

ORNITHOLOGICAL LITERATURE

AVIAN BREEDING CYCLES. By R. K. Murton and N. J. Westwood. Oxford University Press, Oxford, England, 1977: xiii + 594 pp., 25 tables, 191 figures, 26 black and white photographs, 5 appendices, bibliography, species index, author index, subject index. \$48.00.—This review text is designed to stimulate research, and although addressed to “post graduate workers and senior undergraduates”, the authors also hope that it will appeal to ornithologists in general. In Chapter 1, the authors state their basic objectives: (1) “to illuminate some of the patterns of ecological adaptations that result from restraints imposed by complex physiological mechanisms”, (2) “to persuade physiologists to relate their experiments to the natural conditions under which their subjects live”, and (3) to provide a starting point and stimulus for a multi-disciplinary approach in avian breeding biology and eco-physiology. My overall impression is that they are more than moderately successful on the first point but only time will tell on the last 2.

The 16 chapters may be roughly divided into 5 divisions each dealing with a specific aspect of avian breeding cycles. Chapter 1 serves as an introduction and sets the stage for the rest of the book. Here the distinction is made between ultimate and proximate factors in avian breeding cycles. Ultimate factors “have survival value and not much causal function”, while proximate factors “provide the actual mechanism whereby breeding adaptations are achieved.” A short section on survival rates leads to Ricklefs’ notion (Nature, 223:922-925, 1969) that natural selection will attempt to minimize total mortality. A summary figure (Fig. 1.8) illustrates how environmental stimuli and internal stimuli are integrated to regulate reproduction. Most of the rest of the book looks at the various aspects of this figure.

The next section, Chapters 2-6, reviews basic anatomy and the endocrine basis of reproduction. The authors state that the highly technical terminology of this section is “liable to deter all except specialist readers.” This is true! It is here that the general ornithologist may become, if not totally lost, at least bored and befuddled. In my opinion, Chapters 2-4 and 5-6 could be greatly shortened and combined. The latter 2 chapters do, however, provide some good information on the role of the endocrine glands in such behavior as pair formation, courtship, nest building, and incubation. It is unfortunate that most of this work has only been done on pigeons, chickens, and canaries.

Chapters 7 and 8 deal with energy budgets, and it is here that the book really gets going. The authors examine a wide range of strategies developed by birds to maximize their efficiency in coping with the series of peaks in energy demand that occur during a year. Such peaks include migration, molting, reproduction, and thermoregulation during periods of temperature stress. The metabolic rates section includes a summary of Ken-deigh’s study (Wilson Bull., 81:441-449, 1969) on *Passer domesticus*. An interesting section on energy partitioning is drawn from numerous studies and looks at evolutionary trends (e.g. British thrushes). The discussion on migration and fat stores is incomplete and lacking in several aspects. How one can talk about fat deposition, migration and Zugunruhe without mentioning King and Farner’s classic review (Ann. New York Acad. Sci., 131:422-440, 1968) or about Redpolls (*Carduelis flammea*) without mention of George West’s work is beyond me. The section on clutch size is fairly complete and follows the Lack hypothesis. The authors dismiss Wynne-Edwards’ ideas in 3 sentences on page 199. I feel that a more complete treatment of this debate is warranted and for this reason I was somewhat disappointed with this part of the book. Later, in Chapter 16, the Wynne-Edwards theory is presented in more detail, but his ideas on

clutch size are basically ignored. In their discussion of nestling growth, the authors summarize some of Ricklefs' work stating that the full food gathering potential of the adults cannot be achieved during the early stages of the season, perhaps because the parents must initially find time to brood. An equally likely assumption, apparently overlooked by the authors, is that food could be less available during spring and early summer, thus reducing the foraging efficiency of adult birds. A discussion of frugivory in the section on incubation time and nestling growth would have added a great deal.

The next major division of the book contains 6 chapters dealing with breeding cycles and photoperiodism. The last chapter of this division, on the evolutionary aspects of photoperiodism, is the highlight of this part of the book. Here the authors draw on the vast amount of controlled research done on waterfowl at the Wildfowl Trust at Slimbridge, England. The section on desert breeding is of interest, but in no way compares to Serventy's review in *Avian Biology* Vol. I.

The last 2 chapters of the book, Sexual Selection and the Pair Bond, and Population Regulation, are its best. These are the only chapters that keep my interest throughout. The sexual selection chapter builds on Fisher's theory (*The Genetical Theory of Natural Selection*, Clarendon Press, Oxford, 1930), adding the work of O'Donald, Trivers and others. The authors reject Zahavi's notion (*Proc. 16th Int. Orn. Congr.* 685-693, 1976) of the handicap principle. However, a better discussion of this is found in *The Selfish Gene* by R. Dawkins. The section on sexual dimorphism is nearly 10 pages long, yet surprisingly incomplete. Murton and Westwood present Selander's review paper (*Condor* 68:113-151, 1966) and Reynolds' work on *Accipiter* Hawks (*Condor* 74:191-197, 1972), but overlook the rather interesting work by Mosher and Matray (*Auk* 96:325-341, 1974) on Broad-winged Hawks, and Snyder and Wiley's important review of Sexual Dimorphism in Hawks and Owls of North America (*Ornith. Monogr.* no. 20, 1976). I found the section on polymorphisms to be highly illuminating, especially the review of Cooch and Cooke's numerous papers on geese. In their discussion of polyandry and sex reversal, the authors state that this mating system is rare, having evolved only 6 times, but their list does not include the Phalaropes which they state on page 440 are polyandrous. The short section on cooperative breeding contains a paragraph or two on ritualized fighting that is far too brief to be of much value. Again readers are directed to Dawkin's book for a more thorough discussion. I was surprised that the section on brood parasitism did not include any of Steven Rothstein's work. The population regulation chapter summarizes much of Murton's work with Wood Pigeons, Southern's work with the Tawny Owl, and Watson, Miller and others on the Red Grouse. While nothing new is presented here, it is an excellent review.

My overall impression of the book is that it has its highs and lows. Certainly the last 2 chapters are highs but the first six are lows. The writing style makes the book tedious to read, but rather complete subject, species, and author indices make it a valuable reference book. A count of the entries in the bibliography gave a total of approximately 1631! A random check of 363 references revealed 11 errors or 3.03%, which projects to a total of 49 for the entire bibliography. This is a surprisingly high number of errors, especially since the authors stated that they owed Mrs. M. Haas a special debt of gratitude for compiling and checking the bibliography! These errors could be removed in a second printing. Typographic errors are minimal and most of the scientific names are correctly spelled. The book is slanted towards Old World birds, with primary emphasis on Palearctic and Ethiopian faunas. A random check of the species index ($n = 200$) found 157 or 79% of the birds listed to be Old World forms. For North American ornithologists, this provides a refreshing opportunity to

learn about unfamiliar birds, but the authors have missed a great deal of work that is pertinent to their topic on New World birds, and in this regard the book is definitely lacking.

In light of the very high price of this book, I wish to make a few comments. The book is poorly bound (mine started to crack while I was reviewing it), printed on poor quality paper, the right margins are not justified, and there are no color plates. Perhaps only one or two of the black and white photographs are really necessary. (The picture of House Sparrows showing feather wear, Fig. 15.4, is the only one that I feel warrants the cost of inclusion.) For the cost of this book, I can pay my yearly dues for W.O.S., C.O.S., and A.O.U.! With this in mind, I would not have a copy of my own had it not been sent to me to review. I certainly could not afford to buy it even with my high salary as an Assistant Professor, and I don't see how students could either.

In summary, even with its faults, this is an excellent but grossly overpriced review of avian breeding cycles. Although the book probably will never be used as a classroom text, the more conscientious teachers will undoubtedly use it as a reference for preparing lectures. Some of the material is covered more thoroughly elsewhere (e.g. Avian Biology) but still much of the book is quite well done and much needed. However, it is not worth the price.—ROBERT C. WHITMORE.

Wilson Bull., 90(4), 1978, pp. 660-661

BIRD FLIGHT. By Georg Ruppell. Van Nostrand Reinhold Co., New York, 1978: 191 pp., 239 illustrations. \$18.95.—This is a fine, nontechnical introduction to the flight of birds. Originally published in Germany as *Vogelflug*, the text has been translated into English by Marguerite A. Biederman-Thorson, who has rendered it effectively into an easy conversational style totally lacking the cumbersome, stilted prose that often results from such efforts. The author begins by introducing the general phenomenon of flight as seen in animals other than birds, and the early attempts in various countries to understand the flight of birds and to apply these principles to the development of aircraft. Then follows a discussion of avian anatomy in relation to flight. This is generally clear and accurate, though in places the desire to keep things simple has led to minor errors, such as calling the tibiotarsus the tibia, or referring to the foramen triosseum as a hole *in* a bone. The emphasis in this chapter is, naturally, on bones, muscles, and feathers. Next comes a short and painless chapter on aerodynamics, in which the author is refreshingly candid about how this subject reveals the general basis of bird flight but cannot as yet provide a detailed or quantitative understanding of complex aerial maneuvers. Following this, several chapters examine in detail the different modes of bird flight, the special problems of taking off and landing, and the adaptive specializations of birds for different methods of flight used in finding and capturing food, and escaping enemies. Ruppell emphasizes how the evolution of specializations for certain types of flight occur at a price of reduced effectiveness in other modes; the familiar idea of specialists and generalists is explained effectively here. Finally, a brief glossary explains various technical terms used in the text.

The book is unusually well written. The author is skilled at using the effective technique of introducing new ideas by reference to familiar ideas or examples. Still, the heart of the book is the illustrative material, including numerous line drawings in the margins that illustrate matters discussed in the text, especially aerodynamic prin-

ciples. The photographs are outstanding, most of them taken by the author at high speed to illustrate specific points made in the text. Rather than being merely decorative, these photographs are closely integrated with the text, and will greatly aid the reader in interpreting the actions of birds seen in the field.

There are a few minor typographical errors. In the references, the paper on Weight, Wing Area, and Skeletal Proportions in Three Accipiters by R. W. Storer is incorrectly attributed to J. H. Storer. In general the recent literature is well reviewed, though I was surprised to see no mention of the studies of D. B. O. Savile. At a time of increasing costs and declining production quality, this book is very well made and well worth the price.—ROBERT J. RAIKOW.

Wilson Bull., 90(4), 1978, pp. 661-662

THE HEN HARRIER. By Donald Watson. T. and A. D. Poyser, Berkhamstead, England, 1977: 299 pp., 4 color plates, numerous drawings, 15 text figs., 4 appendices, 30 tables. About \$13.25.—This book is obviously the labor of love of one who has been infatuated with, and spent many hours in the field studying *Circus cyaneus*. I enjoyed reading the book, probably because of its largely informal, anecdotal style, but as a scientist I often became impatient in seeking real data in the meandering narrative.

The book is organized into 3 parts, of which only the last 2 are numbered. Part 0 includes an introduction and 2 chapters, 1 on the harriers of the world, and 1 on plumages and identification. The first chapter is peculiar in a book on the Hen Harrier and was presumably included so the author could include his observations on the Pied Harrier in Burma, while he served with the military. This chapter has a number of defects, and the serious reader might best skip it and not be put off from reading later chapters which contain carefully gathered, and presented, information. I am not familiar with all the details of the geographic distribution of the various species of harriers but the range maps of *C. buffoni* and *C. cinereus* are clearly totally confused with each other. The erroneous maps apparently led the author to state that *C. buffoni* is the only harrier to breed north and south of the equator (except for *C. aeruginosus*). *C. cinereus* also breeds on both sides of the equator. Page 21 is an atrocious black and white plate showing males, females and "immatures" of 10 species of harriers, with each illustration so tiny as to show virtually none of the characteristics of the species. There are separate illustrations of the European and American *C. cyaneus*, which differ little, and only the European form of *C. aeruginosus*, from which the Australasian race differs enormously.

The chapter on identification fails to convey, to the non-expert, the difficulty of identifying the European Harriers. In contrast, the 4 pages on albinism and melanism, listing every British specimen, seem excessive. In the absence of known-age birds, I remain unconvinced that male Hen Harriers become lighter in color each year. Individual variation seems as reasonable an explanation.

Part I is entitled "The Hen Harrier" and includes 6 chapters. The history of the species in Britain and Ireland is covered in an almost excessively scholarly, but enjoyable, manner. The bird appears first in a poem by Dunbar in 1504, and the first scientific description appeared in 1544. It was not until 1684 that the male and female were recognized as belonging to the same species, and it was not until 1802 that Montagu described *C. pygarrus* as distinct from *C. cyaneus*. Maps of the breeding distribution of

the Hen Harrier in the British Isles are presented for a sampling of years between 1875–1975. The species declined dramatically between 1825 and 1865, virtually disappeared by 1900, reappeared in 1946 and showed a steady increase in breeding range through 1975.

Chapter 4 deals with hunting methods, prey selection, and food habits. Many readers will be surprised to find that the diet of Hen Harriers is 96% birds during the breeding season. My only quibble with this chapter is the number of anecdotes indicating that the Hen Harrier will pursue flying birds. In my experience, Harriers, more so than any other hawk, will rarely pursue a flying bird; if prey birds cannot be taken by surprise, they are ignored. Chapters 5 and 6 do a good job on the breeding cycle, from courtship through fledging. The author suggests that pairs with at least one adult that is aggressive to human intruders are more successful in rearing young; he fails to note that this difference is not statistically significant (chi-square, $p > 0.15$). Similarly, he suggests that birds nesting in young conifer plantations are less aggressive than those nesting in moorland, and again my statistical analysis fails to support this ($p > 0.11$). The only mention of statistics in the book is a statement that the sex ratios of nestlings and of fledglings do not differ from unity, yet here the differences come very close to significance ($p > 0.05 < 0.06$). The female-dominated sex ratio may be a factor in producing the occasional to frequent polygyny found in this species; this possibility is not discussed adequately.

Chapter 7, Migration and Winter Distribution, is notable for its analysis of all British banding recoveries. The brief and peculiar Chapter 8 identifies the author as an artist as well as a biologist. I enjoyed it, as I enjoyed and admired most of the black and white vignettes aesthetically scattered through the text. In my opinion, the few color plates are, by comparison, lacking, except those of nestlings which have a certain poignancy.

Part II contains 11 chapters, of which the first 10 deal with the author's personal experiences with the species in southwest Scotland. This could have been a book in itself. Included in this volume, it is often no more than a repetition and expansion of Part I; I wish that they had been combined. This part does convey, vividly, the excitement of field study, and its trials and tribulations.

A map of the study areas would have helped me keep my mind straight between accounts of area A and area K, etc.; perhaps concern for the safety of the birds kept the author from including even a large-scale map. Chapter 19, on winter roosts, is excellent. The last chapter, appealing for conservation of this controversial species (in Britain), is well done. The very civilized Britons, who criticize the Italians and French for shooting and eating songbirds, might do well to expend their ire on their countrymen who shoot driven Red Grouse, resulting in an industry which persecutes avian predators with a ferocity unequaled on this planet—and then they don't even eat the hawks.

Thirty tables are "conveniently" grouped at the end of the book. I found this luxury quite annoying while reading the book. The bibliography, although not extensive, seems to include most, if not all, the significant references on *C. cyaneus*, including those published in other languages. Page numbers are not given for citations from journals; this minor and thoughtless omission will be at least an inconvenience to anyone attempting to obtain a reference.

The book is a good review of Hen Harrier biology, contains considerable original information collected by the author and other unpublished data which he managed to obtain from other workers. It is an excellent and thorough work and it belongs on the bookshelf of every raptor enthusiast, professional or amateur.—HELMUT C. MUELLER.

Wilson Bull., 90(4), 1978, p. 663

BIRDS OF SOUTHEASTERN MICHIGAN AND SOUTHWESTERN ONTARIO. By Alice H. Kelley, Cranbrook Institute of Science, Bloomfield Hills, Michigan, 1978: 99 pp., 1 map, paper cover. \$2.95.—This is a survey of the relative abundance, migration patterns, breeding status, and habitats of 337 species surveyed between 1945 and 1974. The area covered includes Lambton, Kent, and Essex counties in Ontario, and St. Clair, Macomb, Oakland, Wayne, and Monroe counties in Michigan.—R.J.R.

Wilson Bull., 90(4), 1978, p. 663

WILD GEESE. By M. A. Ogilvie. Buteo Books, Vermillion, S.D., 1978: 350 pp. \$25.00.—This book is certain to become a significant element of all waterfowl biologists' libraries for it pulls together more information on the biology of the world's 28 spp. of geese than can be found in any other reference work. Persons seeking information on goose biology including classification, ecology, reproduction, distribution, conservation, etc. now have a single work to use as a starting point. The book is not strong in its coverage of behavior. Usefulness of the book is tempered by overgeneralizations from species to species, and by lack of an adequate table of contents.

The state of goose literature has resulted in unequal species coverage with North American species strong on breeding biology while coverage of European species emphasizes winter biology. Asian species are poorly known in general. The author made a serious mistake in practically omitting coverage of the Hawaiian Goose (*Branta sandvicensis*), which he justified because of its uniqueness and a forthcoming monograph. I was disappointed that a more up to date review of Lesser Snow Goose (*Chen caerulescens*) biology was not included.

The book includes 16 color plates and numerous line drawings by Carol Ogilvie. Thirteen plates designed to aid identification of adult and immature geese are adequate but do not meet contemporary standards for ornithological illustration. The plate of downy young is poor. One additional plate dealing with aging/sexing is very useful. Pen and ink drawings lighten reading but do little to enhance the value of the book.

All in all this book will be a valuable addition to the library of waterfowl biologists and serious students of wild fowl. Its limited discussion of how our knowledge of geese relates to ornithology or science in general hamper its value. Nevertheless, Ogilvie has performed a valuable service in tackling a review of a group as large and complex as the geese of the world.—LEWIS W. ORING.

Wilson Bull., 90(4), 1978, pp. 663-665

LORIES AND LORIKEETS. By Rosemary Low. Van Nostrand Reinhold Co., New York, 1977: 180 pp., 21 color plates, 1 table. \$18.95.—Rosemary Low has not only provided a thorough and scholarly account of this subfamily of parrots, but has successfully bridged the gap between the interests of the aviculturist and the ornithologist. Her approach is particularly well suited to this group of birds, since much of what is known of their behavior and natural history has been provided by aviculturists. There is a paucity of field studies on lories, but because of their extraordinary beauty and entertaining dis-

positions, they have long been fancied by people who "keep parrots." Thus the information in this book has come largely from her own experience or from records kept by other aviculturists over the last hundred years or so.

Six introductory chapters deal with the various general aspects of accommodation, feeding, and breeding of lorries as well as their classification and natural history. Lest one be tempted to immediately rush out and buy some of these exquisite birds, Low cautions repeatedly regarding problems involved in their feeding and housing which are not encountered with other parrots. Her chapter on hand-rearing is an excellent summary of the various successful methods of carrying out this task. Several basic diets are discussed along with the techniques of administering them. In the chapter on their natural history an overview of the distribution, habitat preferences, and behavior of lorries is given. Particular attention is given to what these parrots eat and how they ingest it. Low cites recent studies which indicate that this group, long believed to be nectar feeders, actually feed primarily on pollen, and their distinctive tongue is adapted for this end.

The author proceeds from this general account of the family to a discussion of each genus, species, and subspecies. Her classification follows that of Forshaw, except where she has indicated otherwise. No comment is made on his division of the order into three families, but apparently she does not follow this, since later she refers to the lorries as belonging to the family Psittacidae. Although she has not attempted to resolve any systematic squabbles, Low does cite different points of view, where they exist. For example, it is almost certain that no one will ever really know how many subspecies of *Trichoglossus haematodus* exist. Low has done a fine job of presenting all the available information on the matter, and at the end of the chapter on *Trichoglossus*, has organized it into a table. Correct or not, she succeeds in putting some order into what has always been regarded as one of the messiest problems in parrot systematics.

The book contains relatively few plates, but the descriptions of each form are detailed and well presented. Low has noted cases of even slight sexual dimorphism. Wherever possible, descriptions of immature birds are also given. One would probably have no difficulty in identifying any lory from these accounts, and the book will be held as a standard work for this, if for no other reason. General distributions are given along with altitude and habitat preferences. On the inside of the front cover is an outline map of Australia, Southeast Asia, and surrounding Pacific islands, with numbered localities. On the inside of the back cover is a list of these numbers and their corresponding localities. Beneath each locality are listed the lorries which have been found there.

Low provides an extensive account of the avicultural history of each form described. When and by whom the bird was first imported, its price, and its present status in aviculture are recorded. Descriptions of behavior, particularly courtship displays and vocalizations, are given at an amateur's level, but make interesting reading. Likewise, the occasional anecdotes are not so "petsy" that they would be likely to bore the purely scientific reader.

Breeding records are discussed in detail, particularly for the rarer species. Precise descriptions of the enclosures provided are given. Dates, climate preferences, clutch sizes, incubation periods, appearance of the young, and successful diets have all been included. In short, Low seems to have brought together any available information which would help one intending to breed the particular bird.

At a time when there is an increasing awareness of extinctions due to human encroachment, aviculture can no longer be considered only a hobby. People who are inclined

to keep pet birds should, if possible, attempt to breed them, and keep accurate records in doing so. Older works intended for use by parrot fanciers are heavily laced with charming anecdotes and contain little information of use to the present-day breeder. On the other hand, more recent presentations such as Forshaw (1973) lean toward the ornithologist's point of view, dealing more with systematics and natural history than with practical pointers on breeding the birds in captivity. Low has taken a different direction and added a different dimension to previous accounts of lories and lorikeets.

I believe that this book will take a place among other standard works on parrots and I recommend it highly to anyone interested in the group, whatever be his reasons.—
SUSAN L. BERMAN.

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THE ADVENTURE OF BIRDS. By Charlton Ogburn, illus. by Matthew Kalmenoff. William Morrow and Company, Inc., New York, 1976: 381 pp. \$10.95.—Charlton Ogburn confesses that he has always had great admiration for the "qualities" of the kingbird. He finds that it "shows itself without restraint," has energy that "brims over," and inevitably favors a perch "from which it can command the scene" (p. 142). Ogburn indulges in considerable speculation about similarities between avian and human behavior; perhaps it is fitting, then, that his book displays the traits he imputes to one of his favorite birds. *The Adventure of Birds* exhibits an unrestrained and effusive prose style that often relies upon (self-acknowledged) clichés; it conveys the author's boundless enthusiasm for his panoramic subject: birds in general.

This is a hybrid work, that tries to provide general information about birds, and in addition describes a personal philosophy about the pleasures of watching them. Ogburn is least successful in the first half of the book, "A World of Birds," where he tries to combine his eclectic, digressive tone with a textbook exposition on basic features of avian physiology and behavior; he devotes much of this space to summarizing and quoting at length from a small core of standard references, for example Welty's *The Life of Birds*. The information provided might be useful for a novice unaware of other sources. Because the organization of Ogburn's book is idiosyncratic, many of the textual divisions seem intrusive; the headings read too much like predictable choices for headings in a book that has been written many times before: "The Domain of Birds," "The Divisions of the Avian Treasure," "Birds of Our Cultural Homeland," etc. The second half of the book, "Birds Through the Year" is more successful, probably because Ogburn is not trying to describe what a bird is, and concentrates on transmitting to the reader the experience of birding, or simply being aware of birds through the different seasons. It is difficult not to appreciate the intensity of the author's absorption, especially if the reader shares it, even remotely. Clearly, it is not fair to criticize Ogburn for not writing a more "ornithological" work; he admits at the start that he is an "ornithophile" and can well imagine what the reaction of an ornithologist might be to his lavishly subjective approach, and the baffling title of his book. Its appeal may be limited to those who enjoy energetic paeans to nature, and a great many asides of a personal character. But instead of simply classifying Ogburn's book as part of a genre aimed at a specific audience, it may be instructive to examine it more critically as a specimen of "nature-writing."

Even consciously admitted indulgence has its dangers. Discussions of evolutionary processes are couched in anthropomorphic terms, for example, "Nature discovered"

and "Nature picked." This phraseology is used by an author who "knows better," but it is unfortunate that it is so common in books such as these, that try to be informative as well as personal, and are most likely to be read by the general public. The facile psychologizing often "permitted" in such writing leads to embarrassing and awkward analogies: "A Catbird from whose pillaged nest I once yanked a Black Snake broke into hurried song, as a Japanese, in a situation of tragedy, expressions of suffering blocked by a syndrome, may smile" (p. 101). Ogburn asserts that the creativity of humans and birds alike is "spurred by the exhilarations that spring from asserting one's being against the odds . . ." (p. 127). He speculates about the differences in "drive" between various types of birds, and goes on to tell us, "it does seem that some human stocks, or social groups, and individuals do better than others at meeting new and challenging situations and are more aggressive" (p. 141). In speaking of bird territoriality, Ogburn provides us with an insight into his own political view of nature. A bird defending its territory is a "communicant of the Universal" and "dispatches the enemies of the rightful order—he, the warrior, the elect," who is "possessed by the spirit" (p. 147). Citing sociobiological theory, Ogburn remarks that a human's territorial impulse "would appear to be in his blood, and I cannot see that it has been much diluted, if any" (p. 151). There are even more facile ruminations: "It may be that the great apes, second only to man in intelligence, have made so little of their opportunities on earth, because like some human tribes and many, if not most, human individuals, they lack the need for exotic fulfillments" (p. 188).

What is Ogburn's ultimate message? In a bird's cry, he finds something that is elusive: "If it is not in the bird itself, a rendering—largely unconscious, admittedly—of what is in the very plasma of life, derived from who knows where, then, to me, it is a quality of the cosmos of which the bird is the—again, largely unconscious—agency of expression" (p. 368). Like many nature-writers, he harbors the almost religious hope that there will always be more to the natural world than we can comprehend. By trying to be panoramically informative and anecdotal at the same time, Ogburn has exhibited some of the pitfalls of the genre he has chosen. Perhaps there is a slimmer volume hidden within this one, that, being more modest in scope, would have been more successful.—KATHLEEN E. DUFFIN.

Wilson Bull., 90(4), 1978, pp. 666–667

THE BIRDS OF MALAWI. By C. W. Benson and F. M. Benson. Sponsored by D. W. K. Macpherson and printed by the Mountfort Press, Limbe, Malaŵi, 1977: 263 pp., 1 color plate, 1 map, soft covers. Obtainable from Hon. Secretary, National Fauna Preservation Society of Malaŵi, P.O. Box 5135, Limbe, Malaŵi, for Kwachas 5.00 (\$7.00) surface mail (transit as much as six months) or K 8.15 (\$11.40) air mail.—The Bensons have written a scholarly and useful list of birds of Malaŵi, an easily visited African country with little-visited national parks, a large Rift Valley lake, and 620 species of birds. The scope of the book is like that of *The Birds of Zambia* by Benson et al. The text gives a systematic list of species, with notes on local distribution, habitat, food, resident or migratory status, dates of breeding, clutch size, and numbers to published references. The previous list of birds for this area, *A Check List of the Birds of Nyasaland*, was published in 1953 by C. W. Benson, and the present book brings our knowledge of the birds up to date. Few species have been added to the list since that time, but considerable

field work by Benson and others in Malaŵi and its neighboring countries has contributed to the comments on the ecology of the species.

An introduction explains the abbreviated style of the sections on breeding and the references, and it describes the habitats found in Malaŵi. Breeding data are fewer than for Zambia, and the authors often refer to breeding dates of Zambia or Rhodesia. The species accounts point out room for future field studies on ecological differences among related species and on some surprising apparent gaps in knowledge of basic breeding biology. No local nestings are known of several *Egretta* species (including Cattle Egret) or of *Ardeola ralloides*, all widespread African herons. The detail and attention given each species match that of the companion Zambian book. Appendices include notes on museum collections of birds of Malaŵi (more than 16,000 specimens), useful particularly as 71 species and subspecies of birds were first described from Malaŵi. A gazetteer of localities, together with a synonymy of the changing place names, and a map, helps the reader locate places mentioned in the text. An appendix of 10 pages gives distributional and other notes on certain species. G. Harrison adds a section on recoveries of ringed birds, with only one bird ringed in Malaŵi recovered abroad, 6 species ringed in other countries and recovered in Malaŵi, and 5 Palearctic migrants and one intra-African migrant retrapped at the same locality in successive nonbreeding seasons (these last by D. B. Hanmer). An index is included to both scientific and English names of species. F. M. Benson has painted an attractive color plate of the White-winged Apalis (*Apalis chariessa macphersoni*), one of the birds whose distribution is restricted in Malaŵi to forest habitat.

The Bensons have written a thorough book on the distribution of the birds of Malaŵi, and may we hope that the book helps promote an appreciation of the remarkable diversity of life of that country.—ROBERT B. PAYNE.

Wilson Bull., 90(4), 1978, pp. 667–668

ROBERTS BIRDS OF SOUTH AFRICA. Fourth Edition. By G. R. McLachlan and R. Liversidge. Trustees of the John Voelcker Bird Book Fund, 5 Church Square, Cape Town, South Africa: xxxii and 660 pp., 72 color plates, numerous marginal sketches and distributional maps. South African Rand 12 (about \$15).—The publication of Austin Roberts' *Birds of South Africa* in 1940 established the landmark for handbooks of African birds. Since that time others have been published, but none have matched the combination of fine color plates, concise format, and informative text. The present edition of Roberts differs from the third, published in 1970, by a complete rearrangement of color plates, a picturing in color of nearly all southern African birds, and an updating of the species accounts and local distribution.

The text includes for each species names (scientific, English, Afrikaans, and sometimes local African), identification marks, comparison with similar species, distribution in southern Africa (here, South-West Africa and the entire area south of the Zambezi River), habitat, behavior, food, voice, and breeding, including nest, eggs, breeding season, and incubation and fledging times. Subspecies occurring within southern Africa are described briefly. For most species the accounts are identical to those of the previous edition, but are new for species included since that time. These accounts give useful and reliable information about the natural history of the species, and the new Roberts should serve well in pointing out what basic information is lacking.

The major change from earlier editions is in the illustrations. Most of the color plates