

## ORNITHOLOGICAL LITERATURE

AVIAN BIOLOGY, VOL. VII. Edited by Donald S. Farner, James R. King, and Kenneth C. Parkes. Academic Press, Inc., New York and elsewhere, 1983:542 pp., text figures and tables. \$69.50.—More than 15 years ago Farner and King sketched plans for a multivolume work to update A. J. Marshall's useful "Biology and Comparative Physiology of Birds," enlisting Parkes as the taxonomic editor. The early volumes had discernible themes: the first on classification, ecology, and evolution; the second primarily morphology and physiology; and the third mainly on endocrinology and sensory apparatus. With volume IV thematic emphasis began to degenerate, the content including some morphology, some physiology, some endocrinology and so on. The present volume VII is about as topically chaotic as one can imagine, with chapters on post-hatching growth, helminth parasites, behavioral ontogeny, ecological energetics, etc. I doubt if anyone is really qualified to review the book adequately throughout; certainly I am not, so can provide real criticism only sporadically, relegating my remaining comments to expressions of admiration or boredom.

Robert E. Ricklefs opens the volume with a masterful review of growth entitled "Avian Postnatal Development." He takes Margaret Nice's linear spectrum from precocial to altricial birds as his rallying point, apparently missing or ignoring my criticisms of it (in Farner, 1973, *Breeding Biology of Birds*, pp. 22-27), or else choosing to ignore it. Ricklefs sees the young's type of food as "the overriding factor in establishing the precocial-altricial spectrum" (p. 10), but it is not clear how he decided chicken from egg in this correlation. He does, however, make a good case for asserting that the advantage of the altricial condition is rapid growth. I found an interesting part of this chapter to be that on equations for growth (pp. 30-43), the section constituting an exemplary general case for anyone interested in mathematical descriptions of biological processes. In his genetical section Ricklefs is suspicious of high heritability values reported for various characters of several wild species, a point on which I heartily concur. In the end, he concludes that interspecific variation in growth rate is related to precocity and final body proportions rather than direct environmental effects on individual characteristics, and hence reinforces my favorite biological dictum that "everything is connected to everything."

Susan M. Smith contributes a competent overview of avian behavioral ontogeny, using a hazy continuum between "innate" and "learned" as endpoints (p. 88). I would have hoped for more trenchant criticism of Robert Hinde's views, such as his objection that "innate" is defined by exclusion as "unlearned." If one must think superficially in dichotomous terms, surely the proper ploy from logic is to divide into "X" and "not-X," so Hinde must have had a deeper objection in mind. Nowhere in this chapter is there discussion of experience at one activity that potentiates the development of another, as in practice standing in gull chicks that facilitates pecking accuracy. Still, the romp through behavior of embryos, hatching behavior, imprinting, song development, feeding, orientation, and play makes this a most useful review. I noted that the reference to "Harth (1971)" on p. 93 is to be found in neither the bibliography nor the author index, and the chapter has a sprinkling of typos that might have been caught (e.g., "experince" on p. 99 and "uestion" on p. 109). Smith is a good critic in restricted areas where she has experience, such as of the "critical period" non-issue (p. 104), interpretation of stimulus-complexity (p. 106), sexual vs social issues (pp. 110-111), and so on. However, much is missed, such as Schutz's (1965) claim for sex differences in imprintability (p. 111) being confounded by his having imprinted male and female ducklings at different ages, Bateson's (1978) theory being not so much the prevention of inbreeding depression (p. 112) as the selection of mates for optimum genetic similarity, and my experiments showing not that clasping (p. 126) but rather head-rotation is the learned

motor component in gull chick pecking. In sum, the strength of this chapter is its breadth rather than depth, and it should prove an invaluable roadmap for anyone studying comparative aspects of ontogeny.

Glenn E. Walsberg presents a surprisingly data-packed review of the relatively new science of ecological energetics, although it may be true that more interesting questions are raised than answered. Allocation of daily total energy includes about 10% to territorial defense, negligible amounts to testicular growth (and likely sperm production) of the male during the nesting season, and minor amounts for ovarian and oviducal growth in the female. Egg-synthesis, as one would expect, is costly but variable from perhaps 50% of the basal metabolic rate in small passerines to twice the BMR in larger birds such as ducks. The energetic costs of incubation are clearly controversial and Walsberg finds evidence for an actual "decrease in resting metabolism in an incubating bird compared to that of a bird outside of the nest in its normal microclimate" (p. 183). Molt requires a substantial energy expenditure and in general sheer maintenance of the body may require as much metabolic power as all other activities combined. I lament the exclusion from this chapter of thermal energy exchanges with the environment, the review included in Calder and King's chapter of an earlier volume now being woefully out of date a decade later. And I wish the chapter had dealt with issues such as claims that metabolic chambers give spurious results due to the fact that radiation from the bird and back to it from the chamber have not been accounted for. Such issues affect baseline values used for comparisons in ecological energetics. But it is never wholly fair to complain about what is absent, and in this case what is there is a superb attempt to wrest the best interpretation from available data.

Jacques Balthazart provides an immense tome (144 pages) on "hormonal correlates of behavior," which is to say principally reproductive behavior. Removal of endocrine sources such as the testes and replacement therapy such as testosterone injection classically secured the androgenic basis of male sexual behavior and the estrogenic basis of female sexual behavior. Nest-building, incubation, and brooding and feeding the young have more complexly determined bases, however, and a number of questions remain unresolved. Balthazart carefully reviews methodological problems in determining hormonal action, and goes on to identify the revolutionary effects on measuring hormone titers brought on by the advent of radioimmunoassay. There is an extensive consideration of brain mechanisms of endocrine function. I am no expert in this field, but if Balthazart's chapter is not a classic review, I'll eat the bibliography (which is no small task, as it runs 30 pages of small print).

Robert L. Rausch has competently provided more than most ornithologists will ever want to know about helminth parasites of birds. The most important avian parasites are protozoans, arthropods (such as mites, ticks, and various insects), and helminths, which is to say "worms." These last fall into three phyla: Platyhelminthes (trematodes and cestodes), Aschelminthes (nematodes), and Acanthocephala. Rausch remarks that, "The literature concerning helminths in wild birds is so extensive that it obscures the limitations that exist in our knowledge of this group of organisms" (pp. 367-368). The best surveys, it seems, come from the Soviet Union. The chapter reviews the helminths, compares Rausch's own North American surveys (made in the 1940's) with those summarized from the literature, reviews infections by orders and families of birds, discusses the problem of host-specificity, recounts how birds become infected (mainly through eating infected organisms), and mentions where helminths are found inside the birds. In the jargon of the practical man, the "bottom line" is provided by Rausch's very last sentence (p. 432): "On the basis of present knowledge, most helminths must be regarded as symbiotes that have no discernible adverse effect on their avian hosts."

Bruce Glick recounts what must be nearly every known fact about the bursa of Fabricius

in a jargon-filled chapter that explains its subject in the first sentence as “. . . a dorsal diverticulum of the proctodeal region of the cloaca.” The bursa grows and then regresses in the domestic chick. In 1954 then graduate-student Glick removed bursas during the growth phase but saw no obvious adverse consequences on development. Fellow student T. S. Chang used the birds for a class demonstration of antibody production to *Salmonella* antigen, which demonstration failed and hence led to the discovery of the bursa (first described in 1621 in a posthumous publication of Fabricius) as having a central role in immune responses.

Only an ornithologist with more catholic interests than mine could possibly want to own this volume of potpourri—except to complete his or her set of “Avian Biology,” an exception presumably restricted to the rich. However, the authoritativeness of its content makes volume VII a mandatory addition to every university library.—JACK P. HAILMAN.

WEATHER AND BIRD BEHAVIOUR. By Norman Elkins, T. and A. D. Poyser, Calton, England, 1983 (distributed in North America by Buteo Books, Vermillion, South Dakota): 239 pp., 16 black and white plates, 50 numbered text figs., 5 tables. \$32.50.—More than any other animals, birds have become the relative masters of the air. Spending so much time in the atmosphere, it is not surprising that their lives are heavily influenced by its short-term dynamics, weather. Norman Elkins is a meteorologist by training, an ornithologist in his spare time. Here he has provided a relatively non-technical introduction to weather, its causes and dynamics (as opposed to climate), and a compendium of all of the ways in which weather and birds interact. Following a 16-page crash course in meteorology, there are 11 chapters detailing flight, feeding, aerial feeding, breeding, comfort, migration, vagrancy, soaring birds, effects of extreme weather, and seabird biology.

I found the book clear, and in most parts, interesting to read. It contains literally hundreds of examples as documentation of its general points and they are both boon and bane. Such detail makes for dry reading and in spots there are too many examples and not enough synthesis to tie them together. Nearly all of the examples are drawn from Europe, especially Great Britain. North American readers may be confronted with many unfamiliar place names and perhaps unfamiliar bird species. On the other hand, there is a nice summary of the weather conditions associated with the arrival of North American vagrants in Britain, based mostly on Elkins' own research into the matter.

The book was obviously not intended to be a technical treatise and so one should not expect extensive documentation of statements. Nonetheless, I found the handling of the literature frustrating. The bibliography contains 195 references, cited by superscripted numerals in the text, but citation is very uneven and there were many intriguing statements for which I would like to have known the source. Some unwarranted generalizations are inevitable in a book of this type, but I noted few and the occasional unfounded statement (e.g., that flocks show better navigational ability than single birds, p. 113) does not detract seriously from the thrust of the text.

The volume is nicely produced, the text enhanced by numerous attractive pen and ink drawings by Crispin Fisher. Both Elkins and the publisher can be pleased with the product.—KENNETH P. ABLE.

PIGEONS AND DOVES OF THE WORLD. Third edition. By Derek Goodwin, illus. by Robert Gillmor. British Museum (Natural History) and Cornell University Press, Ithaca, New York, 1983:363 pp., 6 color plates, many line drawings and maps. \$48.50.—Neither the first (1967) nor the second (1970) edition of this book was reviewed in *The Wilson Bulletin*. I will therefore write a somewhat longer review than would be usual for a third edition. A rather

short, mostly descriptive review of the first edition was published by N. Collias (Auk 86: 151–152, 1969).

To review briefly the history of this book, the first edition was issued in 1967 as Publication no. 663 of the British Museum (Natural History), hereafter BM(NH). The second edition (1970) is identical in format to the first, and has no separate introduction or foreword to explain what changes, if any, had been made in this edition. In 1977 the BM(NH) published a 33-page addendum to the second edition, based on recent literature, information sent to the author, and his own field and aviary observations.

The edition under review, the third, is genuinely new, and, of course, incorporates all of the information in the 1977 supplement. Although the BM(NH) still holds the copyright, the publisher of record is "Comstock Publishing Associates, a division of Cornell University Press." The text has been completely reset in double column format, in a slightly smaller but perfectly legible typeface. The amazingly productive Bob Gillmor has supplied three additional color plates: Snow Pigeon (*Columba leuconota*) and various rock pigeons (*C. rupestris* and *C. livia* subsp.); fruit doves (*Ptilinopus* sp.) of New Guinea; and seven "actually or potentially endangered island species." The color reproduction of the three original plates is somewhat crisper (so that, for example, tarsal scutellation is easier to see), but the colors themselves have changed. The male Maroon-chested Ground-Dove (*Claravis mondetoura*) of plate 2, for example, has lost what was an unwarranted pinkish tinge, but is now far too pale. The plates are scattered through the first 50 pages of the book; unlike earlier editions, the table of contents lacks a list of plates.

At the end of each genus and species account is a list of pertinent references; these are easier to read than in earlier editions, as the authors' names have been set in boldface. However, the change is purely cosmetic; an obvious error in pagination in the first reference under the Dusky Turtle-Dove (*Streptopelia lugens*) ("297–239," should be –329) has been carried in all three editions. Some references omit the paper title or even the year of publication; some of these omissions are carried over from the previous editions, while others occurred during the resetting of type.

The most serious criticism that can be made of this edition is in its perfunctory coverage of literature. In his review of the first edition, Collias (1969) called attention to "a few surprising omissions" in the author's use of the literature. No closing date for the 1983 edition is given. However, in going through the entire book, I found only 7 references dating from 1979, one from 1980, and two from 1981. A paper by W. N. Beckon is cited on p. 305 as "in press," but on p. 306 as "1979, in press." The Zoological Record volumes for 1979 and 1980 list 11 and 4 papers, respectively, on non-European species of Columbidae that might well have merited citation by Goodwin. The Zoological Record volumes for 1981 and 1982 are not yet available, but will probably contain comparable numbers of papers on Columbidae not cited by Goodwin. That he did look at literature as recent as 1982 is indicated by his citation on pp. 56 and 63 of a 1982 paper in a German journal.

Some of the text changes have had awkward consequences. In earlier editions Goodwin included the endangered Pink Pigeon of Mauritius in the genus *Columba*. Based on recent behavioral studies, he now feels that "its closest relatives seem likely to be in *Streptopelia* and it seems best to recognise, provisionally, the monotypic genus *Nesoenas*." Although the caption of the adjacent dendrogram has been altered to read "Presumed relationships within the genera *Columba* and *Nesoenas*," there is no indication on the dendrogram itself, reprinted intact from earlier editions, as to which former species of *Columba* has been transferred to *Nesoenas*. The adjacent text does not help, as Goodwin does not mention the specific name of the Pink Pigeon. One must find the species account, 55 pages later, to learn that the transferred species is *mayeri*.

It is, of course, impossible to monitor all of the factual material in a compendium of this

sort. By pure chance, when checking on the erroneous page number under *Streptopelia lugens* mentioned above, I found that the paper cited (Cheesman and Sclater, Ibis 1935: 308) mentions eggs of *S. lugens* found on 13 September. Goodwin cites this paper under "Display," but overlooked its egg data in an adjacent paragraph, as he gives the breeding season as "most months between December and June inclusive (Mackworth-Praed and Grant, 1957)." I admit that this is just one small slipup, but in such cases one always finds oneself wondering how carefully the literature was used elsewhere in the book.

There is no question at all about the authoritativeness of Goodwin's own observations in the field and in the aviary. He has long been a serious student of the comparative behavior of the Columbidae, and his first-hand accounts of voice and displays are among the most valuable aspects of the text. Collias (1969) called attention to the lack of spectrograms of pigeon vocalizations in the first edition. There are none in the present edition either, as Goodwin believes (p. 29) that transcriptions of bird calls by means of letter combinations, although they have shortcomings, are more useful to most readers than are sound spectrograms (sonagrams).

Goodwin's book continues to be the most convenient single source of information on the Columbidae in spite of its minor shortcomings, and readers wishing further details or verification of data assembled by Goodwin will in any case wish to consult the primary literature. Libraries lacking a copy of either of the previous editions should without question buy this one; whether one should spend \$48.50 to add the moderate amount of new information in the third edition to a library that already has an earlier edition is doubtful.—KENNETH C. PARKES.

WEST VIRGINIA BIRDS. By George A. Hall. Carnegie Museum of Natural History Special Publication No. 7, Pittsburgh, Pennsylvania, 1983:180 pp., 1 color plate, 21 black-and-white plates, 10 range maps and 2 state outline maps, and 16 unnumbered black-and-white drawings. \$20.00.—In the foreword to this book, George Hall expresses the hope that this work will serve as a benchmark for future generations. In my view he has done this and more: authors of new state or regional books may look to this one as the standard, for it is much more than a list of where birds occur. Hall begins with a careful account of the geology and geography of West Virginia. This is followed by a history of ornithology in the state. It is a fascinating account of the contributions of many people (including those with names like Brewster, Brooks, Sutton, Wetmore, and Wilson), and the Brooks Bird Club. The third section is a faunistic analysis of the physiographic and ecological factors in bird distribution, as well as of trends in habitat change and species distribution and abundance through time. Among other things, one learns which species fit into "neat patterns" of distribution and which (e.g., Black-throated Green [*Dendroica virens*] and Golden-winged [*Vermivora chrysoptera*] warblers) do not. Hall urges caution in inferring past from current distributions, in light of the massive impacts of early clearing, recent reforestation and strip mining. His discussion of West Virginia's location at the northern limit for certain species, and the southern limit for others is enlightening. Indeed, all three sections merit careful reading, because they form a basis for understanding species distributions in this complex region, and for appreciating the contributions of many past and present ornithologists (quiz: how many in or outside the state know for which Brooks the Club is named?).

The fourth section consists of the species accounts, and these are painstakingly thorough. The accounts contain notes on the general status, seasonal occurrence, breeding records, bracket migration dates, and location of known specimens. The new A.O.U. Check-list names and sequence, metric measures, and Celsius temperatures are used throughout. Some readers

may object to the latter aspects (as well as to the former), but these must be the standard usages in ornithology from now forward.

There are insightful discussions of difficult taxonomic matters: for example, Hall's treatments of the Traill's flycatcher (*Empidonax traillii*, *E. alnorum*) complex, Blue-winged (*Vermivora pinus*) and Golden-winged (*V. chrysoptera*) warblers, and the Red Crossbill (*Loxia curvirostra*) are impressive. However, referring to hybrid warblers by their old binomials seems unnecessary, and calling the Lawrence's form a "pure recessive" (p. 118) may only serve to perpetuate old myths about birds for which no proper genetic analysis has been done. He correctly draws attention to the great variation among the putative hybrids, but the only trait that looks like a simple Mendelian effect is the presence or absence of throat markings. I also found the designation of populations and individual specimens by subspecies of doubtful use in some cases, as some "races" represent extreme ends of clinally variable forms (e.g., Pine Grosbeak [*Pinicola enucleator*]), or are invalid for other reasons.

Hall writes with authority, drawing from a huge data base and long experience. He examined most of the specimens known from the state, including those in 15 public and 3 private collections, has some 34 years of field experience in most of the counties, and has been a regional editor for *American Birds* for many years. The difficult matter of describing relative abundance of species is handled well: the categories are based on how many individuals of a species one may expect to see in a day's field work. Thus one may see between 51 and 100 of a very common species, or only 1-6 of an uncommon species, etc. These categories are supported by abundance data from Breeding Bird Surveys, Singing Male Censuses, banding, and Christmas Counts.

This book is, thus, a logical outcome of decades of painstaking research and documentation by the author and many others. It is printed on high quality paper and is well bound. There are virtually no typesetting or other errors. The drawings of some of the species by the late George M. Sutton add much to this very scholarly work, and the frontispiece, a reproduction of Sutton's watercolor of Sutton's Warbler (*Dendroica "potomac"*), is superb. Its large size makes it an unlikely field companion. Rather, it is an essential library reference work for field and museum workers alike. Publication was partly supported by the Nongame Wildlife Program of the West Virginia Department of Natural Resources, which no doubt contributes to the book's affordability.

West Virginians will certainly profit from this foundation as they embark on their Breeding Bird Atlas project. Ornithologists elsewhere, and especially in the Appalachian Mountains, will benefit nearly as much, because it points the way to a faunistic approach which can be emulated by others. For instance, it is a far greater contribution for forays or sorties to explore truly unknown, if less exciting, areas than the known but reliably exciting birding areas. There are many places in the mountains which are as "wild and wonderful" as is West Virginia, and less well known ornithologically. *West Virginia Birds* is thus not only a benchmark for the state, but potentially the keystone in a larger set of knowledge of the birds of the Appalachian Mountains.—CURTIS S. ADKISSON.

BIRDING IN OHIO. By Tom Thomson. Indiana University Press, Bloomington. 1983:256 pp., numerous unnumbered maps throughout. \$15.00.—As the title suggests, the first two thirds of this volume is devoted to a birding site guide. Over 200 locations are described in brief and directions are provided for finding each site. The species likely to be encountered at each are also noted. There are key maps at the beginning of each of three sections and scattered throughout the text are numerous other maps. These maps are a most useful addition to the book yet are perhaps the area of greatest concern. Most are clear and legible

although a few appear somewhat small and cluttered (p. 18) or suffer from poor printing (p. 19). And I think the usefulness of the maps could have been enhanced by more thorough cross-referencing. For example, to find Metzger Marsh (listed on p. 38) one is directed to map A-53. However, no page number is given for this map (it is on page 4—a page with no page number), but the location of this marsh is also set out even more clearly on the map on p. 10, to which no reference is made at all. This section does, however, provide a comprehensive listing of birding sites that will be useful to anyone birding in the state.

What is not evident from the title is that about one third of the book is devoted to an up-to-date annotated checklist of the birds of Ohio. This section lists information on the occurrence and abundance at various times of the year and an indication of breeding for all species recorded in the state. Care has been taken to define terms used in the text. Historical information and some details of unique sightings are also included. This section appears to be comprehensive, accurate, and a very useful summary of Ohio's bird life. Such a compilation has not been available for many years and it is unfortunate that this section was not noted in the title.

I would recommend the book to anyone with an interest in birds or birding in Ohio. The price seems modest for this hard covered book.—ROSS D. JAMES.

WHERE TO FIND BIRDS IN BRITISH COLUMBIA, 2ND EDITION. By David M. Mark, illustrations by Linda Miller Feltner. Kestrel Press, New Westminster, British Columbia, 1984:122 pp., 15 black-and-white illustrations, 16 maps. Paper cover. \$6.95 Cdn.—This is the second edition of a standard reference for birders visiting or resident in British Columbia. Following a concise introduction to the variety of biotic zones and the birds typical of each, the text provides information on birdwatching at 81 selected sites throughout the province. The sites are organized into eight regions which roughly correspond to the distinct biotic areas. In a clear and readable style the author and contributors describe how to locate and observe birds at each site. Emphasis is given to finding the more sought after species of each area. Most sections appear to be entirely re-written and updated versions of those of the first edition, with 32 new sites in this edition. Elegant maps of each region and several sites are provided. Site descriptions appear to be generally accurate, although an enthusiastic discussion of the birding possibilities of a ferry between Prince Rupert and the Queen Charlotte Islands fails to mention that the crossing takes place only at night! Horned Puffins (*Fratercula corniculata*) are mentioned as being breeders in the Queen Charlotte Islands; however, there is in fact no confirmed evidence of breeding of this species in Canada. The 15 excellent line drawings compliment the text and add greatly to the attractiveness of this book. Bird listers will appreciate the annotated checklist and "sought-after species guide." In this section each species is indexed to areas mentioned in the text and notes on finding the more rare and local of British Columbia's birds are provided. A short bibliography lists titles concerning birdwatching and bird distribution in the province. This well produced book is a must for anyone planning to watch birds in British Columbia. Copies may be obtained from: Kestrel Press, P.O. Box 2054, New Westminster, British Columbia, Canada V3L 5A3.—IAN L. JONES.

BIRDS NEW TO BRITAIN AND IRELAND. Edited by J. T. R. Sharrock, commentary by J. T. R. Sharrock and P. J. Grant, illustrations by 18 artists. T. & A. D. Poyser Ltd., Calton, England, 1982:263 pp., 81 black-and-white photographs, 94 line drawings, 83 range maps, 22 figures, 3 tables. \$25.00.—This book, like its predecessor "Frontiers of Bird Identification" (edited by J. T. R. Sharrock, MacMillan London Ltd., 1980) is essentially a repackaging

of material that has already appeared in *British Birds*. Presented here are the original accounts of the 83 species added to the British and Irish list from 1946–1980. The original versions have been left intact except for a few minor nomenclatural changes, but three things have been added: (1) the current status of the species (number and distribution of additional occurrences); (2) a simplified world range map to show how far the bird must have travelled; and (3) a summary by ace field man Peter Grant of identification points not covered in the text.

One might wonder why this material, already possessed by subscribers to *British Birds* and available in most ornithological libraries, is reproduced here. A primary purpose, in the words of the editor, a self-confessed rarity-chaser, is “to collect together in one place all of the most memorable, sensational and exciting moments in the past 35 years of rarity hunting.” It is refreshing to see a professional ornithologist like Dr. Sharrock freely admit to his predilection, unlike the closet listers in North America afraid for their professional reputations. Running after rare birds is a popular sport in North America; witness the stampede to see the Ross’s Gull (*Rhodostethia rosea*) at Newburyport, Massachusetts, in 1975. But through an accident of geography vagrants occur much more often in Britain and form a much higher percentage of the avifaunal list, and birds new for the country are added more frequently. Most are readily accessible, except on a few of the outer islands. In North America few have time or funds to fly off to see a La Sagra’s Flycatcher (*Myiarchus sagrae*) in Florida or an Aztec Thrush (*Ridgwayia pinicola*) in Arizona. In Britain it is no trick to see every breeding species and regular migrant in a single year (except for a few extreme rarities whose whereabouts is kept secret as a precaution against egg-collectors); so for keen birders, combing the country for vagrants soon becomes the only game in town. In North America many go through a lifetime without even seeing all our breeding species (who has seen Wood Sandpiper [*Tringa glareola*]?, Siberian Tit = Gray-headed Chickadee [*Parus cinctus*] Bluethroat [*Luscinia svecica*]?).

A second objective is the publication of extensive reference material on each species. Any bird suspected of being new to Britain and Ireland is subjected to the most intense scrutiny. Extremely detailed accounts are required, and these are examined first by the county records committee, then by the national British Birds Rarities Committee, and lastly by the B.O.U. Records Committee. As a result, far more detail is published than is available in most bird books, much of it new, and in some cases these remain the basic references for the species for many years. Definitive characterizations from the present work include Moustached/Sedge warblers (*Acrocephalus melanopogon/schoenobaenus*), female Baikal Teal (*Anas formosa*), Thick-billed Warbler (*Acrocephalus aedon*), Cretzschmar’s/Oortolan buntings (*Emberiza caesia/hortulana*), Pallas’/Common reed buntings (*Emberiza pallasii/schoenichus*), Pallid/Common swift (*Apus pallidus/apus*), and Ringed/Semipalmated plovers (*Charadrius hiaticula/semipalmatus*).

Perhaps the chief interest of this book for North American readers will be the New World species; 47 of the 83 new species come from this side of the Atlantic. More significant is the number of subsequent occurrences. The following occurred 10 or more times between 1946 and 1980:

Wilson’s Phalarope ( <i>Phalaropus tricolor</i> )	129	Blackpoll Warbler ( <i>Dendroica striata</i> )	15
Ring-necked Duck ( <i>Aythya collaris</i> )	120	Stilt Sandpiper ( <i>Calidris himantopus</i> )	12
Ring-billed Gull ( <i>Larus delawarensis</i> )	37	Grey-checked Thrush ( <i>Catharus minimus</i> )	12
Semipalmated Sandpiper ( <i>Calidris pusilla</i> )	26	Northern Oriole ( <i>Icterus galbula</i> )	12
Laughing Gull ( <i>L. atricilla</i> )	26	Black Duck ( <i>Anas rubribes</i> )	11
American Robin ( <i>Turdus migratorius</i> )	23	Red-eyed Vireo ( <i>Vireo olivaceus</i> )	10



These statistics cover only the new birds on the British/Irish list; there has been a tremendous increase in sightings of all North American birds, many already being on the list by 1945. This does not represent an invasion of western Europe by North American birds but reflects the increase in banding stations and bird observatories, and in numbers of birders and thus greater coverage. One is reminded of the apparent "invasion" of California in the last decade by "eastern" birds, uncovered by an army of eager birders.

This book undoubtedly has greater appeal for British than American audiences; nevertheless students of trans-Atlantic vagrancy or of fine points of bird identification will find much to interest them.—STUART KEITH.

A NATURAL HISTORY OF BRITISH BIRDS. By Eric Simms, illustrated by Robert Gillmor. J. M. Dent and Sons, 1983:xiv + 367 pp., 16 colored plates, 137 black-and-white figures. \$24.95.—In this well written and enjoyable book Eric Simms covers a large variety of topics, including many that would not commonly be considered natural history. Besides chapters on feeding, vocalizations, behavior, breeding, nesting, and migration, there are ones on fossils, anatomy, birds in art and literature, and more. There are also various practical ones on where to find birds, how to watch them, and the environments in which to find different ones. Naturally, with such a range of topics, most are treated but briefly and sometimes quite superficially. However, I noted very few things that I would quibble with; the brevity results in the omission of points I would like to see made, but not in the oversimplification of those made. Another consequence of trying to cover so much is that lists are often resorted to. That of the birds of Great Britain and Ireland is useful and basically an appendix, but the extensive one of classic localities for various habitats would be more frustrating than enlightening for somebody without further information on where these localities are and how to reach them (e.g., coastal lagoons are listed as "Chesil Fleet, Slapton Ley, Havergate [RSBP], Loch of Strathbeg [RSBP], and in Ireland at Malahide, North Bull, Kilcoole and the Murrough").

The illustrations by Robert Gillmor definitely enhance the value of this book; indeed the author notes that the justification for this book may lie "firstly, in the brilliantly informative and evocative illustrations." That may be an overstatement, but it is not an outrageous one. The black-and-white figures are not numbered or commonly referred to in the text, but they are usually in the appropriate place and definitely serve to supplement and explain the writing; they are excellent. The colored plates are, in my opinion, slightly less successful, and they are certainly less useful with regard to the text. They are, with one exception, never referred to, are not near the appropriate parts of the book, and are difficult to interpret. For this the publisher's editorial staff must take most of the blame. If, for example, I look at Plate 1, I see a variety of birds identified at the bottom of the page. However, I can discover that this is intended to show "Birds of the summer oakwoods" only by finding a list of plates between the contents and the dedication; there is no general caption under the plate and it is never referred to in the various discussions of the birds found in such forests. Gillmor's work deserves better treatment.

For somebody in the British Isles wanting one book on most aspects of birds and bird-watching not covered in a standard field guide, this would be an excellent choice. However, for others it is far less appealing. Virtually all examples are of British birds, the only environments considered are those in Britain, the addresses of clubs are only of British ones, and the localities mentioned are all British. Even the artists and writers noted are almost all British. After Audubon's "Birds of America" (1827–38), some 29 painters of birds are mentioned; virtually all are British and only one is American—Roger Tory Peterson, presumably because of his "Field Guide to the Birds of Britain and Europe." The musicians

who imitated birds are from all over Europe, but even here only those using calls of birds found in Britain are noted. Even the bibliography stresses British work and omits many, though not all, useful American references. Such insularity is not, of course, necessarily a weakness of the book and it is implied in the title; however, it certainly does lessen its appeal and value for North American and other non-British readers. —THOMAS S. PARSONS.

**BIRDS OF PREY OF BRITAIN AND EUROPE.** By Ian Wallace, illustrated by Ian Willis. Oxford University Press, Oxford and New York, 1983:viii + 88 pp., 43 colored plates (on 33 pp.). \$15.95.—This book consists of the colored plates of raptors from Vol. 2 of Handbook of the Birds of Europe, the Middle East, and North Africa: The Birds of the Western Palearctic (1980), already reviewed in this journal (S. Keith, 1981, Wilson Bull. 93:430–432), plus a rather general text of 19 pages and comments on field identification facing each plate. The plates are excellent and the text good, but I really fail to see much use for this book for any serious student of raptors or other birds. It would serve as a useful set of color plates to accompany the excellent book by Porter et al. (Flight Identification of European Raptors, 3rd ed., 1981), but any reader interested in aspects other than field identification will wish to own the full Handbook. Granted this new book costs considerably less (\$15.95 instead of \$85.00), but you get considerably less: 52 pages of text (not counting introduction, indices, and the like) versus 683, 33 pages of colored plates versus 69, and no maps, sonograms, or black-and-white drawings illustrating behavior versus hundreds of them. This is not to say that Birds of Prey of Britain and Europe is a poor book; it is a very good one. However dollar for dollar Vol. 2 of the Handbook is, I think, a better buy. —THOMAS S. PARSONS.

**THE NEW GUIDE TO THE BIRDS OF NEW ZEALAND.** By R. A. Falla, R. B. Sibson, and E. G. Turbott, illustrated by Elaine Power. New Zealand Ornithological Society, 1978 (reprinted with Addenda 1981, 1982):247 pp., 48 color plates, 2 monochrome plates, 9 line drawings, 3 maps. \$17.95.—Every ornithologist contemplating a visit to New Zealand or with an interest in birds “down under” will want to purchase a copy of this revised and enlarged version of the original field guide published in 1966. In responding to criticisms from novices about the need for more assistance in the identification of species, for the new edition the authors and publisher commissioned local bird artist Elaine Power to paint 48 new full-color plates to replace the old ones by Chloe Talbot Kelly. Some monochrome plates and line drawings have been retained, and thus virtually all 300 species of the New Zealand region from the Kermadecs in the north to Macquarie Island in the south are illustrated.

The color plates alone are worth the price of the book, and greatly facilitate species identification. For example, anyone who has seen groups of mollymawks wheeling over stormy seas and has tried to identify Black-browed (*Diomedea melanophris*), Yellow-nosed (*D. chlororhynchus*), Buller's (*D. bulleri*), and Grey-headed (*D. chrysostoma*) species which are not only similar in appearance as adults but also have confusing immature plumages, will greatly appreciate the lovely new color plate 6 which clearly distinguishes age classes and species.

The text is much more attractive in the new guide because it has been completely reset in larger format and is also extended to include additional extralimital species. Each species is described in standard format with information on its size, plumages, general appearance, voice, habitat, range, and breeding habitats. I heartily recommend this attractive new guide to professional ornithologists, birders, and lay public—there is something in it for everyone. —ALLAN J. BAKER.

**BIRDS AT A GLANCE.** By Lou Blachly and Randolph Jenks, illus. by Sheridan Oman. Van Nostrand Reinhold, New York, New York, 1984:xv + 327 pp., many black-and-white drawings. \$13.50 (paperback).—This is an apparently unrevised paperback edition of a book originally published in 1963 under the title, "Naming Birds at a Glance." The method of identification consists of a series of keys based on color characters and combinations for which the observer may have only fleeting glances. The method does work for those species included. However, only "common" landbirds in the area from South Carolina to the Rockies and north to the Arctic are included. The scope is further limited in that all female and autumn plumages, where these differ from spring males, are omitted. As Robert Arbib remarked in his review (*Wilson Bull.*, 76:302–303, 1964), "Thus the system rules out about 75 percent of the individuals the bird watcher will see throughout the year!" This review supplies a more detailed critique of the book. It is difficult to see any reason for the reissue of this book at this time, but perhaps some beginners might find it useful.—GEORGE A. HALL.

**WINGTIPS** (New periodical). Helen S. Lapham, Publisher and Editor, Box 226, Lansing, New York 14882, 1984. \$10 per year.—The stated goal of this new quarterly is to serve as an "information source for what is happening in ornithology today." "Wing Tips will communicate with amateurs (and professionals), involving anybody who wishes to enrich their ornithological background." The first number has 65 pages, mostly devoted to a discussion of the sixth edition of the A.O.U. Check-list, but also including some book reviews and a handy list of meeting dates. If further numbers maintain the present standard most Wilson Society members will find this a useful and informative publication.—G.A.H.

**DICTIONARY OF THE ENVIRONMENT**, 2nd edition. By Michael Allaby, New York University Press (Distributor: Columbia University Press, New York, N.Y.), New York, 1983:529 pp. \$50.00 (hard cover).—A dictionary is useful only if it is readable, current and easily accessible. The new edition of this book is every bit as readable as the first. The definitions are concise and clearly stated. In fact, most of the original entries remain unchanged. The author has concentrated instead on bringing his dictionary up to date. He states in the preface that the main changes reflect both the attitudes and concerns of environmentalists and the developments in the life and earth sciences. Since 1977, many new environmental issues have emerged and subsequently, new terminology. Other terms that were once in prominence and now rarely or never used have been removed.

Deciding which terms to include or remove is a difficult and somewhat arbitrary task. The removal of seemingly archaic terms from a dictionary poses a problem. A person reading an early paper on a topic may encounter the very archaic term omitted from the latest edition. Hence the old rather than the new edition is more useful for that reader. Removing such terms defeats the purpose of a dictionary.

To be fair, more has been added than removed, with the new edition having five additional pages. The author has responded to increasing interest in nuclear power issues and recent advances in earth sciences resulting from ocean floor core samples by updating and adding the appropriate entries. The new terms include nuclear fuel cycle, Three Mile Island, euhaline, zoogeographic regions, and ZPG. Some items were tidied up in the new edition. For instance, generic names are now italicized. Some long explanations have been revised and de-emphasized. The full page diagram accompanying the Citric Acid Cycle, for example, has been removed. More biological taxonomic groups have been added although the inclusion of bird families appears to be half-hearted. Many non-passerine families are defined, yet not even

the "Fringillidae" among the passerines warrants an entry. One term in both editions that is either an inside joke or has escaped proofreading is the definition: "Environment, Department of" as "Department of the Envoinment (sic)."

Many hormones listed in the first edition have been retained, but ACTH, ADH, norepinephrine and the adrenal gland have been removed. If hormones are included because of their effects on an organism's internal environment, it is puzzling why the effects of adrenaline or the role of the adrenal gland are considered superfluous.

In spite of the above criticisms, this book is a useful reference. It is readable and relatively up to date. That leaves the question of accessibility. Conservationists, scientists, and students of any discipline associated with the environment will benefit by having this new edition if they are willing to pay \$50.00 for it. It is certainly not that much of an improvement to warrant owners of the first edition purchasing it. Students, the people least likely to be familiar with the terminology and hence the prime potential users, are unfortunately the very ones who can least afford to pay the price. Their only hope is to find it in their local library.—ALLAN WERDEN.

**MICROBIOLOGY: FUNDAMENTALS AND APPLICATIONS.** By Ronald M. Atlas. Macmillan Publishing Company, New York, 1983: xxi + 988 pp., 12 colour plates, numerous figs., tables, black-and-white photographs and illustrations. \$34.95.—At a time of growing interest in genetics, topics such as regulation of gene expression, genome structure, genetic exchange and recombination, genetic mapping and genetic engineering are adequately covered in this text for the undergraduate. Emphasis is on the prokaryotic microorganism; however, comparisons are found between them and eukaryotic organisms. The book also includes diverse topics such as medical, food, industrial, and environmental microbiology.

Although this book was written for introductory microbiology and bacteriology courses, I highly recommend it to anyone interested in microbiology and its applications. This book is clearly written and the illustrations are, on the whole, interesting and contribute greatly to the overall impression of the work.—CAROL M. EDWARDS.

**MCGRAW-HILL CONCISE ENCYCLOPEDIA OF SCIENCE AND TECHNOLOGY.** Sybil P. Parker (Ed. in Chief). McGraw-Hill Book Co., New York, New York, 1984: lxxiv + 2064 pp., many photos and line drawings. \$89.50.—This is an impressive and invaluable reference work. All entries are written by authorities and are at quite a high level. While there are numerous entries on biology, ornithology and birds are scarcely mentioned. However, it is highly recommended for libraries (both high school and university).—G.A.H.