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RECENT PUBLICATIONS

The grouse of the world.—Paul A. Johnsgard. 1983. University of Nebraska Press, Lincoln. 413 p. \$42.50. The sixteen species of grouse and ptarmigans are distributed over desert scrub, grasslands, forests, and tundra of North America and Eurasia. As important game birds, they have received enormous attention yet no comprehensive treatment since Elliot's (1864-1865) monograph. That lack has now been admirably met with this book, the latest of Johnsgard's treatises on avian families. Its plan is conventional: a comparative overview of the group, followed by species accounts. The overview, however, is considerably fuller here than it was in his books on waterfowl, cranes, and shorebirds. Occupying nearly one-third of the text, it surveys grouse with regard to their evolution and taxonomy, physical and physiological traits, hybridization, breeding biology, population dynamics, social behavior and vocalizations, aviculture, hunting and conservation. The chapters on individual species are organized as to range and subspecies, measurements, identification, field marks, age and sex criteria, distribution, population density, habitat requirements, food and foraging, mobility and movements, reproductive behavior, and evolutionary relationships. The volume is generously illustrated with color and monochrome photographs, range maps, and the author's pen-and-ink drawings of displays. Obviously, this book will be widely useful as an inclusive source of information. In addition, it should remind North American researchers of how much is known about Old World grouse and ptarmigans, and facilitate more comparative evolutionary thinking about the group. Appendices, references, index.

Ecological study of bird hazards at Indian aerodromes. Phase II, First annual report (1982-83).—Salim Ali and Robert B. Grubb. 1984. Bombay Natural History Society. 96 p. Paper cover. No price given. Source: Bombay Nat. Hist. Soc., Hornbill House, Shahid Bhagat Singh Road, Bombay 400 023, India. Bird strikes to aircraft are a serious hazard in India because environmental conditions at airfields attract large numbers of vultures and kites, as well as other birds. Researchers of the Bombay Natural History Society have investigated this problem for several years, sponsored by the Aeronautics R&D Board in the Government of India's Ministry of Defense. This report opens with an analysis of Indian bird strike data and then examines the problem at three airports (additional to two which were studied earlier). Following chapters deal with potentially hazardous species of birds and with factors that attract them in and around airports. Follow-up work at the two first-studied airports and the causes of bird strikes enroute are discussed. In closing, the report makes several recommendations for preventive measures to reduce the numbers of problem birds at and around airports. Since these suggestions arise from an ecological study of the situation, they are sensible and likely to be more effective in the long run than the mass killing of vultures, which has been advocated as an immediate solution. These specific proposals have little or no application elsewhere, yet the approach leading toward them should be universal. Teachers of ornithology might well use this material as another example of the interactions between birds and human affairs—and how to alleviate them. Illustrations, appendices.

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RECENT PUBLICATIONS

Common bird songs. Songs of eastern birds. Songs of western birds.—Donald J. Borror. 1984. Three sets, each containing a 50-minute cassette and a 64-page booklet. Dover Publications, Mineola, NY. \$7.95 per set. These are cassette versions of field recordings that were first issued as phonodiscs in 1967-1971. Their age notwithstanding, the sound quality is good, though with a little more white noise background than one would like. Each cassette presents sixty species, with no duplication among them. The species are arranged more or less according to the general character of the vocalizations, from simple to complex. Birds with similar songs are grouped together as an aid to comparison. Most species are represented by two or more cuts, thus a fair sample of their vocal quality and characteristics. Each species is introduced simply by name and its cuts by number. The accompanying booklet describes the songs in the same sequence as on the cassette; the accounts focus on features that serve for identification and are much fuller than the remarks in field guides. A table showing the locality and month in which the songs were recorded is appended. These cassettes are certainly effective aids for learning bird songs, better yet for refreshing one's memory before spring migration. They are good value for the money, but eastern birders will have to buy the first two sets in order to get better coverage.

The Peterson Field Guide Series. A field guide to bird songs of eastern and central North America. Second edition.—Cornell Laboratory of Ornithology. 1983. Available in albums of either two phonodiscs or two cassettes. Houghton Mifflin Co., Boston. \$19.95 per set. Here, in a completely revised edition, are field recordings of the voices of 250 species of birds. They are arranged systematically, i.e., following the sequence in the fourth edition of Peterson's eastern *Field Guide*. Each species is announced by name. Calls and/or songs are given, though not as separately identified cuts. An index to the recordings, including their locality and a page reference to the species account in the book, is given on the phonodisc album and a booklet with the cassettes. Both formats have their advantages: discs are easier for finding particular species, whereas cassettes can be used in the field. As compared with the Dover sets mentioned at left, these offer many more species, though some of them are questionably necessary for recognition. The trade-off is that the samples for each species tend to be fewer and briefer, thereby presenting less of the variability and the sometimes-characteristic pattern of pauses in singing. The Cornell sets sound slightly clearer, though they have a low background hum in place of white noise. Being keyed to the *Field Guide*, they enable an observer to check a bird's appearance, habits, and range along with its voice. Borror's booklets, on the other hand, go into more detail about the vocalizations. A choice between them depends on one's budget and the kind of help one needs in learning bird songs.

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RECENT PUBLICATIONS

Pattern, mechanism, and adaptive significance of territoriality in Herring Gulls (*Larus argentatus*).—Joanna Burger. 1984. Ornithological Monographs No. 34. American Ornithologists' Union, Washington, DC. 92 p. Paper cover. \$9.00 (\$7.00 to AOU members). Source: Frank R. Moore, Assistant to the Treasurer, AOU, Department of Biology, University of Southern Mississippi, Southern Station Box 5018, Hattiesburg, MS 39406; all orders must be prepaid and include a \$0.50 handling charge. Thoughts on the evolution of territorial behavior in birds usually rest upon certain assumptions on the relationship of territory size to reproductive success on the one hand and to aggression on the other. These factors and their relationships are examined in this monograph, based on field work over several seasons at five Herring Gull colonies in New Jersey, New York, and Maine. Burger concludes that territory size and rates of aggression affect reproductive success in these gulls, but that the relationships are not linear. Her study yields important new insights into territoriality in larids. Diagrams, references.

The interpretation of aerial surveys for seabirds: some effects of behaviour.—A. J. Gaston and G. E. J. Smith. 1984. Occasional Paper No. 53, Canadian Wildlife Service. 18 p. Paper cover. Catalogue No. CW69-1/53E. No price given. Source: Minister of Supply and Services, Ottawa, Canada. Seabird biologists in the Canadian Wildlife Service have been exceptionally attentive to the accuracy and adequacy of their survey procedures (e.g., Gaston and Nettleship 1982, noted in *Condor* 85:207). The authors of this paper point out, however, that even if censuses are wholly accurate (or the degree of bias estimated precisely), differences in the numbers of birds seen in different areas or at different times will be variously interpreted owing to the birds' behavior. They consider here the effects of colony attendance, travel time between colony and feeding grounds, relative motion of birds and aircraft, and duration and frequency of dives. Their examples show how the proposed correction factors may improve the interpretation of the raw data. Some mathematical ability is required. Illustrations, references.

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RECENT PUBLICATIONS

Biology of the peregrine and gyrfalcon in Greenland.—William A. Burnham and William G. Mattox. 1984. Meddelelser om Grønland, Bioscience 14. 25 p. Paper cover. \$3.85 plus postage. Source: Secretary, Commission for Scientific Research in Greenland, Øster Voldgade 10, DK-1350 Copenhagen K., Denmark. Based on a ten-year study, this paper reports on the nesting requirements, density, prey, interspecific competition, pollutant levels, and migration of Peregrine Falcons and Gyrfalcons in West Greenland. The authors' hard-earned data are integrated with those in the literature. Maps, photographs, references. For a non-technical, evocative account of these birds, read Harris's book (noted in *Condor* 84:236).

Transactions of the Forty-seventh Federal-Provincial Wildlife Conference.—1983. Canadian Wildlife Service. 280 p. Paper cover. No price given. Catalogue No. CW69-3/47E. Source: Minister of Supply and Services [Ottawa, Canada]. This volume is a complete record of the conference, which had as its theme, "Wildlife management—today and tomorrow." It includes discussions of the roles of federal and provincial wildlife agencies, forest industry, and citizens. Also given are the reports of many agencies or organizations and the recommendations by the Conference. Although most of the specific points apply to Canada, many general ideas about land use and wildlife management apply equally to the U.S.

Wildfowl 35.—Edited by G. V. T. Matthews and M. A. Ogilvie. 1984. Wildfowl Trust, Slimbridge. 184 p. Paper cover. \$15.00. Source: Administrative Officer, Wildfowl Trust, Slimbridge, Gloucestershire GL2 7BT, England. This volume matches its predecessors (noted in *Condor* 86:186 and previously) in size, scope, and appearance. Opening with a humorous yet wise critique of American waterfowl hunting regulations by the late John Lynch, it proceeds with 17 articles on the populations, migration, feeding habits, and breeding of waterfowl. Recent censuses of anatids in Britain and Ireland, plus activities of the Wildfowl Trust are reported. Waterfowl biologists should be sure to keep up with this annual and, therefore, to subscribe to the next volume before 15 September 1985.

A dictionary of ecology, evolution and systematics.—R. J. Lincoln, G. A. Boxshall, and P. F. Clark. 1982. Cambridge University Press, Cambridge. 298 p. Hard/paper cover. No price given. Specialized dictionaries are regularly needed by all scientific and scholarly disciplines because new terms are created and familiar words have their meaning altered faster than general dictionaries can keep up with them. This one covers the terminology (10,000+ terms) of evolutionary biology, giving special attention to principles, processes, and classifications. It provides short, working definitions that indicate current usage, rather than encyclopedic essays. Separate definitions are given for terms that have widely differing meanings. A random sample shows the entries to have been well chosen and their definitions to be clear, sensible, and non-tautological. Twenty-one appendices give the geological time scale, biogeographic regions, taxonomic hierarchy, and much other basic information that is often hard to find. Altogether, an immensely useful reference work.

John Abbot in Georgia: the vision of a naturalist artist (1751-ca. 1840).—Vivian Rogers-Price. 1983. Madison-Morgan Cultural Center, Madison, Georgia. 149 p. Paper cover. \$15.00 plus \$2.00 postage and handling. Source: Madison-Morgan Cultural Center, 434 South Main Street, Madison, GA 30605. Born in London, Abbot came to this country at the age of 22, and, after three years in Virginia, remained in Georgia for the rest of his life. He observed, collected, and drew the spiders and lepidoptera, the plants upon which they fed, and the birds of his adopted region. Thus, he worked half a century after Bartram, contemporaneously with Wilson, and a generation before Audubon. Although as productive as they, he has been neglected because few of his watercolors were published. Fitting recognition finally came in a 1983 exhibition devoted to his life and work, plus this companion book. Rogers-Price, an art historian, gives first a biography that well puts Abbot into context, and then a complete, illustrated catalogue of the exhibition. Fully annotated, the illustrations are reduced, monochrome reproductions of Abbot's watercolors and etchings or lithographs based on them. This scholarly work shines new light onto the early history of ornithology and entomology in America. Index.

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2003 *Ida Street, Napa, California 94558*. Received 27 June 1984. Final acceptance 19 January 1985.

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RECENT PUBLICATIONS

Bird banding.—Elliott McClure. 1984. Boxwood Press. 341 p. Paper cover. \$15.00 plus \$1.00 for shipping. Source: Boxwood Press, 183 Ocean View Blvd., Pacific Grove, CA 93950. This is a manual on banding birds (and bats), a revised version of the author's 1966 work. It is based on his extensive experience, chiefly in southeast Asia, yet draws liberally on the literature of banding. After introductory material, it surveys every family of birds as to its idiosyncrasies for being caught and handled. A series of chapters then considers traps, snares, nets, banding nestlings, and miscellaneous equipment. Reflecting McClure's expertise about birds as carriers of zoonoses, another chapter gives instructions for collecting ectoparasites, preparing blood smears, and taking blood, thereby making more use of captured birds. A final, emphatic chapter explains how to keep records. The writing is clear and nontechnical, though less tightly organized than it might be. Details are illustrated with many drawings and photographs. Although the book does not purport to be a complete and comprehensive manual, it is so full of practical advice as to be valuable for novice and advanced banders alike. References, index.

Avian osteology.—B. Miles Gilbert, Larry D. Martin, and Howard G. Savage. 1981. Published by B. Miles Gilbert, Laramie, Wyoming. 252 p. Paper cover. \$20.00. Source: Publications Secretary, Museum of Natural History, The University of Kansas, Lawrence, KS 66045; add \$2.00 for postage and handling; Kansas residents add 3.5% sales tax. This is a manual for the identification of bird bones as found in archaeological sites, chiefly in North America. It deals with the skeletal elements that are most commonly collected, and therefore omits the skull, vertebrae, ribs, and most of the phalanges. Treatment for each bone includes a general description, illustrations for many species, and a table of measurements for many species. Several bones are also furnished with keys for identification to order or family. Taxonomic coverage is largely confined to non-passerines, the passerines being represented in almost every case by only four corvids. Since the photographs and soft pencil drawings of the bones are likely to be used first in identifying specimens, it is unfortunate that they have been variously enlarged or reduced. Thus, even on the same plate, homologous bones that are actually the same size are often shown at different sizes. Several full-page historic photographs of Native Americans show how bones and feathers were incorporated into their regalia but do not tell anything about the structures themselves. Al-

though the book is aimed for archaeologists, it may prove useful to ornithologists confronted with the remains of avian prey from raptor nests. References.

The growth and development of birds.—Raymond J. O'Connor. 1984. John Wiley & Sons, Chichester and New York. 315 p. No price given. This book explores how and why birds grow as they do, i.e., not just what happens but also its adaptive meaning. Organized around the life history of a bird, it integrates current ideas and findings on physiology, ecology, and behavior. After a survey of the growth patterns among birds and their ecological significance, several chapters lead from nests and eggs through the development of the chick, feeding, imprinting, and parental care. A chapter on mortality of eggs and young is followed by those on instinct and learning, development of song, migration, and maturation. Tying together material from diverse fields, it provides a coherent picture of the ecological constraints on the breeding biology of different birds. Since this book impinges on virtually every aspect of ornithology, it is one of the most widely interesting works in the science to have appeared in a long time. Illustrations, references, index.

Current ornithology, Volume 2.—Edited by Richard F. Johnston. 1985. Plenum Press, New York. 364 p. \$39.50. Following the pattern of its predecessor (noted in *Condor* 87:13), this volume contains nine advanced-level review articles on topics of current interest. Highly worth reading is the opening chapter by F. C. James and C. E. McCulloch on data analysis and the design of experiments in ornithology. The following, more specialized chapters are: The evolution of reversed sexual dimorphism in size (by H. C. Mueller and K. Meyer), Vocal "dialects" in Nuttall's White-crowned Sparrow (D. E. Kroodsma, M. C. Baker, L. F. Baptista, and L. Petrinovich), On the nature of genic variation in birds (G. F. Barrowclough, N. K. Johnson, and R. M. Zink), Ecomorphology (B. Leisler and H. Winkler), Problems in avian classification (R. J. Raikow), Syringeal structure and avian phonation (A. S. and S. L. L. Gaunt), Assessment of counting techniques (J. Verner), and Circadian organization of the avian annual cycle (A. H. Meier and A. C. Russo). The book has been well edited except for misspelling of two authors' names in the preface. Since this series uniquely occupies its niche in the community of ornithological literature, one hopes that it will continue. Illustrations, lists of references, indices.

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RECENT PUBLICATIONS

The birds of the Republic of Panamá (4 vols.).—Alexander Wetmore (coauthored with Roger F. Pasquier and Storrs L. Olson in Part 4). 1981–1984. Smithsonian Institution Press, Washington, DC. Vol. 1—483 p., \$25.00; Vol. 2—605 p., \$25.00; Vol. 3—631 p., \$25.00; Vol. 4—670 p., \$29.95. The late Dr. Wetmore began his studies in Panamá in 1944 and continued them annually for at least 22 years. The first three parts of his treatise on the country's avifauna were published in 1965, 1968, and 1972 by the Smithsonian Institution in its *Miscellaneous Collections* series. Of the remainder, he had prepared accounts for almost all of the "ten-primaried oscines" when failing health overtook him. S. Dillon Ripley then persuaded Storrs Olson to handle the identification of specimens and systematic decisions, and Roger Pasquier to compile the species accounts and descriptions for the rest of the species. With the work completed, the Smithsonian Press reprinted the first three volumes to make them all available and in hardcover.

Four thick volumes were needed to provide comprehensive treatment for Panamá's extraordinarily rich avifauna. Nearly 900 species have been reported there, a country that is smaller than South Carolina. Volume 1 spans tinamous through skimmers, 2: pigeons—woodpeckers, 3: woodcreepers—sharpbills, and 4: swallows—finches. Each family is introduced by a brief general statement, followed, where necessary, with a key to the species that have been recorded in Panamá. Species accounts include description, critical measurements, status and distribution, and observations on habits and ecology. For birds that are represented by more than one subspecies, each form is treated separately, giving its characters, measurements, and other information.

The volumes are illustrated with color painting frontispieces by Walter A. Weber (Vols. 1–3) and Guy Tudor (Vol. 4) and pen-and-ink drawings by both artists. An appendix in Volume 4 gives information about birds that belong to families treated in the preceding volumes and that have been found in Panamá since those books were first published. Each volume carries an index.

This monumental work is a fitting capstone to Wetmore's oeuvre, already distinguished by its wide range of subjects and importance of its contributions, not to mention its sheer quantity. For completing it, and at a standard

equal to that of the first three volumes, great thanks are due Pasquier, Olson, and their collaborators. The book constitutes a major reference for any future studies of neotropical ornithology. Owing to the clearing of forests, it is also, sadly, the record of a birdlife that has been seriously altered since Wetmore first knew it.

Birds of Rio Grande do Sul, Brazil. Part 1. Rheidae through Furnariidae.—William Belton. 1984. *Bulletin of the American Museum of Natural History*, Vol. 178, Article 4. 268 p. Paper cover. \$17.10. Source: Librarian, American Museum of Natural History, Central Park West at 79th Street, New York City, NY 10024. Rio Grande do Sul, the southernmost state of Brazil, contains Atlantic beaches, rolling or hilly grasslands, areas of chaco-type terrain, riverine tropical forests, and forested coastal mountains. Thanks to this diversity of habitats, the region (slightly larger than Colorado) has a total avifauna of 586 species, most of which can or do breed there. Copious information about these birds is given in this monograph, the first attempt at a comprehensive survey of the avifauna of the state. The report is based on extensive fieldwork by Belton, a U.S. diplomat stationed in Brazil and subsequently living there in retirement. In addition to taking and meticulously filing notes, he collected and measured specimens, and made tape recordings of voices. To this base are added observations by other workers and data from other specimens in museum collections. Preceding the species accounts are a description of the region (illustrated with good photographs), an analysis of the avifauna, a history of ornithological investigation there, and a number of suggestions for conservation action and ornithological studies. The species accounts treat distribution and status, voice, breeding data, etc., and are furnished with unusually large, clear range maps. Detailed, thorough, and well put together, this work is an important contribution to the ornithology of eastern subtropical and temperate South America. It will be completed with publication of the second part, which will give species accounts from the Formicariidae through the Corvidae. Birders in the region need not lug these volumes, but instead can use Belton's pocket guide (noted in *Condor* 86:442).