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ORNITHOLOGICAL LITERATURE

THE A.O.U. CHECK-LIST OF NORTH AMERICAN BIRDS, 6th Edition. By The Committee on Classification and Nomenclature of the American Ornithologists' Union. A.O.U., 1983:877 pp. $35.00 ($28.00 to A.O.U. members).—Weighing in at 1317 grams (virgin copy with only the protective covering removed) and 877 pages, the long-awaited permutation of the "chiseled in print" decisions of the A.O.U. Check-list Committee, the 6th Edition has arrived. Over 20 years in preparation, the maroon-bound tome contrasts in more than weight and length with the familiar blue-bound 5th Edition (1071 grams and 691 pages, in a respectfully handled, but not abused, 21 year old copy).

As befitting the importance of this publication, and appropriate for the product of a committee, the Auk (101:625–636, 1984) wisely chose a spectrum of voices to review the 6th Edition. This reviewer has refrained from reading those reviews and now adds his independent—and opinionated—view.

Each edition of the Check-list has covered a slightly different geographical area depending on the dominant personality of the preparing Committee. The 6th Edition omits Greenland and includes Hawaii. However, to this reviewer, the fundamental error in concept for this edition, made prior to the participation of most of the members that actually produced the Check-list, was the decision, certainly fostered by Eugene Eisenmann, to have the check-list area extended south to the Panama–Colombia border. Thus, the less well known (in currently published literature) distributions of birds in Mexico, Pacific Guatemala and Honduras, and Caribbean Nicaragua are combined with the well-defined distributions of birds in North America, Costa Rica, and central Panama into a hodgepodge of distributional validities, with the inexperienced having to accept it all at the same value. Still, the distributions are as good as the Committee could make them with the assistance of numerous (acknowledged) ornithologists who reviewed draft copies of the manuscript. Unfortunately, in part beyond the fault of the Committee, reviewers were not necessarily those with the most knowledge of the regions involved.

Because of the vast increase in the number of species included, size and time dictated that subspecies not be included. This is, in fact, a blessing in disguise. We do not have voted decisions on subspecific concepts from a committee, with few exceptions, without taxonomic experience.

My second major complaint—and it is inherent in the committee system—is the lack of attribution. Thus, the eminently admirable and useful addition of "Notes" for many species present amorphous committee decisions. If individual authors had initialed a given note one could judge its acceptability. Or, with a reference, have the basis for evaluating that decision. Still, when the Committee could not gird up its collective belt and make the "right" decision (for example, to recognize all "quack-quack" ducks as the same species), it at least acknowledged its ambivalence by providing the Notes—and we thank it for that. Thomas Howell is to be congratulated on the extended (20 vs 6 pages) and edifying Preface. Four useful appendices provide annotated lists of: A) species recorded only on the basis of sight records, B) species included on the hypothetical list of the 5th Edition but not now accepted, C) forms of doubtful status or hybrid origin, and D) introduced species or escaped birds that have not become established. A list of A.O.U. numbers for species concludes the text. A hundred grams of bibliography would have added immeasurably to the Check-list.

Aside from the deletion of subspecies, the greatest changes in the 6th Edition, for readers less familiar with current systematics, are taxonomic levels at which many groups are recognized; the amplification of subfamilial names; and the rearranged order of some pas-

serine groups. Three examples: flamingos (*Phoenicopterus* spp.) were elevated to ordinal rank; most 9-primaried oscine families were reduced to subfamilies; and Ploceidae was fractured into three families, with other groups separating them. These changes reflect, in part, the current ferment in avian classification, a near war zone of conflicting concepts based on custom, and revived and productive old and, most dramatically, new technologies. It is a difficult period in which to teach avian taxonomy, but an exciting one for the science. We do thank the Committee for not following the "crows-last" nonsense of the Peters world check-list. And I briefly note the unique Roman enumeration of the orders in the Table of Contents.

I expect more fevers have been caused by some of the English (I refrain from using the word *Common*) names the Committee settled for, rather than any of the other (and far more important) aspects of the Check-list. The concept of a single, world-wide common name per species is a laudable one, but the monikers resulting from the Committee's deliberations are less so. Each of us will have his or her pets but "Green-backed" instead of Striated Heron, and "Chihuahuan" instead of American White-necked Raven are outstanding flubs. Fortunately, we are not forced to follow, and although editors may get tired of inserting alternate names in parentheses, we can continue to use names that make common sense. At least a few (too few) of the long used geographical and respected patronymic names were restored.

I would like to see future Check-lists issued in a looseleaf format. Hopefully in the not too distant future the Check-list will be on a centralized computer. It will be updated on an ad hoc basis by experts on given taxa, and revised sections will be available by printout through our individual institutional facilities. In the meantime every administrator involved in ornithology will have the 6th Edition on his desk. I expect every scientist will also retain that spot for his well-worn blue-bound edition.

Finally, it must be stated that some of the finest ornithologists in North America served on the Committee, a thankless job in my opinion, and devoted uncountable hours to produce this Check-list. Burt L. Monroe, Jr. especially deserves our highest respect—his organizational and administrative capabilities and steely strength were instrumental in the completion of this effort.—ROBERT W. DICKERMAN.

TROPICAL SEABIRD BIOLOGY. By Ralph W. Schreiber (ed.). Studies in Avian Biology, No. 8, Cooper Ornithological Society, 1984:114 pp., 46 figs., 52 tables. $12.00—This volume of six papers is a product of a symposium that was conducted at an annual meeting of the Pacific Seabird Group in Honolulu, Hawaii, on 2 December 1982. The objectives of the symposium were to bring together a group of seabird biologists that had worked on tropical species and to explore the differences in biology between warm-water and temperate- or cold-water species. The logistical task in assembling biologists with such expertise was formidable, given the global scale of tropical seabird studies: Ascension Island, the Galapagos Islands, Christmas Island (Pacific and Indian Oceans), the Hawaiian Islands, and the Seychelle Islands. This volume represents the first attempt to synthesize our knowledge of the biology of tropical seabirds since the classic monograph by Ashmole and Ashmole (Comparative Feeding Ecology of Seabirds of a Tropical Oceanic Island, Peabody Mus. Nat. Hist., Yale Univ. Bull. 24, 1967). The publication is professionally produced by the Cooper Ornithological Society and admirably edited by R. W. Schreiber. It is inspirational to see a symposium proceeding produced barely one year after its occurrence.

The volume begins with a contribution by Ainley and Boekelheide that compares regional avifaunas in the Pacific. Using a series of cruises that passed through tropical, subtropical, subantarctic, and Antarctic waters, the authors attempt to locate avifaunal boundaries and

to characterize seabird communities. They find the most important boundaries to be the Equatorial Front (23° isotherm) and the pack ice edge, with the Subtropical and Antarctic Convergences being less effective boundaries. The authors continue the earlier work by Ainley on the use of different feeding techniques in various communities. These authors show that seabirds in all oceanic ecosystems in the Pacific tend to feed in the morning and evening. In addition, they show that tropical waters have the strongest tendency for species to associate in multi-species feeding flocks, which prompts them to encourage a detailed study of the interaction between seabirds and schools of tuna.

A. W. Diamond's "Feeding overlap in some tropical and temperate seabird communities" complements earlier studies that have focused on ecological segregation among coexisting species. Using his own data from the Seychelle Islands and published data from the North Sea and Christmas Island (Pacific), he finds prey size to be only weakly correlated to predator size and suggests that a bird's foraging strategy is as good an indicator of prey size as the bird's body size. Most significantly, Diamond finds tropical seabirds that feed offshore to have diets so similar that they overlap as much as 90%. In contrast, species that feed inshore have less overlap and greater dietary diversity. Although these data do challenge traditional competition theory, Diamond's argument would be more convincing if it were possible to identify flying fish and squid in seabird stomachs past the family level. These prey families are the source of much of the dietary overlap that he cites, and each is represented by numerous species in tropical waters. Tropical seabirds may, in fact, consume very different proportions of the various species within these families.

G. C. Whittow provides an excellent summary of the factors that affect gas and heat transfer between an egg and its microclimate. Comparing tropical seabirds with those from higher latitudes, prolonged incubation in tropical species has necessitated substantial adaptations in the physiology of eggs and embryos. For example, the rate of gas transfer across the eggshell is relatively low in all tropical seabirds. Whittow demonstrates the importance of pipping for tropical species, a time when much of the total water loss and oxygen uptake by the egg occurs. He also summarizes studies of heat transfer between parents and the egg and metabolic studies that imply that even the northernmost "tropical" seabirds do not require the generation of additional heat for incubation purposes.

N. P. Langham compares clutch size, brood size, and growth rates among four North Sea and four tropical Australian terns. His data demonstrate the tendency for temperate terns to lay more eggs, raise more young, and fledge chicks faster than tropical species. He considers the various growth strategies with respect to semi-precocial development of young and the ability of tropical chicks to withstand long periods without food. Perhaps the most interesting aspect of this paper is the anomalies presented by Black-naped Terns (*Sterna sumatrana*). Although restricted to tropical waters in the Pacific and Indian Oceans, Black-naped Terns resemble temperate species by having multiple-egg clutches and a fast-growth strategy for chicks.

R. E. Ricklefs presents the results of a model of the energetics of breeding seabirds that matches the energy requirements of reproduction to the ability of parents to transport energy from their feeding areas to the colony. His results confirm biological intuition by predicting energy requirements to be greatest during chick brooding. Ricklefs believes that brood size may be limited by the mass of food that parents can carry in flight. He suggests several fruitful avenues of study, including meal size, feeding rates, and the biochemistry of prey consumed by young.

This volume concludes with J. B. Nelson's "Contrasts in breeding strategies between some tropical and temperate pelecaniforms." Nelson effectively synthesizes a vast amount of information, demonstrating the rare ability to reason inductively as well as deductively. He explores a complex suite of breeding adaptations that influences the breeding strategy of

each species and, in theory, produces the greatest number of young at least cost. His detailed comparisons between temperate and tropical pelecaniforms include breeding frequency, age of first breeding, timing of breeding, clutch size, composition of breeding cycle, attachment to breeding area, and social characteristics of breeding groups.

This volume is of interest to any ornithologist or ecologist, and is essential for those who specialize in seabirds. Its only shortcoming is its length, which was limited primarily by funds. Unfortunately, the lead agency of the federal government for marine birds, the U.S. Fish and Wildlife Service, would not fund travel or publication costs of this symposium. The study of marine birds is poorly funded because their life cycle, being partly terrestrial and partly pelagic, falls in the jurisdictional cracks between the Department of the Interior (a terrestrial agency) and the National Oceanic and Atmospheric Administration (NOAA, an oceanic agency). One cannot help but believe that were NOAA given responsibility for the study and management of these creatures, future symposia, such as this, would be properly funded, attract a high proportion of the experts on the subject, and the scientific product would be enhanced.—CRAIG S. HARRISON.

IOWA BIRDS. By James J. Dinsmore, Thomas H. Kent, Darwin Koenig, Peter C. Petersen, and Dean M. Roosa. Iowa State University Press, Ames. 1984:356 pp., 132 range maps, 1 numbered text fig., numerous black-and-white photographs, 1 table. $27.95.—More than most states, Iowa has been fortunate in having good faunistic works on birds, including an excellent state journal (Iowa Bird Life), for much of the 20th century. This most recent addition seems a worthy descendent of the line of Anderson (1907), DuMont (1933), and Brown (1971), to mention only the most notable compilers of the state's bird data. The 5 authors of the present work were, in essence, members of a committee that divided the project mainly along taxonomic lines, each member covering certain families or orders of birds in the state. Each of the authors has years of experience (e.g., Petersen 34, Kent 35) doing field work on Iowa birds. The organization is fairly traditional for a state bird book, with chapters or sections on the geography and geology of Iowa, its topography and natural regions, on the history of the bird work, and on the terminology used in the book. Nomenclature and order of species is essentially as in the 6th Check-list of the American Ornithologists' Union (1983). The book is not actively taxonomic in nature. Subspecies are not mentioned.

Most (280 pages) of the book is given to well-annotated species accounts where all species are listed in appropriate sequence. At the beginning of each Family there is a summary of the number of species occurring world-wide, and/or in North America, and in Iowa, plus brief natural history notes on the group. The individual species accounts are concise and clearly written using both abbreviated and complete sentences. The general status (abundance and seasonal occurrence) of the species in Iowa is given first, followed by more detailed information under headings of: Habitat, Spring Migration, Summer, Fall Migration, Winter, and Comment. Under "Comment" a wide range of subjects are considered, including numbers of birds and changes thereof, plus special notes on breeding, distribution, identification, history, etc. Especially for less-common species, a map showing the known Iowa distribution is provided. Many of the species accounts include 1 or more special references, in addition to a list of more general references at the end of the book.

The use of code designations in the species accounts for classes of records (e.g., Class IV = hypothetical, Class V = insufficient evidence to judge the record) seemed rather a waste of effort to me. The status of each species is explained perfectly well in English, and the code does not seem to add anything. The authors have provided extreme migration dates for most species as the earliest (latest) 3 records—a sound policy—to give an idea of the range

in variation. A number of the species accounts include fine (but small) photographs of birds—many by Fred W. Kent. One of the most interesting and potentially useful features of the accounts is the banding data of Petersen, an extraordinary bander (80,000 birds, 1958–1981). To make the data more useful, however, more details on effort are required, and I hope that a detailed report on Petersen's study is to be published.

The authors have been conservative in accepting records—in some cases perhaps too cautious (I suspect that both *Anthus spragueii* and *Calcarius pictus* are regular transients in Iowa, and both so distinctive in behavior as to be identified easily). If the authors were cautious about their official list, in the overall (annotated) list they wisely presented the available information for future students to consider.

In an appendix that follows the species accounts, there are separate listings (without annotation) of the state's 362 species (188 breeding, plus possibly 4 others) according to status, including lists entitled "regular" (276 species), "casual" (16), "accidental" (62), "extirpated" (6), and "extinct" (2). At the end of Chapter 1 it is noted that the Great-tailed Grackle (*Quiscalus mexicanus*) and Vermilion Flycatcher (*Pyrocephalus rubinus*) were found in Iowa in 1983—perhaps too late for the publication. As the flycatcher is not in the annotated list, the total number of species should be 363 as suggested on page 3. These numbers do not include 12 "hypothetical" species, which in the authors' view are probably correct records, or 26 species judged to be probably incorrect records, but all—including the 26—are in the annotated list.

When one thinks of the stretches of prairie and the marshes that once typified Iowa, it is hard to accept that the Greater Prairie Chicken (*Tympanuchus cupido*) is essentially extirpated, and that the Northern Harrier (*Circus cyaneus*) and King Rail (*Rallus elegans*) are now rare. "Iowa Birds" is a good reference. Its information should be used in the struggle for better conservation.—RICHARD R. GRABER.

THE MARINE ECOLOGY OF BIRDS IN THE ROSS SEA, ANTARCTICA. By David G. Ainley, Edmund F. O'Connor, and Robert J. Boekelheide. Ornithological Monographs No. 32, American Ornithologists' Union, Washington, D.C. 1984:x + 97 pp., 42 text figs. $9.00 ($8.00 to A.O.U. members).—Seabirds are mysterious. They roam over vast stretches of ocean, occurring in great abundance in some areas and avoiding others. Until recently, marine biologists rarely have been able to do much more than note their broad distributional patterns from ships-of-opportunity, hoping that revelation might eventually arise from masses of data.

This study represents a major step forward. It is based on six cruises in the Ross Sea in the austral summers of 1976–1980 and represents the first systematic survey of the area's seabirds. Working from Coast Guard icebreakers, Ainley, O'Connor, and Boekelheide used strip-transect methods to determine the density of seabirds. They also gathered oceanographic data (ice cover, sea surface temperature, salinity, vertical temperature profile) relevant to understanding bird distribution. From these data—and previous detailed knowledge of the fauna—they were able to compute population sizes of birds on the open sea, estimate their ranges, and evaluate factors influencing their distribution.

The size of bird populations in the Ross Sea, one small sector of the Antarctic, are impressive: Emperor Penguin (*Aptenodytes forsteri*), 342,000; Adelie Penguin (*Pygoscelis adeliae*), 2,249,000; Antarctic Petrel (*Thalassoica antarctica*), 5,000,000; Snow Petrel (*Pagodroma nivea*), 2,000,000; South Polar Skua (*Catharacta maccormicki*), 18,500. Cape Pigeons (*Daption capense*), on the other hand, were almost absent from the area (21 sightings

in 6 cruises). While astronomical numbers of seabirds are not news, the estimate of the Antarctic Petrel population is truly impressive, because there are no known colonies that could account for so large a population. How refreshing that many mysteries of the austral regions remain to be solved.

But how good are the population estimates? Their validity depends on many factors, of which the most important is maintaining a constant width to the transect strip. This is difficult on the open sea, but pack ice conditions make for a stable platform and thus consistency in the determination of the strip. Other potential problems include the propensity of certain species to approach or to avoid ships, and the differences in the attractiveness of various types of ships. By working only from icebreakers, the latter problem was minimized. The problem of attraction, however, remains. While encounters with penguins are likely to be unbiased, ships in the Antarctic are so few that they certainly attract some species, perhaps from very long distances. In my experience, Snow Petrels, Antarctic Petrels, and skuas are the most curious, and this behavior can lead to greatly inflated values of their abundance. The censusing techniques used by Ainley et al. partly compensate for this problem, but it never goes away. The test of the estimates, however, comes in comparing ship-based figures with those made from land-based studies. In some cases (e.g., South Polar Skua), the agreement is surprisingly good, which gives credibility to estimates of less-studied species. Additional verification and testing are needed.

Analyses of the distribution of individual species revealed much about their preferences for specific oceanographic conditions. Pack ice is a requisite for some, open water for others, while the Antarctic Slope Front affects both the distribution and pelagic range of many species. Observations also indicated the existence of an unknown colony of Emperor Penguins near King Edward VII Peninsula. Limited but important collecting provided new information on the distribution of breeding vs nonbreeding individuals and their respective ranges from presumed colonies. Additional analyses clarified the composition of seabird communities.

The research program was well-conceived and well-executed, and the monograph is crammed with information that will be useful to anyone studying pelagic birds. And if there are lapses in writing ("This was one of the most ubiquitous species. . . . It was observed almost everywhere" [p. 37]), they do not detract from the monograph.

For those whose interest is less specialized, read at least two short sections that bear on current issues in conservation. The first, Community Biomass (pp. 78–81), deals in part with alleged competition between seabirds and marine mammals, and the oft-repeated tale that depletions in stocks of baleen whales have allowed a compensatory increase in krill-eating penguins and seals. This idea has been accepted uncritically by an embarassing number of biologists, and has been recounted so often in the popular press that it has taken on the aura of fact. Ainley et al. kindly prick the balloon of belief, pointing out that the assumption on which the idea is based—that Antarctic populations of birds and mammals are food-limited—is unproved and unlikely. The complementary section on Trophic Interactions (pp. 81–86) is equally interesting, for the authors conclude that krill may be far less important in seabird diets than we have been led to believe. These findings have major implications, and they point out the need for long-term scientific studies—and a healthy dose of critical thinking—before political solutions to "managing" the continent's resources are devised.

I suspect that the monograph will become the standard against which future distributional and ecological studies of seabirds will be measured. It is the excellent product of many more years of hard work by Ainley and his colleagues than the Methods section can indicate.—J. R. JEHL, JR.

BIOLOGY OF THE PEREGRINE AND GYRFALCON IN GREENLAND. By William A. Burnham and William G. Mattox. Meddelelser om Grønland, Bioscience 14, 1984:25 pp., 12 figs., 12 tables. Dkr. 46.75 excl. of VAT and postage.—This paper presents the results of 10 years of study (1972–1981) in western Greenland that took place primarily in the region of Søndre Strømfjord. The study is still ongoing. Many of the data were hard won, especially in the early years. Frequently the researchers had to make week-long treks with 25–35 kilos of gear in backpacks just to gather data on 2–3 eyries. I still have vivid memories of trudging over the landscape with the survey crew in 1975; backpack so heavy and feet so sore I could hardly walk after a one week trek. Over 40 researchers were involved in data gathering and 9 organizations provided some support. Within this report the bulk of the data deals with the Peregrine Falcon (*Falco peregrinus*). Of the 17 pages containing biological data, 9 were devoted to peregrine biology, 3 to the Gyrfalcon (*Falco rusticolus*) and the remaining 5 to such topics as migration, banding recoveries, chemical pollutants, and interspecies competition. Both species behave as they do elsewhere in their circumpolar ranges with but a couple of exceptions. The 2 species were not found to occupy the same cliff simultaneously (except in 1984). The authors attempt to explain why this would have developed in the historic sense. The authors speculate that the distribution of nests of the Common Raven (*Corvus corax*), which Gyrfalcons usurp for nesting, and food availability have been important factors in the dispersion of the 2 species.

A second departure from general peregrine biology concerns food habits. While peregrines are noted for their catholic diets this was not the case in Greenland. Four species made up about 90% of the peregrine diet in 1973. This probably results from the fact that there just are not large populations of many species to prey on at inland localities. In some ways it is disappointing that so much data were lost by not checking food remains in eyries more thoroughly. For all years of the study, productivity was recorded at each eyrie and in most cases young were banded. Data on food, however, were only reported for 1973. Why weren't food remains systematically collected while in each eyrie? Had such data been collected a better idea of regional food differences, yearly prey fluctuation, and biomass consumption at each eyrie may have emerged. Overall, considering the physical and logistic restraints encountered by field parties, this study is a credit to the authors and an important addition to raptor biology.—CLAYTON M. WHITE.

THE WINTER EXPLOITATION SYSTEMS OF BAY-BREASTED AND CHESTNUT-SIDED WARBLERS IN PANAMA. By Russell Greenberg. University of California Publications in Zoology, Vol. 116. Berkeley, 1984:x + 107 pp., 20 black-and-white figs. $7.50.—How do the sympatric species of a large genus such as *Dendroica* divide up their mutual habitat? Such workers as MacArthur and Morse have offered solutions to this problem for the breeding season that have been widely accepted, but we know much less about the situation on the wintering grounds. A concurrent question concerns the interaction of these migrants with the resident species. To obtain some enlightenment on these matters, Greenberg elected to study the Bay-breasted (*D. castanea*) and the Chestnut-sided (*D. pensylvanica*) warblers. These species are largely allopatric during the winter, but their ranges do overlap slightly in Panama. One can take exception to the author's statements that these two species are closely related and are morphologically and ecologically similar, but the results of his study are of great interest.

The two species differ almost completely in their winter exploitation systems. The Chestnut-sided Warbler is largely solitary, and defends small territories around the territories of antwrens, with whose flocks it commonly associates. It forages on the undersides of leaves in the mid-level of the trees and seldom resorts to frugivory. On the other hand, the Bay-

breasted Warbler often occurs in small groups, but less often is in mixed-species flocks. It rarely defends territories and does not associate with antbird flocks as much. It is much more of a generalist in its choice of foraging substrate and foraging strata than is the Chestnut-sided Warbler. The Bay-breasted Warbler also feeds on fruit perhaps as much as 20–25% of the time. Greenberg relates the difference in foraging substrate to behavior during the breeding season. The Chestnut-sided Warbler in its breeding range feeds largely on broad-leaved trees where the richest source of arthropods is the underside of the leaves. On the other hand, the Bay-breasted Warbler feeds in conifers during the summer, and typically conifer-feeding birds use the top of the branches. In the tropics, species that feed on the upper surfaces of the leaves typically become more omnivorous since the upper surfaces are not as rich in food as are the undersides.

Bay-breasted Warblers are about 25% heavier than Chestnut-sideds. Previous studies by Greenberg have shown that large warblers, such as the Bay-breasted, Cape May (*D. tigrina*), and Yellow-rumped (*D. coronata*), tend to feed on the upper surfaces, and that small species such as the Chestnut-sided, Magnolia (*D. magnolia*), and Black-throated Blue (*D. caerulescens*) feed on the undersides.

Greenberg speculates that feeding on the underside of leaves makes an individual more vulnerable to predators, and that possibly for this reason the Chestnut-sided Warbler associates more commonly with antwrens, taking advantage of their warnings of the presence of predators.

Bay-breasted Warbler populations in Panama show a steady decline as the winter season progresses, but this is not observed with Chestnut-sideds.

This is a well executed study, and the report which is packed with good data should be read by all warbler aficionados as well as ecologists.—GEORGE A. HALL.

THE ECOLOGY OF A SUMMER HOUSE. By Vincent G. Dethier. University of Massachusetts Press, Amherst, Massachusetts, 1984:133 pp., 6 line drawings. Cloth $15.00, paper $7.95.—This delightful little book is something of a tour de force. The author, Vincent Dethier, sets out to demonstrate the depth of ecology and behavior that can be illustrated by the inhabitants of one small summer house in Maine. The reader is introduced to, among others, a field cricket (*Acheta pennsylvanicus*) singing on the hearth, Cliff Swallows (*Hirundo pyrrhonota*) constructing mud nests on the chimney, deer mice (*Peromyscus maniculatus*) breeding in the living room sofa, orb spinners (*Araneus trifolium*) building intricate webs between the rafters, a spotted salamander (*Ambystoma maculatum*) sheltering in the root cellar, and little brown bats (*Myotis lucifugus*) roosting under the eaves. Dethier does not stop with descriptions of what is found where, but goes on to detail fascinating observations and experiments on the natural history of these creatures. Dethier is a distinguished ethologist and physiologist, as well as being the author of several, fine earlier works of popular science (e.g., the extremely amusing "To Know A Fly"). The breadth of Dethier's biological knowledge, his fine prose style, and his sweet-tempered outlook combine to make the present work special.—WILLIAM A. SEARCY.

ROGER TORY PETERSON AT THE SMITHSONIAN. By Richard L. Zusi. Millpond Press, Venice, Florida, 1984:72 pp., 55 color plates, 67 black-and-white illustrations. $9.95 + $1.50 postage. (Available from Smithsonian Institution Press, P.O. Box 1579, Washington, D.C. 20013.)—In honor of the fiftieth anniversary of the first publication of the "Field guide to the birds" the Smithsonian Institution arranged a retrospective exhibition of Roger Peterson's work over the years. We have here the catalog of that exhibition held in the spring of

1984. Richard Zusi selected a wide variety of paintings representing the various aspects of Peterson's art. Thus, in addition to field guide type paintings and drawings, we have examples of his illustrations of various books, of the Wildlife Stamps, and of his large bird portraits. Admirers of Peterson will welcome this collection which has been excellently reproduced by the Millpond Press. It is an illuminating experience to see how much better these reproductions are than were the ones in the various Field Guides. For example, compare the plate of large shorebirds on page 127 of the 1980 Guide with its counterpart on page 63 of this catalog to gain a new perspective on Peterson's work.

The text contains a small amount of biographical information and a discussion of the origin and evolution of the Field Guide concept. There are a few photographs of the artist at work and a few of his excellent color photographs of birds.—GEORGE A. HALL.

WORKING BIBLIOGRAPHY OF THE GOLDEN EAGLE AND THE GENUS *AQUILA*. By Maurice N. Le Franc, Jr., and William S. Clark. Scientific and Technical Series No. 7, National Wildlife Federation, Washington, D.C., 1983:234 pp., $14.95.—This is the third contribution in the bibliographic series of the Raptor Information Center of the National Wildlife Federation. The text begins with a fine forward, by the late Leslie Brown, that introduces the user to the genus *Aquila*. In addition to a master list of 3459 literature citations, this book earns its title of "working bibliography" by including a brief introduction to the ecology and taxonomy of these eagles, a permuted list of keywords (defined in an appendix), a species and a geographic index of citations, and a list of citations of occurrences. Most of the North American literature and the major foreign journals were searched for titles up to and including September 1982. The number of citations per species is: Golden Eagle (*A. chrysaetos*)—2305, Lesser Spotted Eagle (*A. pomarina*)—632, Greater Spotted Eagle (*A. clanga*)—428, Tawny Eagle (*A. rapax*)—285, Steppe Eagle (*A. nipalensis*)—310, Imperial Eagle (*A. heliaca*)—468, Wahlberg's Eagle (*A. wahlbergi*)—167, Gurney's Eagle (*A. gurneyi*)—18, Wedge-tailed Eagle (*A. audax*)—86, and Black Eagle (*A. verreauxi*)—172.

The authors and the National Wildlife Federation should be commended for producing another valuable, easy to use, and intelligently produced bibliography. I highly recommend it for all libraries, public and private. The bibliography can be obtained from the National Wildlife Federation, 1412 16th St., Washington, D.C. 20036.—GARY R. BORTOLOTTI.

INFORMATION FOR AUTHORS

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