came. Also, considering that Cade describes a new color phase of Eleonora's Falcon (*F. eleonora*), a plate of such would have been valuable.

My opinions of David Digby's artwork are similar to those of the text; the paintings range from mediocre to exceptional. This range can be seen within a single painting; Plate ii shows a fine adult Prairie Falcon (*F. mexicanus*) feeding three rather odd looking young (note the inconsistency of bill morphology). The colors of several paintings are too rich (e.g., the Merlin [*F. columbarius*], Plate XV). Otherwise, most of the paintings are excellent, worthy of a text by Cade. In many cases Digby superbly captures certain postures which are truly typical of falcons.

In summary, *The Falcons of the World* is of exceptionally high quality, combining some of the finest in writing and art in a book of this kind. My criticisms aside, considering the magnitude of the task, this is a remarkable effort.—GARY R. BORTOLOTTI.

WOODPECKERS OF THE WORLD. By Lester L. Short, illus. by G. Sandström. Delaware Museum of Natural History Monograph Series Number 4, Greenville, Delaware, 1982:676 pp., 101 color plates, 2 tables. \$99.95 (order from Foris Publications USA, Box C-50, Cinnaminson, New Jersey 08077).—Few taxa of birds have a more devoted follower than Lester Short, who has been pursuing members of the family Picidae throughout most of his 30-year professional career and around a great deal of the world (with the exception of Australia and Antarctica, both suffering from an inherent deficiency in woodpeckers). This book, the culmination of these indefatigable efforts, is a semitechnical “handbook,” summarizing both Short’s own extensive work and other pertinent literature on the family. There are three main sections to the book; the first, 56 pages long, is an introduction to the biology of woodpeckers, briefly covering plumage, structure, behavior, zoogeography, evolution, and systematics. I found this section a curiously mixed bag: 2 pages on terminology discuss “feathers,” “behavior,” and “size,” but send the reader to an ornithology textbook to review most of the external parts of a bird despite the subsequent detailed technical diagnosis of the family as well as of each individual species. The social mimicry/character convergence models of Moynihan (*Evolution* 22:315–331, 1968) and Cody (*Condor* 71:222–239, 1969) are cited as the likely explanation for the extensive plumage similarities observed in woodpeckers (p. 9), despite the controversiality of these hypotheses and the fact that Short himself later appears to abandon them (p. 33). The behavior section focuses on displays, vocalizations, and other aspects of classical ethology and references the author’s own work extensively and nearly to the exclusion of others (16 of 22 references in this section are to Short’s papers). Sociality in the family is suggested to be variously related to frugivory and omnivory (p. 23) and to habitation of an “. . . open, essentially uniform environment” (p. 19) with no citations or attempt to test these hypotheses. Interspecific aggression over nests ceases when both individuals have secured holes because “. . . it is inefficient for both species to continue interacting aggressively” (p. 32). Although the section on zoogeography, evolution, and systematics is detailed and authoritative, being once again primarily a review of Short’s work in this area, it avoids all but a superficial discussion of the fossil record or of evolutionary origins of woodpeckers. Short defends his reliance on external morphology and behavior as taxonomic characters by suggesting that biochemical techniques, among others, are at a stage precluding robust evolutionary interpretations—a stance I would not like to be caught professing in the current golden age of electrophoretic and DNA-DNA hybridization studies.

Perhaps the biggest disappointment afforded by this section of the book is Short’s reluctance to summarize in quantitative terms the massive amount of data collected in the species accounts that follow. Two tables, one summarizing the geographic distribution of the genera of woodpeckers by faunal region and the other listing the number of species by size class in each faunal region, are as far as he goes towards synthesizing the vast store of information he opens up in the succeeding section. For example, statements that there is a “reduction, or even elimination of a pattern [of sexual dichromatism], in highly social species” (p. 12) and that “differences between the sexes are especially pronounced when few or no other woodpeckers occur sympatrically” (p. 14) are intriguing, and sometimes considered to be common knowledge, but in any case beg to be tested by going through the species accounts that follow and compiling the necessary data. Without such documentation these statements are not always convincing. However, Short’s hesitancy provides an open opportunity for others, and I, for one, will not be able to resist using the book this way for long.

The bulk of the book (480 pp.) consists of accounts of all 198 species in the family, or slightly under 2.5 pages per species. For each species, there is a list of diagnostic features, a detailed description, a summary of its distribution and habitat, and sections on foraging habits, voice, displays, interspecific interactions, breeding, and taxonomy. This section is clearly the real meat of the book, and a considerable amount of information is buried within

these accounts. However, such basic information as size and weight is lacking or at best given as ranges only, forcing one to return to Ridgway and others for information on mean size and precise degree of sexual dimorphism. Other material is at times difficult to follow. For example, no range maps serve to help the reader visualize geographic distributions; instead, lists of localities often seem to stretch on interminably. Odder yet, the species descriptions are often tantamount to technical diagnoses worthy of type specimens. A typical account begins: "Bill moderately long, slightly curved along culmen, small chisel-tip, and broad across nostrils. Black band across uppermost back, then black and white barred posteriorly to rump; lower rump and uppertail coverts black. Wings black with white spots or spot-bars on coverts, white bars elsewhere; paler below, gray with white bars . . ." etc. These descriptions, although valuable when distinguishing among subspecies or similar-plumaged forms, are generally enough to send anyone packing to the color plates without delay. I had a similarly difficult time maintaining my concentration throughout the "voice" and "display" sections of each species account. No sonograms are provided to pull together the myriads of "wickers," "twitters," "rattles," "wads," "whew-whews," "wuks," and other vocalizations discussed in extensive detail, often including call duration, frequency, rate of delivery, and a verbal description. The "breeding" sections are generally more diverse and interesting, suffering primarily from a lack of information on many of the species—truly a challenge to picidologists of the future—and a dated quality discussed below.

Unsurprisingly, the most consistently solid parts are those on taxonomy, where Short details his views on the relationships and closest relatives of each taxon. It is certainly useful to have all of Short's extensive knowledge and work on the taxonomy of these birds summarized in one place, although once again range maps would have been helpful in order to visualize how closely related forms mesh with one another.

In my view, the most serious shortcoming of the book is its datedness. Short has thoroughly researched the literature, including some obscure European and Southeast Asian journals rarely seen by western ornithologists. Unfortunately, the bulk of Short's review apparently ended somewhere in the mid-1970s. There are only 13 references dating from 1976 on, five of which are to Short's own papers; otherwise, of 387 references to work other than Short's, 76% date prior to 1970. In some cases this results in quaint anachronisms in the species accounts; for example, referring to the displays of the Acorn Woodpecker (*Melanerpes formicivorus*), he states that "very little detailed information is available; known displays seem very similar to those I have described . . . for *M. cruentatus*"! This section was obviously written prior to the treatise of MacRoberts and MacRoberts (Ornith. Monogr. 21, 1976), much less subsequent work on this species, and never updated. Partially as a result, there is scant attention devoted by Short to any of the more recent behavioral ecology being done on various species of woodpeckers and only references to some of the older literature on foraging ecology.

Finally, 101 color plates fill the end of the book. Although not all of the paintings capture my vision of the "soul" of woodpeckers, and none include backgrounds other than a limb or trunk for the birds to sit on (probably because disjunct but related forms are often put together), they are in general a tour-de-force of biological and artistic illustration. Each includes two to five related forms or plumages of the same form, allowing easy comparison among closely related taxa.

In summary, the usefulness of this book to the majority of professionals is limited by its datedness and lack of summaries of morphological or behavioral data. Furthermore, despite the rather steep price, the book does not rank aesthetically among the most elegant monographic treatises of the past decade; the format and style are simply not of a sort to make it a prized "coffee-table" book.

However, I can fully recommend this monograph as a valuable reference for woodpecker aficionados, and I personally am looking forward to tapping the information contained in it in the future. Certainly anyone interested in surveying the biology of these birds should have access to a copy, as it will no doubt be the standard reference on the family for many years to come.—WALTER D. KOENIG.

A CELEBRATION OF BIRDS. By Robert McCracken Peck. Walker and Co., New York, New York, 1982:178 pp. \$30.00 cloth.—The subtitle tells what this book is all about: The life and art of Louis Agassiz Fuertes (1874–1927), who is regarded by many as America's premier nature artist. It was written to accompany a collection of Fuertes originals exhibited by the Academy of Natural Sciences of Philadelphia. After a home showing in the autumn of 1982, the exhibition has been taken on the road and will provide pleasure in six cities before returning home in February 1985.

The exhibit and book present representative and often heretofore unexhibited Fuertes paintings from collections throughout the country. In addition to the works of art, photographs, letters, and journal materials are included. The color registry is very good. Like many books today, the printing was, regrettably, done in Hong Kong. The half-title page has a reproduction of Fuertes' bookplate—a nice touch. The frontispiece is a watercolor study of the Red-breasted Merganser. The acknowledgments are followed by a table of contents which indicates that the text will treat Fuertes as the Man, the Artist, and the Naturalist. The foreword by the President of the Academy, Thomas P. Bennett, explains the structuring of the Fuertes exhibit and how this book relates to it. Roger T. Peterson provides the introduction with erudite comparisons among several of this country's outstanding bird artists. Peterson confides, "It was largely because of the Fuertes portraits that birds became the focus of my life . . ." This is another debt today's bird students owe to Fuertes.

Peck guides the narrative with an historian's skill, enlightening without intruding into the events that allow the reader to know Fuertes as a man, an artist, and a naturalist. This three-part format at first appears to be a logical and interesting approach to a biography, but even Peck's easy prose cannot avoid redundancy, and one must approach each part as a separate account rather than a continuous epic.

Perhaps Fuertes' most outstanding personal aspect is that he was self-taught. He was doubtless aided in his art by an association with the artist Abbott Thayer, but in the final analysis he was his own man. I would like to have learned more about his growth as an artist and particularly why he eventually (p. 38) was rejected by Thayer—was it personal or professional? Whether Fuertes could have been the classical artist that Thayer hoped he might be is of course moot, but I feel as did Gilbert Grosvenor that ". . . Fuertes could accomplish anything he put his mind to."

To be championed by such stalwarts in ornithology as Coues, Chapman, and Merriam gave Fuertes intellectual, moral, and on occasion, financial support. No other bird artist had such assists at any time in ornithological history.

In examining the art work presented it is necessary to distinguish among sketches, colored studies, and completed paintings. Perhaps one of the finest paintings shown adorns the cover of the dust jacket. To study this painting of a white Gyrfalcon (*Falco rusticolus*) in minute detail is to be taught a lesson in bird painting. The feather detail, feather arrangement into units, color of the tail in shadow, the raptor personality in the head, the crumpled talon of the supporting foot and the eye highlighting are the artistic insights of a master. It is not a

portrait alone; the color, composition, and setting make it an exciting painting. The same Gyrfalcon reproduced on p. 26 is washed out by comparison with this bird that dominates the dust jacket.

The male Harlequin or Mearn's (=Montezuma) Quail (*Cyrtonyx montezumae*) appears three times in the book (pp. VIII, 57, 106), twice in color. Having worked with this species in the wild in Mexico and in an aviary in the U.S., including the preparation of museum skins, I rate all three below average for Fuertes. The painting opposite the foreword is the best, but the spotting is unlike any that I ever saw and the bird lacks lifelike qualities Fuertes gave to his birds. On p. 57 the overall color is more gray-green than I remembered and the background and brown color in the watercolor study are more typical than in the final painting. The black and white plate of a colored painting (p.106) has the bird at $\frac{3}{4}$ face giving it a peculiar and distracting appearance.

The painting of the Roadrunner (*Geococcyx californianus*) in full stride with both feet in the air gives one the impression that he has just seen the bird captured by strobe flash. Although the picture is almost a cartoon, nothing is exaggerated and no anatomy violated.

A very handsome painting of a Peregrine Falcon (*F. peregrinus*) with a captured Green-winged Teal (*Anas crecca*) (p. 97) is a bit puzzling. The falcon is immaculate, but the teal should have a wide green patch that runs from an area in front of and including the eye backward and downward ending in a slight crest below the base of the skull. The teal in the painting has a white patch that does not start in the front of the eye and the exposed wing, with more white feathers than a teal possesses, appears to be that of an American Wigeon (*A. americana*). Could this have been an unfinished painting, where green paint was not overlain? Or, possibly the green pigment has faded. It is virtually inconceivable to me that Fuertes would mispaint a Green-winged Teal.

There are many subtleties in the art of bird painting to be found in the work of Fuertes. In his preliminary sketches of the Common Potoo (*Nyctibius griseus*) (p. 127) the bird is drawn several times in profile but in the final painting (p. 128) the viewer looks up at the bird perched on the end of an upright snag. Here the viewer sees the large eye as though it were the setting sun with the lower portion below the horizon of the lower eyelid.

Fuertes' bird portraits reproduced on small cards and found in boxes of Arm and Hammer baking soda in the 1920's were teaching collectibles that predated "baseball cards." I suspect that their impact on audiences of all ages and backgrounds rivaled that of field guides to birds by other artists in years after his death. Fuertes' first and best known protégé was the gentle George Miksch Sutton, who incorporated the skills learned at Fuertes' elbow into his own outstanding artistry. Peck treats this association between teacher and pupil with a sensitive understanding.

One of the threads in the fabric of Fuertes' life as presented are the letters in his hand or those written to him. Peck's ability to select the salient features of Fuertes' correspondence in order to focus on the artist as a person is a major strength of the book.

Expeditions and field trips found Fuertes in his element. One of these was the Harriman Alaskan Expedition of 1899. A member of that expedition, Leon J. Cole, listed as a preparator in the crew, was a personal friend of mine and told this story. The working group (e.g., naturalists, artists, preparators, etc.) had forgotten to take a deck of cards aboard, so one evening when a game was called for, Fuertes got out his paints and brushes and produced a deck from a pad of paper. They were beautiful and relatively little used when they were shown to me by Leon Cole about 1945.

At the end of the text Peck provides a chronology of Fuertes' life; what institutions have collections of his paintings; a list of illustrations from the book and the owners of the original work; a series of notes that are referenced in the text; a selected bibliography; and finally a

detailed three-page index. This book and its contents reaffirmed a long-held personal opinion that Louis Agassiz Fuertes was the best bird artist ever.

You would reward yourself and honor your bookshelf with this story of the life and art of Louis Agassiz Fuertes.—ROBERT A. McCABE.

AVIAN INCUBATION: EGG TEMPERATURE, NEST HUMIDITY, AND BEHAVIORAL THERMOREGULATION IN A HOT ENVIRONMENT. By Gilbert S. Grant. Ornithological Monographs No. 30. The American Ornithologists' Union, Washington, D.C., 1982: x + 75 pp., 15 tables, 35 figures. \$9.00 (\$7.00 to AOU members).—The Salton Sea in southern California is a man-made, saline lake surrounded by Sonoran Desert. Because of low humidity and infrequent cloud cover during the summer, solar radiation is intense. Temperature of the ground near the Sea regularly reaches 50°C, and air temperature commonly exceeds 38°C. Despite the apparent harshness of this environment, however, several species of ground-nesting birds successfully produce young here.

Gilbert Grant has undertaken a comprehensive study of the common species of birds nesting on the shores of the Salton Sea: (1) to determine whether eggs, young, or adults experience thermal stress; (2) to assess the effects of different environmental variables on temperature of eggs and adults; and (3) to evaluate the physiological and/or behavioral mechanisms that minimize negative impacts of the hostile thermal environment. His success in achieving these several goals was mixed.

The detailed analysis of behavior of adult birds is the strength of the study, and illustrates the power of careful observation. Grant develops an especially strong case that adults of several charadriiforms prevent incubating eggs from over-heating by transporting water to nests in their abdominal feathers. The water is applied to surfaces of eggs, and air flowing over these surfaces causes evaporation, thereby dissipating excess heat. The attending parent remains crouched above the eggs to shade them from the sun and other environmental radiation, because exposure of eggs for as little as 2 min can lead to explosive rise in temperature and death of embryos.

Laboratory phases of the investigation are weaker, despite their importance to the overall study. In part, this situation exists because of the distance of the study site from adequate facilities. In part, however, it reflects flaws in experimental design and/or analysis. For example, samples are too small in several of the experiments to provide compelling support for any conclusion whatsoever (e.g., effects of salt and mud applied to surfaces of eggshells on oxygen consumption of embryos), and some differences among means are reported to be significant without any mention of the statistical procedure on which the claim is based (e.g., daily loss of mass and water-vapor conductance). Some of the regression equations reported in Figs. 9–10 clearly are statistically spurious, indicating that the author relied more on levels of significance in assessing the outcome of his analyses than on inspection of the data or on values for coefficients of determination. Many of the data for water-vapor conductance and other physical properties of eggs are compared with expectations based on published allometric equations; unfortunately, by pooling data for clutchmates, Grant introduces important biases into his analyses that preclude meaningful comparison with prior work (see Sotherland et al., *Auk* 96:192–195, 1979).

In summary, Grant's investigation is one of the most ambitious undertakings of its type, and it provides important perspective for those of us interested in problems of development in nature. However, not all of his conclusions are adequately supported by evidence, so readers must examine the data thoroughly and critically.—GARY C. PACKARD.

BIRD HABITATS IN BRITAIN. By R. J. Fuller, illus. by Donald Watson. T. & A. D. Poyser, Calton, Staffordshire, England (dist. in U.S.A. by Buteo Books, Vermillion, South Dakota 57069), 1982:320 pp., 56 black-and-white drawings, 79 text figures, 55 tables. \$35.00.—The data for this work were collected by the impressive efforts of the British amateur ornithology “machine,” co-ordinated by the British Trust for Ornithology (BTO), its research advisors, the author in his capacity as national organizer, and the 104 regional organizers. This network of observers has been built up over many years of BTO enquiries, its efforts culminating in “The Atlas of Breeding Birds in Britain and Ireland” (J. T. R. Sharrock, T. & A. D. Poyser, Calton, Staffordshire, England, 1976). One goal of the “habitat register,” which provided data for the book under review, was to expand on the species presence/absence records of the atlas by full yearly coverage of many selected sites throughout Britain, thus providing at least an index of bird species abundance in each season. The second, and perhaps the most important goal, was to provide data on the majority of significant ornithological sites in the country. These data were deposited with the British Nature Conservancy (i.e., government) to be included at the initial planning stages in any review of proposals for major habitat alterations. The relative ornithological importance of the ca. 4000 sites covered from 1973–1977 was also assessed by Fuller and included with the bird and habitat data.

Fortunately, the book is not an endless compilation of species lists from all the sites; these are where they belong, in a computer. The first 13 chapters summarize the bird communities of major habitats, e.g., neutral grasslands, rocky coastlands, lowland heaths, lakes, etc. Greatly altered habitats such as farmland and urban areas are not included, although the point is well made that there is very little of Britain that has not been altered by man in some way. We learn, for example, that the destruction of woodland started with the advent of Neolithic cultivation in 3000 B.C. Commonly occurring bird species are discussed under the headings of breeding, wintering, and passage. The major species assemblages are often presented graphically with frequency of occurrence plotted against the index of abundance for each species. Subdivisions of each habitat are made when appropriate. Other summary figures used (when sample sizes allow) include: breeding birds vs tidal zones, breeding density vs tree species, species diversity vs foliage height diversity, incidence of breeding species vs woodland area, breeding bird density vs successional stage of sessile oakwood, distribution of concentrations of seaduck around the coast, plus many other such correlations. Information gathered by the habitat register is supplemented in the book by results from such other BTO studies as the Common Bird Census, Nest Record Cards, Atlas, and Bird Ringing.

Chapter 14 summarizes the structure and composition of bird communities throughout the country. Chapter 15 is an evaluation of bird sites and chapter 16 shows their distribution in England, Wales, Scotland, and the Isle of Man. It is regrettable that the book could not cover Ireland, as did the Atlas. Appendices include the methods of site recording, methods of analysis and the samples of sites used in the text; plus 55 tables for those who wish to inspect the preliminary data.

Taken overall, the text is interesting and readable, the conclusions follow the data presented, the references are copious and pleasingly international. The statement on p. 62 that “trees themselves are the dominant feature of the woodland ecosystems,” struck this reviewer as a fairly obvious point, but this was an isolated example within a non-technical but accurate text. Figures were prepared clearly by Murray and Baker, the latter preparator also enlivened many figures with very pleasing vignettes, while Donald Watson’s illustrations bring to life both the birds and the habitats described. R. J. Fuller and the BTO have presented ornithologists in all countries with another challenge and a new direction in field ornithology.—TREVOR L. LLOYD-EVANS.

THE BIRDS OF DORSET. By Col. E. D. V. Prendergast and J. V. Boys. David & Charles Inc., North Pomfret, Vermont, 1983:256 pp. \$32.00.—Dorset is a nearly Rhode Island-sized, largely agricultural county along the south coast of England. Its rich ornithological history dates to St. Aldhelm (d. 709), who wrote about four species occurring there of the 16 which had been named by that time. The most recent comprehensive accounting of the birds of the area prior to this work was published in 1888, and the authors' objective is to reflect changes in the environment and the avifauna since that time.

In addition to an annotated list of the more than 360 species confirmed for the county through 1978, "The Birds of Dorset" contains essays on eight of its regions, each written with a different focus by a different guest author. There is also a chapter on migration in Dorset based in part on the work of the Portland Bird Observatory, established in 1955 on a narrow peninsula extending several miles into the English Channel. A discussion of the prospects for the future of Dorset's environment concludes rather optimistically that society is both able and willing to function while respecting both the landscape and its wildlife.

Although the writing in this book is uneven and the treatment of some of the topics is superficial, "The Birds of Dorset" is a useful reference point in the ornithohistory of the area. Anyone interested in local distribution of birds within Britain, or having personal ties to Dorset, may want a copy despite its price.—P. WILLIAM SMITH.

MARINE BIRDS AND MAMMALS OF PUGET SOUND. By Tony Angell and Kenneth C. Balcomb, III. Washington Sea Grant, Seattle, Washington 1982:xiii + 146 pp., black-and-white illustrations, range and habitat maps, 7 tables, bibliography, index, paperback. \$14.50 (available from University of Washington Press, Seattle, Washington).—At first glance, this book appears to be of only local interest. Upon closer examination, the reader realizes that this story of marine birds and mammals at Puget Sound is common to many localities. The authors not only describe the marine mammals and birds of the area, but place them in an environment that is becoming more polluted and changed by human progress.

The description of Puget Sound begins with the historical role of the local fauna in the mythology and lifestyle of the West Coast Indians, and then brings us to the present perils faced by the wildlife as a result of human infringement on habitats. Complete descriptions and locations of various natural habitats and communities are given along with the types of pollution, their sources, and the existing and potential effects on the marine life in general.

Twenty-three families and sub-families of marine birds and seven families of mammals are described. Each family is summarized in general terms; then species found in the Puget Sound area are covered in greater detail with a few paragraphs outlining their status, distribution, diet, and critical habitat. Local distribution maps are included in the marine bird section.

The descriptions of the birds include the critical factors that could disrupt their habitats or feeding routines (oil spills, dissolved chemical pollutants, etc.). This section also includes many personal anecdotes and very descriptive language that almost bring the birds soaring out of the pages. The mammals section, on the other hand, is much more precise and objective, though no less effective. The sections reflect the different backgrounds of the authors. One is a writer and artist with an interest in natural history, and the author of various articles and books on birds. The other is a zoologist who has concentrated his studies on whales and other marine mammals. The difference in style almost makes this two books within one cover. If this is what the authors were striving for, they achieved it. If not, proper editing was lacking. The illustrations by Tony Angell do maintain a continuity throughout the book and are an attractive addition.

The last section of the book includes tables summarizing the life histories of the marine mammals and the impacts of pollution, humans, and habitat loss. The types of preferred habitat, feeding strategies, breeding seasons, and periods of greatest abundance for all the mammals and birds covered in the text are also summarized in tabular form. This summary along with the maps of the main marine vegetation and wildlife areas will provide a local nature enthusiast with enough information to go looking in the right places for wildlife. Enthusiasts would be advised to take bird and mammal field guides with them though, since the book, measuring 28 × 21.5 cm, is not designed for hikers or boaters. The descriptions of the fauna are not suited for quick field identification.

This is the third of a 14-volume series about Puget Sound aimed at educating the public about the area. In this context, the authors are very successful at bringing the marine wildlife and their delicate existence to the public eye. It is not too technical and would be a good reference book in a school or public library, and in local industrialists' offices. For those with a deeper interest, the bibliography provides an adequate list of books and papers as a starting point for further reading.—ALLAN WERDEN.

FINDING BIRDS IN THE NATIONAL CAPITAL AREA. By Claudia Wilds. Smithsonian Institution Press, Washington, D.C., 1983:215 pp., numerous black-and-white drawings and maps, paper covers. \$10.95.—This is a guide to finding birds in the vicinity of Washington, D.C., including not only the city, but adjacent areas of Maryland, Delaware, and Virginia. After a brief introduction to the region, including geography and climate, the bulk of the book is devoted to chapters detailing birding areas, with maps and specific instructions for finding different sites, and comments on the kinds of birds to be expected there. There are also chapters on special pursuits, including pelagic trips, sites for watching hawk migration, and owling. Appendixes list natural history and ornithological societies, useful publications, and cooperative birding activities. This nicely printed book should prove a useful reference for birders in the District of Columbia and adjacent regions.—R.J.R.

BIRDS OF CENTRAL PENNSYLVANIA, Third Edition. By Merrill Wood. Records of the State College Bird Club, Inc., 1983:82 pp., 2 maps, paper covers. Price not given.—This is an updated compilation of bird records for the area within a radius of 40 km (25 mi) of Old Main on the campus of The Pennsylvania State University. Species are listed according to the 6th edition of the A.O.U. checklist, but are given by common name only. Information includes status, abundance, seasonal occurrence, and habitat. For mail orders direct inquiries to Dr. David L. Pearson, The Pennsylvania State University, 312 Mueller Laboratory, University Park, Pennsylvania 16802.—R.J.R.

NEW JOURNAL—ONTARIO BIRDS. Publ. by Ontario Field Naturalists, P.O. Box 1204, Station B, Burlington, Ontario L7P 3S9, Canada.—This attractively printed new journal is meant to stimulate bird study in the province. It is especially intended to provide information on "the status of bird species in Ontario, significant provincial or county distributional records, tips on bird identification, behavioural observations of birds in Ontario, location guides to significant birdwatching areas in Ontario, book reviews and similar material of interest on Ontario birds." It is sent to all members of the Ontario Field Naturalists. Direct inquiries to the address given above.—R.J.R.

ENCYCLOPEDIA OF AVICULTURE. By Richard Mark Martin. Arco Publishing, Inc., New York, New York, 1983:228 pp., 93 text figures. \$14.95.—In this surprisingly small volume Richard Mark Martin has presented a wealth of information on aviculture. If he hasn't touched upon almost every species that has been kept, as well as all other aspects of the subject, he has certainly come close to it.

Entries are arranged alphabetically, and are conveniently cross-referenced. If one looks up aspergillosis, he is referred to the more general topic of respiratory disorders. The entry *Carduelinae*, on the other hand, directs one to *Fringillidae*, Bullfinch, canary, goldfinches, grosbeak, Linnet, Rosefinch, Serin, Singing-Finch, siskin, crossbill, and Trumpeter Finch. Scientific names, as well as common names along with frequently encountered synonyms are given. Throughout the text, topics or species that are used as headings elsewhere are capitalized.

Martin strictly limits his discussions to aviculture, providing only minimal comments on natural history and distribution. Each species, or broader group, is covered in terms of systematic position, dietary requirements, appropriate accommodations, breeding behavior, and any other points that would be helpful to a prospective keeper. Broader topics, such as over-crowding, endoparasites, or viral diseases, are discussed in the context of aviculture.

Martin has been successful in aiming his book at both amateur and professional aviculturists. It is relatively free of technical zoological vernacular, but quite impressive in the accurate, up-to-date presentation of breeding records, newly discovered subspecies, and avian classification.

The book does have one very unfortunate deficiency. The bibliography is extremely limited and references within the text are infrequent. Since Martin provides only a brief account after each entry, references to more detailed works, beyond the scope of his book, would have been appropriate. Brevity would not have been sacrificed, while the information presented would have increased several-fold, making the book a true gem.

I recommend this book for anyone interested in aviculture at any level, and for both neighborhood and academic libraries. At \$14.95 it's a bargain.—SUSAN L. BERMAN.

PROCEEDINGS OF THE SIXTY-FOURTH ANNUAL MEETING

CURTIS S. ADKISSON, SECRETARY

The Sixty-fourth Annual Meeting of The Wilson Ornithological Society was held Thursday, 2 June to Sunday, 5 June 1983, at the University of Wisconsin—Green Bay, in Green Bay, Wisconsin. The University hosted the meeting, and the Local Arrangements Committee consisted of Theresa Duffey, Tom Erdman, Kathy Stiehl, and Richard Stiehl, Chairman.

The meeting opened on Thursday evening with a cheese and wine reception, featuring some famous Wisconsin cheese varieties, in the Nicolet Room of the University Commons. On Friday, following early morning field trips, the first business meeting was held. The Society was welcomed by Dr. Edward W. Weidner, Chancellor of the University of Wisconsin—Green Bay. President Abbot S. Gaunt responded for the Society. After the first business meeting, the paper sessions began.

During the meeting there were several special events. Friday evening there was an informal fish boil, a culinary specialty of northeastern Wisconsin. Films on ornithological and con-