ORNITHOLOGICAL LITERATURE

A NEW DICTIONARY OF BIRDS. Edited by Sir A. Landsborough Thomson. Thomas Nelson & Sons Limited, London, and McGraw-Hill Book Company, New York, 1964: 7¾ × 10¼ in., 928 pp., 17 col. pls., and 31 photos by various artists and photographers, numerous line drawings. $17.50.

Reviewing an encyclopedia, which this work is in spite of its name, is quite a different matter from reviewing a book or paper concerning a single topic. In the former instance the reviewer can make no pretense of having read the entire work, but must base his appraisal on selected subjects in which he has special competence or about which he seeks information. Because of this, a review of an encyclopedia becomes highly personal and subjective. I have had this book on my desk for six months, using it almost daily as a reference, purposely delaying a review until I felt I knew it well enough to appraise it from the viewpoint of my particular needs.

The first introductory section of the book is a "List of Major Articles on General Subjects" arranged under broad headings, e.g., "form and function," and further subdivided into more specific sections, e.g., "facies and integument." This is of value to one wishing an introduction to, or a review of, a given field and is particularly handy for the instructor who may assign selected topics to supplement an ornithology textbook.

The second section is "A List of Major Articles on Bird Groups" arranged by orders and families. A dual function is served in that the list is also a convenient summary of the classification adopted, which is basically that of Peters' "Check-list of Birds of the World."

A list of plates, a list of the contributors with their titles, academic degrees, and professional positions (a rather pretentious display to the American eye), and finally an editorial introduction, defining the aims and scope of the volume, conclude the preliminary material.

The bulk of the book consists of a series of clearly written articles of wide range and varying lengths, thoroughness, and scientific quality, arranged alphabetically, starting with "abdomen" and ending with "zygomatic arch." Detailed accounts of species, or broader taxa, are presented under their English vernacular names, but cross-references from the Latin names are given. For example, if one looks up "Prunellidae" he finds "Prunellidae: a family of the Passeriformes, suborder Oscines (see Accentor)."

The subject matter is not confined to these topics obviously avian in character, but extends to areas bearing on the entire field of ornithology and even to those areas well apart and perhaps unnecessary to include in a book of this nature. For instance, there is an excellent four-and-one-half page article on "statistical significance," a rather loosely conceived account of "vegetation" (including climate and physiography), and even a brief definition of "taiga." Cross-references abound, e.g., "siege: see assembly, noun of" and "aspergillosis: see disease."

An index to generic names used in the body of the book and conversion tables for the British and metric systems conclude the volume.

The plates have been judiciously chosen to illustrate specific topics, which is a pleasant departure from most ornithological books where they are so often used for their decorative value. The many line drawings, for the most part, also serve useful purposes.

There is no doubt that "A New Dictionary of Birds" is one of the most important and useful ornithological publications of recent decades; there is no other single source of information of such breadth. It is also nearly as certain that because the field of ornithol-

ogy is expanding with such rapidity it never again will be possible to attempt a similar work.

The sheer magnitude of this book is its greatest virtue, but by the same token it is inevitable that some areas of ornithology have been slighted, overlooked, or emphasized beyond their importance. Probably no person could have done a more competent job than A. Landsborough Thomson in laying the framework for this mammoth undertaking, in securing the cooperation of the 200 collaborators, in writing many articles, and in collating the resulting mass of information. Because this is apparently the best result that one could expect, there is a hollow ring to criticisms, which are so easily made of any large undertaking. Anyone with a little perseverance can readily discover discrepancies and also subjects which have been omitted or are all but lost because they have not been cross-indexed. The editor has invited (p. 35) the reader to supply him with corrections and suggested additions for inclusion in any subsequent lists of corrigenda and addenda. It is hoped that these supplements can be published, for they would enhance this already invaluable book.—RAYMOND A. PAYNTER, JR.

THE BIRDS OF THE PALEARCTIC FAUNA. Non-Passeriformes. By Charles Vaurie. H. F. & G. Witherby, London, 1965: 10 × 7¼ in., xx + 763 pp. $20.00.

Readers of novels and aficionados of the cinema are well aware of the "sequel" phenomenon; the second attempt of a writer or director seldom manages to maintain the standard of the first, especially if that first was a universally acclaimed and brilliant feat. This phenomenon may be found in scientific publications, too, and some of us who were so enthusiastic about the first volume of Dr. Vaurie's check-list find that the second, covering the non-passeriform birds, does not fully match the high quality of its predecessor. Perhaps this is inevitable.

It must be stated at once that most of the features of Dr. Vaurie's first volume which were singled out for praise (see 1959. *Wilson Bull.*, 71:286–288) are present in the second as well; for example, the treatment of geographic variation, subspecies and synonymy, and the authoritative information on distribution, especially in the eastern Palearctic. Careful study of the second volume suggests, however, that Dr. Vaurie, having devoted over a decade of his life to this project, may have become just a little tired of it. There are more minor errors, typographical and otherwise, than in the first volume; pertinent references have been overlooked; and the thorough revisionary treatment given to virtually every genus of Palearctic passerine was not applied with equal thoroughness to the non-passerines. Any taxonomist can be sympathetic with Dr. Vaurie's preference for working with specimens of songbirds rather than with large water birds, but I regret that certain families and genera, for which new revisions are badly needed, were passed over rather quickly.

The difference in the amount of revisionary work done in preparation for the two volumes may be ascertained from a comparison of the series of papers collectively entitled "Systematic Notes on Palearctic Birds" which appeared in *American Museum Novitates*. Prior to the publication of the first volume, 33 such papers on passerine birds appeared. Only 20 were published on the non-passerines, and these covered only 25 genera of 13 families (of the 47 families admitted by Vaurie). Detailed attention was given to the birds of prey, pigeons, woodpeckers, nightjars, a few plovers, and a few other miscellaneous species. This is not to say that no other groups were studied in preparation for the book. The text abounds with taxonomic discussions and footnotes. The advantage of the Systematic Notes, however, was that Dr. Vaurie had sufficient space

to explain the reasoning behind his taxonomic decisions, and often to present tables and range maps, space simply not available in the book itself.

Dr. Vaurie's taxonomic discussions, both in the Systematic Notes and in the book itself, are confined almost exclusively to the specific and subspecific levels. This is unfortunate, since his generic treatment is uneven, and he seldom if ever indicates whether the generic classification is his own, based on personal study of generic characters, or whether he is accepting on faith the work of an (unnamed) earlier authority. Among the plovers, for instance, he apparently follows Bock (1958. *Bull. Mus. Comp. Zool.*, 118:27–97), as he combines *Squatarola* into *Pluvialis*, but keeps the latter and *Eudromias* as distinct from *Charadrius*; the A.O.U. Check-list recognizes all four genera, while the B.O.U. Check-list calls them all *Charadrius*. Vaurie also followed Bock in combining all "lapwings" into the single genus *Vanellus*, but added a footnote (p. 390) to the effect that recent studies indicate that at least one of the suppressed genera of lapwings, *Hoplopterus*, may be distinct. In contrast to this sketchy treatment of the generic classification of plovers, Vaurie analyzes in detail Bock's taxonomic proposals at the specific and subspecific levels (1964. *Amer. Mus. Novit.* No. 2177).

Other examples of Vaurie's generic classifications which might well have merited discussion, or at least citation to an authoritative generic revision, are: the shearwaters, for which both *Procellaria* and *Puffinus* are recognized (see 1965. *Ibis*, 107:403); the crakes, with both *Poliolimnas* and *Coturnicops* being combined into *Porzana*; the herons, in which some but not all of the "lumpings" proposed by Bock (1956. *Amer. Mus. Novit.* No. 1779) are followed; and the family Laridae in general.

Many more of the birds in the present volume have Holarctic distributions than in the volume on passerines. Vaurie's excellent command of the literature of Palearctic birds does not extend to that on Holarctic or primarily Nearctic birds. In a number of instances, he omits important pertinent references, or cites older papers when more recent and more complete studies are available. Among the references which might well have been cited (and, in some cases, followed) are: Cooch and Beardmore (1959. *Nature*, 183: 1833–1834) and Cooch (1961. *Auk*, 78:72–89) on the Blue-Snow Goose complex (the breeding range given by Vaurie is inaccurate); Todd (1950. *Condor*, 52:63–68) on the White-fronted Goose; Todd (1953. *J. Washington Acad. Sci.*, 43:85–88) on the Dunlin; and Tuck (1960. "The Murres," Ottawa) on the genus *Uria*.

Article 32c (i) of the *International Code of Zoological Nomenclature* (1961) requires the abandonment of hyphens and diacritical marks in scientific names. Dr. Vaurie ignores this dictum (cf. *Meliërax, Hirund-apus)*, and I confess I share his reluctance to omit the hyphen in a name like *semenow-tianschanskii* (p. 263)!

A few points on taxonomy and distribution may be mentioned here in systematic sequence. (1) Dr. Vaurie considers *Ixobrychus sinensis* to be monotypic, synonymizing all of the proposed subspecies without any comment whatsoever; having examined the material of the Chinese Least Bittern in the American Museum of Natural History, I find myself questioning not the validity of the taxonomic treatment, but whether Dr. Vaurie based his decision on a fresh examination of this species, and if not, the authority followed in this "lumping." (2) Dr. Vaurie should know that the Glossy Ibis breeds north to Long Island, New York. (3) Although the synonymy in this volume supposedly includes all post-Hartert names, Vaurie missed *Eubranta* Verheyen (1955. *Bull. Inst. Roy. Sci. Nat. Belgique*, 31: no. 6:9. No type species given; type species designated as *Anas leucopsis* Bechstein by Parkes, 1958. *Ann. Carnegie Mus.*, 35:119). (4) The Mandarin Duck is introduced and well established in England. (5) Dr. Vaurie follows Todd and Friedmann in denying nomenclatorial recognition to a population of gyrfalcons recog-

nizable only in juvenal plumage; on the other hand, see Phillips and Dickerman (1965. *Wilson Bull.*, 77:298–299) for a discussion of the principle involved in such cases. (6) Vaurie follows Delacour in dividing the pheasants of the genus *Phasianus* into two "species," *colchicus* and *torquatus*, separated only by the color of adult males. On Delacour's own evidence (1951. "The Pheasants of the World":231), this is a division based on convenience, not on biology. (7) I know of no basis for Vaurie's inclusion of the Mariana Islands in the range of *Asio flammeus ponapensis*, which appears to be known with certainty only from Ponape in the eastern Carolines (see Baker, 1951. *Univ. Kansas Publ., Mus. Nat. Hist.*, 3:218–219).

Minor errors are somewhat more common in the second volume than in the first. In addition to several obvious typographical errors, I note the following: p. 486, footnote, "Matibac" for Mabitac; p. 686, the reference to the Lack paper should be under the family Apodidae, not under the genus *Collocalia*.

A few physical changes have been made in the production of the second volume. It is sturdier than volume 1; the binding is slightly heavier, as is the paper, making the entire book rather thicker, although there are only a few more pages. In my earlier review, I praised the "light-weight but strong and opaque paper" used in the first volume. It appears that I was overenthusiastic. The paper was not completely opaque, and some people apparently found objectionable the slight showing-through of print. More serious is the fact that, in two copies of Volume 1 at hand, the edges of the paper have already begun to yellow slightly. Let us hope that the paper in Volume 2 is more permanent as well as more opaque.

In my review of Dr. Vaurie's first volume, I listed differences between his treatment of classification and nomenclature and that of the A.O.U. Check-list, for species appearing in both lists. Such a compilation for volume 2 would be far too lengthy to print here; I counted 19 differences by the time I reached the geese and swans, and gave up. Interested readers of *The Wilson Bulletin* can make their own comparisons.

I must now fall back on one of the oldest clichés of book reviewing, and also must defy one of the rules of the game. How many ways have reviewers found to say, "In spite of my criticism of minor points above, I wish to re-emphasize the importance of this fine contribution to our basic literature"? Dr. Vaurie may well be proud of his two volumes, which will constitute a major reference work for many years to come. On the other hand, the reviewer is *never* supposed to review the book the author *didn't* write. But this reviewer will continue to regret that Dr. Vaurie did not see fit to give his thorough and thoughtful revisionary treatments to more groups of non-passerines. While this has resulted in a volume with some shortcomings, my regret should be construed primarily as a compliment to Dr. Vaurie's work!—Kenneth C. Parkes.

Ecology and Bioenergetics of the Long-billed Marsh Wren in Georgia Salt Marshes. By Herbert W. Kale, II. Publ. Nuttall Ornithological Club, No. 5, 1965: 9×6 in., 142 pp., including 22 figures and 61 tables. $4.00 postpaid.

Incorporated here are the results of four years' fieldwork (1958–61) and two years' laboratory studies (1962–63), leading first to an M.S. thesis and ultimately to the Ph.D. dissertation. The advantages of such a continued study are abundantly evident in the remarkable scope of the investigation. While many diverse areas have been brought to focus on one basic problem—the bioenergetics of this wren population—no major part of the study was irrelevant. The presentation is logically divided into three basic sections: (1) breeding biology, (2) population ecology, and (3) population bioenergetics.

A discussion and summary conclude the text material. Twenty of 61 tables are included in three appendices, followed finally by all figures at the end of the book.

Kale deals very concisely with the breeding biology of the Sapelo Island population, drawing useful comparisons and contrasts from extensive studies in other populations. The brevity of this section clearly reflects its peripheral relationship to the central investigation. The section on population ecology treats territory size, natality, mortality, nesting success, fledgling productivity, turnover rate, and density. By setting up sample study areas and determining mean territory size, comparing the ratio of occupied to available habitat (utilizing aerial photographs), and characterizing the mating system (4 per cent of males bachelor, 91 per cent monogamous, 5 per cent bigamous), Kale was able to estimate the total number of breeding pairs in the entire marsh. Determinations of clutch size and mortality provided information on reproductive success from which, in combination with the size of the breeding population, annual wren production, and turnover rate were derived.

Estimates of population density are expressed in terms of ecological density (birds per unit of suitable habitat) and occupied area density (birds per unit of defended territory). Ecological density was on the order of 20 pairs per acre, while occupied area density was near 43 pairs per acre. Kale interprets this difference as indicative of an unsaturated wren habitat; more will be said of this conclusion below.

In the section dealing with bioenergetics, Kale presents determinations of energy content and wet, dry, and ash weights of all marsh wren tissue, including adults of both sexes during different seasons of the year, fledglings, and various age-classes of eggs and nestlings.

A number of hand-reared captives were used to calculate energy consumption in two ways. The first involved measurements of gross food intake under known conditions of temperature and photoperiod. Knowledge of the energy content of the food supplied permitted calculation of gross energy intake (11.6 kcal/day); and assessment of unassimilated energy (fecal—2.7 kcal/day) led to determination of net energy consumption (8.9 kcal/day) and assimilation efficiency (76 per cent) under experimental conditions. In a separate series of tests, Kale measured oxygen consumption of the wrens and from this calculated that an average individual utilized on the order of 8.8 kcal/day—strikingly close to the estimate based on measurement of food intake. Mean gross energy intake for the population as a whole was estimated at 351 gcal/m^2–day, while mean respiratory energy flow was 242 gcal/m^2–day. Mean annual production was estimated at 457 gcal/m^2–year.

The next phase involved an analysis of the wren's diet, its energy content, and its abundance in the habitat. Stomach contents of 195 individuals taken at all times of the year were analyzed and identified at least to family and in several cases to species. By volume, insects comprised 82.2 per cent of the total sample, spiders comprised 11.6 per cent, other arthropods 2.0 per cent, and molluscs 3.6 per cent. Among adult insects identified, seven orders and at least 16 families were represented; eggs and larvae were taken as well. The whole pattern is very much that of a food generalist, the wren being an important predator of various insects that feed on the marsh vegetation and upon other insects and spiders that are themselves predators of the same range of herbivorous insects.

Measurement of available food supply was effected primarily by collecting 10 one-square-meter quadrat bag samples and examining all the invertebrate fauna taken. These samples were taken on 10 different days, between 4 March and 4 August, from both streamside and levee situations. In addition, removal sweep samples provided incomplete

measures of the density of flying forms. These data indicated a mean density of 300 mgm (dry)/m^2; analyses of caloric content indicate about 1,500 gcal/m^2.

The text is refreshingly free of typographical errors; there are, however, the usual minutiae that reviewers seem to delight in correcting or criticizing. For example, "Kcal/gm" (p. 44, line 39) should read "Kcal/day"; "CO_2" (p. 52, line 2 below the table) should read "O_2"; and "Density per square meter" (p. 45, Table 22) should be "Birds per square meter." Kluyver (as it appears on the original publications) has been misspelled in every instance (p. 1, line 26; p. 69, line 14; p. 70, line 31; and in all citations in the bibliography). "Table" (p. 44, line 21) should be "Tables." The word, "data," is the plural of "datum" and as such requires plural verbs ("include" instead of "includes," p. 14, line 22) and modifiers ("those" instead of "that," p. 27, line 19).

From observations of ecological density and utilized area density, Kale concludes that the Sapelo Island wren habitat is not saturated. At the same time, however, his estimates of the rate of energy consumption suggest that an average wren family consumes on the order of "19% of the estimated mean standing crop of insects and spiders" within the territory daily! This clearly represents an extremely high rate of predation on available food supplies within territories, and Kale suggests that movement of insects from unoccupied locations may significantly augment the food supply. At best, this clouds the apparent significance of the relationship between the two density measures. Kale is justifiably cautious in reaching a decision relative to the role of food supply as a factor controlling population size, particularly in view of the fact that estimates of the food supply were based on only 10 bag samples collected on 10 different days over a five-month period. Furthermore, it is not clear if these samples came from occupied or unoccupied portions of the marsh.

Kale asserts that the combination of territorial and colonial behavior apparently prevents overexploitation of the food supply, a conclusion that seems inconsistent. In the first place it implies that these phenomena together limit population size, since this will determine whether or not the food supply is overexploited. By Kale's own admission, we see it is not possible at this point to determine the precise relationship between population size and food supply. In the second place, if, as Kale suggests, the available habitat is not saturated, it seems unlikely that territorial and colonial behavior together could prevent additional individuals from occupying the remaining suitable portions if there were more birds seeking territories. And finally, this suggestion refers to an intrinsic mechanism of population regulation that keeps the population well within the limits of environmental requisites. This implies natural selection at the level of the population, a concept which I find untenable.

In my opinion, the most serious shortcoming of this publication is the extent of redundancy in tabular and figured material. Just a few of the many instances in which this occurred are cited here: Figure 21 presents graphically the same data on food organisms that are provided in Table 35. Table 42 provides an individual breakdown of the measurements of different males' territories, when these results have been summarized and statistically analyzed in Table 4; Table 5 repeats part of the information provided by Table 4; and Figure 14 presents graphically the frequency distribution of different territory sizes. Many of the data on wing length, live weight, dry weight, etc., presented in Table 15 are repeated in Tables 43, 44, and 45. Several other instances of slight to extensive redundancy of material presented in two or more tables or in graphs could be cited. The net effect, at least on this reader, was frequent confusion in relating tabular, graphic, and text material. This might have been avoided with better organization of tables, including only those data critical to an understanding of the study.

The above criticisms are not intended as a general castigation of this publication; its merits far outweigh its weaknesses. In my opinion, it is a great credit to Dr. Kale that of all the various factors about which information was sought, only the measurement of available food supply seems to be significantly inadequate—and this is perhaps the most difficult aspect to deal with. The very complex integration of numerous facets of field and laboratory work reflects the thoroughness and foresight with which the study was executed. Every serious student of animal ecology should be acquainted with this book. Hopefully its tremendous scope will provide a model for future investigations.—JARED VERNER.

SPECIATION IN WRENS OF THE GENUS CAMPYLORHYNCHUS. By Robert K. Selander. University of California Publications in Zoology, Volume 74. University of California Press, Berkeley and Los Angeles, 1964: iv + 306 pp., 36 figures, 39 tables, 30 photos. $6.00.

Wrens of the genus *Campylorhynchus* occur in diverse habitats from the southwestern United States to southern South America. This is the first comprehensive review of the entire genus, and a welcome addition to the literature on avian taxonomy and evolution. The report is based on museum study of borrowed specimens, and specimens in the Museum of Vertebrate Zoology, many collected by the author and his co-workers, and on approximately six months of field studies in Mexico during 1952–54.

Selander recognizes 12 species of *Campylorhynchus* arranged in two species groups, the Heleodytes group and the Campylorhynchus group. The former is composed of six species, *rufinucha*, *griseus*, *jocosus*, *gularis*, *yucatanicus*, and *brunneicapillus*, the last four comprising a superspecies. The Campylorhynchus group also contains six species, *nuchalis*, *fasciatus*, *zonatus*, and *megalopterus* in the superspecies *zonatus*, and *turdinus* and *albo-brunneus* in the superspecies *turdinus*. The author had field experience with four species of the Heleodytes group and two species of the Campylorhynchus group. Since he nowhere treats these species in his taxonomic order, I so list them for the convenience of the reader: *brunneicapillus*, *jocosus*, *yucatanicus*, *gularis*, *rufinucha*, *griseus*, *zonatus*, *fasciatus*, *megalopterus*, *nuchalis*, *turdinus*, *albo-brunneus*. Those who agree with the results of Selander's analysis will favor this arrangement over that of Paynter in the "Check-list of Birds of the World" (1960. Vol. 9:379–386). Besides the difference in arrangement of species, Selander's treatment differs from Paynter's in: 1) tentatively assigning full species status to *C. albo-brunneus*; 2) recognizing *C. griseus pallidus*, *C. brunneicapillus anthonyi*, *C. zonatus panamensis*, and *C. turdinus chanchamayoensis* (all synonymized, though some questionably, by Paynter); and, 3) synonymizing *C. rufinucha castaneus* with *C. r. capistratus* and *C. brunneicapillus couesi* with *C. b. guttatus*.

The introductory portion of the paper contains important information on nostril structure, molts and plumages, cranial ossification, and iris color. These sections are especially significant in that they establish the means by which subadult birds can be aged. As an example, the species exhibit characteristic patterns of development of a fully ossified skull. The most rapid cranial ossification apparently occurs in *Campylorhynchus brunneicapillus*, in which complete ossification ensues within six months after the postjuvenal molt. At the opposite extreme is *C. griseus chiapensis*, in which two-year-old and probably older birds may still have incompletely ossified skulls. Lack of data for most species of the Campylorhynchus group severely hampers comparison of the two groups in features such as cranial ossification.

The main part of the paper consists of a species by species treatment of variation, effects of plumage wear, sexual dimorphism, racial characteristics, comparisons, ecology, and racial and species relationships. Coverage varies from a little over one page devoted to *C. nuchalis* to some 70 pages for *C. rufinucha*; discussion of *C. rufinucha* concerns the interbreeding between *C. r. humilis* and *C. r. nigricaudatus* in the southwestern corner of Chiapas. Considering the time lapse from the completion of Selander's work (1955) to its publication, it seems unfortunate that his recent (1965. *Auk*, 82:206–214) re-examination of the hybrid zone between those two forms could not have been incorporated within it (although it is briefly summarized in footnotes). The two morphologically very distinctive races hybridize in a zone 20–25 miles wide along the narrow coastal plain of Chiapas southeast of Tonalá. Small semi-isolated wren populations, comprised mostly of hybrid individuals, occur at several places within the hybrid zone. The ecological aspects of the two races and the hybrid populations are clearly and thoroughly discussed. Observable introgression is limited, and phenotypically pure populations of the two races occur within about 30 miles of one another. This apparent lack of introgression does not preclude the possibility that actual introgression of genes and gene combinations of high selective value may occur. It is possible, and even seems likely, that introgression of tried genes and gene combinations of proven value would be a significant source of variation for the interbreeding populations, regardless of whether or not the introgression is apparent. Hence, I suspect that, contrary to the author's opinion (p. 111), their hybridization may have had and may continue to have a significant effect on their evolution.

Selander convincingly demonstrates that *C. jocosus* and *C. gularis* are not conspecific. Perhaps he even overstresses their differences, which seem of the type that might have resulted from interaction between them (populations of the two presently occur within 42 miles of one another). *C. yucatanicus* is distinctive and is a full species related more to *C. jocosus* than to *C. brunneicapillus*, with which it is often held to be conspecific. The strong resemblance between *C. jocosus* and some races of *C. rufinucha* is noted (p. 139). Although the two most likely are good species, it is unfortunate that the author did not devote some field time to the area of Oaxaca where they are sympatric. An unusual finding is the smaller size of birds of upland compared with lowland populations of *C. z. zonatus* in central Veracruz. The endemic Chiapas wren (*C. "chiapensis"*) is considered a race of the otherwise South American *C. griseus*. The statement (p. 176) that *C. megalopterus nelsoni* probably ranges to the Zoquitlán, Puebla, area is proven by a specimen not seen by Selander, taken four miles west of Zoquitlán in 1954 (specimen in Cornell University collection). In view of the importance of *C. albo-brunneus aenigmaticus* concerning the problem of conspecificity of *C. albo-brunneus* and *C. turdinus*, it is difficult to understand why the author did not find an opportunity to examine the unique and critical type series (in the Philadelphia Academy of Natural Sciences collection) reported upon by de Schauensee as long ago as 1948. The sections on the ecology of the various forms are particularly complete and lucid.

Following the main part of the paper are interesting sections on vocalizations and behavior, helpers at the nest, and egg color. These might better have been placed in one miscellaneous part with some sections of the introductory portion of the paper. Admittedly it is difficult to put such items under fully appropriate headings, but certainly "Heteropreening Ceremonies" ought not to be included under "Vocalizations." Song differences among species of the genus are stressed, although it sems impossible to assign taxonomic significance to these differences until we know more than is presently known about their functions. Selander presents evidence suggesting that helpers at the nest (one-year-old birds) are commonly found in species of the Campylorhynchus group, as

well as in several species (*jocosus, griseus*) of the Heleodytes group. However, evidence for actual helping, i.e., first-year helpers carrying food to nestlings, is presented for but two species, *C. zonatus* and *C. jocosus.*

Variability in mensural characters in *Campylorhynchus* is very like that of jays of the genus *Aphelocoma* (Pitelka, 1951. *Univ. California Publ. in Zool.*, 50:195–464). Weight is the most variable of nine mensural characters studied by Selander, who also examined the degree of sexual dimorphism in these characters. The sexes are most dimorphic in bill depth in the Heleodytes group, while bill length and width show normal dimorphism (females having the lesser measurements). The reverse situation is found in the Campylorhynchus group, where bill depth and width show normal sexual dimorphism and bill length is the feature in which members of the group are most dimorphic.

Selander (p. 216) compares his classification of *Campylorhynchus* with that of Hellmayr (1934. *Field Mus. Nat. Hist. Zool. Ser.*, 13:128–151), whose appraisal of relationships within this genus was hindered by his failure to take into account the possibility of secondary simplification of pattern in different phyletic lines. There is no doubt that Selander's efforts and his more broadly biological approach have improved the classification of these wrens. His discussion of evolution within the genus seems to lack only a consideration of the initial divergence of the Heleodytes and Campylorhynchus groups. Although *C. zonatus* appears to be the modern species most like the ancestor of the Campylorhynchus group, and *brunneicapillus* and *gularis* among extant species of the Heleodytes group seem most to resemble its ancestor, there is no attempt to ascertain characteristics of the common ancestor of the two groups, i.e., the ancestral species of *Campylorhynchus.* He is nevertheless very successful in establishing evolutionary trends and relationships among the existing species.

The nomenclatural history, synonymies, and locality records for the forms recognized by Selander are contained in an "Appendix." I fail to understand why the author did not choose to treat here the species in the linear sequence demanded by his classification.

The paper is remarkably free from error. There is a typographical error in the number of a type (p. 236, under type of *H. occidentalis* Nelson, the number should be 142836), and the type of *C. brunneicapillus affinis* (p. 238) is actually two cotypes. It is confusing to see the Academy of Natural Sciences at Philadelphia represented by different symbols (PAS on p. 2, ANSP on p. 185). The photographs are well reproduced, and clearly show what the author intends that they show. Data and statistics are exhaustively treated in the numerous tables. The figures are well executed, but several (e.g., Figs. 20, 21) are too small for finer details to be readily apparent to the reader. The text is occasionally verbose, but quite readable, and arguments are logically and forcefully presented. Like many of us the author is at times prone to be dogmatic in his zeal to prove his points; however, the evidence he marshals is usually so convincing as to render the dogmatic statements inconsequential.

General ornithologists, as well as those especially inclined toward systematics, evolution, behavior, and ecology, will find this report well worth reading. The final word has doubtless not been said about the systematics of these wrens, but Selander has abundantly documented our present knowledge of *Campylorhynchus*, and he has logically applied this knowledge in updating its classification and presenting the evolutionary history of its species. He is to be complimented for the production of this thorough and significant treatise.—Lester L. Short, Jr.

THE BIRDS OF CAPE COD, MASSACHUSETTS. By Norman P. Hill, M.D. William Morrow & Co., New York, 1965: 5½ × 8½ in., xx + 364 pp., 12 photos, 10 drawings of plants by Marcia G. Norman. $6.00.

I have heard it said that there is not an acre of Massachusetts which has not been searched for birds and sometimes, when I receive yet another volume about birds in another area of the Bay State, I am inclined to believe it. Now comes "The Birds of Cape Cod" to go alongside "Birds of the Connecticut Valley," "Concord," "Martha's Vineyard," "Nantucket," and others on my already crowded shelf of books on Massachusetts birds.

This attractive book by Dr. Hill is a thoughtfully and meticulously executed summarization of a wealth of data acquired by him, the late Ludlow Griscom, and many other persons over a long period of years. Cape Cod is no ordinary place for birds. Owing to its his abundant material in a masterful manner and presented it in the most concise form. It is unfortunate, though not serious, that in following "The A.O.U. Check-List" (fifth edition, 1957), he did not heed the corrections in nomenclature later published in *The Auk* (1962. 79:493–494); also that he did not make a final check on the scientific names used. *Dendroica pensylvanica* is misspelled and the same name, *Bombycilla cedrorum*, is used for both the Bohemian and Cedar Waxwings.

The ornithological summary, running to 32 pages, is meaty and readable—one of the best digests of information on a regional study that I have ever reviewed.

I confess to some annoyance by the author's giving his medical degree after his name on the title page and the title of "Dr." before his name on the jacket. I hope that this is simply a coincidence rather than an overt attempt to break what has been a long-standing tradition in American ornithology, namely, that a man's profession is neither a measure of his stature as an ornithologist nor of his contributions to our knowledge of birds.—OLIN SEWALL PETTINGILL, JR.

ADVENTURE LIT THEIR STAR. By Kenneth Allsop. Crown Publishers, New York, 1964: 8½ × 6 in., ix + 222 pp., 11 illus. by Anthony Smith. $3.95.

Kenneth Allsop's book, a reprint of the 1939 edition, may be regarded as a piece of fiction but it has the ring of authenticity. What he writes about a pair of Little Ringed Plovers (*Charadrius dubius*) in Great Britain, their migrations, their searches for secluded physiographic peculiarities, position on the Atlantic seaboard, and subjection to a tempering oceanic climate, it is on the one hand remarkably limited in its breeding habitats for birds and on the other "wide open" to wintering birds and birds of passage. Of the 354 species satisfactorily recorded, hardly more than 100 breed with any regularity, while 200 are involved in migration in the fall and half that number in the spring. Quite understandably, the Cape has been a popular point of convergence by Massachusetts ornithologists and bird watchers from fall to spring, a fact clearly reflected in the tremendous amount of information from which Dr. Hill has been able to draw.

The book begins, logically, with a description of Cape Cod that I find satisfactorily thorough, followed by its ornithological history—an altogether impressive account of the attention given its birds by famous and not-so-famous people in the annals of New England natural history. Then, with introductory explanations, comes the main body of the book—the systematic or annotated list of 384 species (30 hypothetical)—and finally an ornithological summary, a bibliography, and an index to those species in the systematic list.

The treatment of each species in the systematic list adheres to a set outline (modified when necessary to suit available data), consisting of eight paragraphs separately titled Status, Fall, Winter, Spring, Summer, Distribution, History, and Subspecies. Under

Status is not the information one would expect but rather the basis for including the species in the list. Often it amounts to naming collections in which the species is represented, but now and then it is a one-word statement, "Presumptive." This, Dr. Hill explains, "indicates a species which, on careful consideration of the evidence, I believe to have been correctly recorded but on the basis of sight records alone." For information on relative abundance that most of us would anticipate under Status, we must look under each of the next four seasonal categories. Here we find, in addition, inclusive and extreme dates and dates of maximum numbers. Under Distribution is included ecological information relating chiefly to habitats. Under History are notes on such matters as "invasions" (with dates) and significant changes in populations and breeding status. This category exceeds all the others in being more than of local interest; anyone concerned about trends in populations will find it pertinent.

All in all, the systematic list stands as a great credit to Dr. Hill for he has assimilated

spots in which to build a nest, their behavior when confronted with the destruction of their previous nesting grounds, their reactions to such innovations of man as radar may not always be found in the literature as phenomena described or demonstrable. But it is so persuasively depicted the reader feels that, if the events described did not occur exactly as the author puts them down, they must have transpired in some such fashion in order to have happened at all. No one has been an active participant among the tens of thousands of birds in spring migration winging over the English Channel (or up the Atlantic or Mississippi Flyways). But the author's depiction of the event, the sense of peril and struggle, is so objectively yet intimately told that the reader catches the urgency of the participants themselves—the insistent drive to reach land becomes a part of the reader's experience. The cold, hard odds that not all will reach safety is implied with a minimum of the anthropomorphic.

The book is divided into three parts of which the first division (except chapters 6 and 7) and the first five chapters of the third division deal with the plovers without much intrusion of the human actors. The rest of the book, a comparatively small portion actually, deals with the struggle of Richard Locke to recover from tuberculosis and to find the nest of the Little Ringed Plover. The bouts with illness are the accessories of the novelist but no one interested in the outdoors will fail to respond to the obstacles, the excitement, and the frustrations which beset Locke in his quest. Allsop writes with economic imagery. A heron comes in "slanting down on its great cloaks of wings, stilt-like legs jammed out for the landing" (p. 60). London gulls each evening "oared across the sky like flotillas of white skiffs" (p. 100). His observations of the plovers, their mating, nesting, and resting behavior, their reactions to other animals in the area, are set down with a keen and discriminating eye for fresh and salient metaphor and image.

In a foreword to this welcome reprint, the recipient of the John Llewellyn Rhys Memorial Prize, Allsop writes that the work is "a combination of personal observation, recorded facts and imagination. Imagination was sparingly used, for I wanted the story to be truthful and factual, wildlife seen through binoculars' lenses" (p. vii). In the main he has hewn to this line. Actually, so objective is his writing generally that when he permits human connotations to enter a description of an avian reaction, the reader feels the bump of unreality. For instance, when in a description of the female's response to the male's courtship display, the reader finds this human interpretation: "She watched him fixedly, acutely conscious of the flow of excitement that the insistent song aroused in her" and further along learns that the female is "enchanted by the glimmering stream of his flight," he—this reader at least—cannot help wishing Mr. Allsop would not do this when he can do objectivity with such precision.

The fate of Allsop's plovers in this book ends on a happier note than Fred Bodsworth's curlews in "The Last of the Curlews" (1954). As Allsop points out in his Foreword, the first nest of the Little Ringed Plover in Great Britain was discovered in 1938. But the 1956 survey indicated 70 pairs and the 1959 survey nearly a hundred pairs. Latest returns, those of 1963, total at least 175 pairs (pp. vii, viii). "Birds can easily be overlooked," he concludes (p. viii). If that is true for "the London area's two hundred gravel pits" (p. vii), may it not be even truer of certain species of North American birds in such large areas in the United States as Texas or Alaska or, in Canada, such areas as the Prairie Provinces?— HERBERT KRAUSE.

LETTER TO THE EDITOR

Sir:

In a review appearing in the September, 1965, issue of *The Wilson Bulletin*, Tom Cade implies that the authors of "Birds of Prey of the World" have shown too casual a regard for acknowledging the work of others, and makes some reference to "plagiarism."

This is a serious allegation, and in fairness to ourselves and our readers, we feel obliged to point out that it has no basis in fact. Authors are credited in Acknowledgments and two separate Introductions, and the Bibliography fully covers our sources under general or specific headings, sometimes in the extensive Bibliographies of our major source books. Any source that "may not be found at all" is the observation of John Hamlet, based on a *lifetime* of field work. Curiously, the reviewer credits the co-author with nothing more than supplying "trained birds."

If he had used the Bibliography as suggested, Dr. Cade would have had no trouble finding the original source of the information about the Gabar Goshawk on p. 257. Having duly noted the bird's range, anyone slightly familiar with ornithological literature would turn to *Regional References, Africa*, and look first for titles that might contain descriptions of behavior, notably G. L. Van Someren's "Days With Birds," where it is indeed listed in the index under Gabar Goshawk, p. 105. No more than 20 minutes need be spent in the library. On the basis of this one example, which is *in* the Bibliography, Dr. Cade says there are "numerous cases" in which we "failed to include references." We contend that he has not bothered to look for them.

Finally, as Dr. Cade concedes on many occasions throughout the review, our book was not intended to be a technical monograph. In his own words, it is "well designed to excite the interest and acquisitiveness of all devotees of the raptors" plus those who do not know what the word "raptor" means. It has been our experience that real conservation of the birds of prey can only begin with understanding and keen personal interest in them.

s/ Mary Louise Grossman and John Hamlet

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