

REVIEWS

The Warblers of America.—Ludlow Griscom, Alexander Sprunt, Jr., *et al.* (Devin-Adair Co., New York), pp. xii + 356, 35 color-plates, numerous maps and decorative line-drawings, 1957. Price \$15. This work takes an important step forward among popular bird-books in that it pictures and discusses every species currently considered a wood warbler. The Parulidae, as presented, do not include the honey-creepers (Coerebidae) or the puzzling genus *Rhodinocichla*. *Leucopeza*, another puzzling genus, is included. Readers especially interested in classification will wish to read the sensible remarks of Eugene Eisenmann and James Bond (pp. 298-9) as well as the principal discussion of the subject (Chapter 2); and they will find thought-provoking statements in Appendix B, where the number of parulid genera is boiled down to 18. Students who wonder whether the Yellow-breasted Chat is a true parulid may be silenced but not helped much by the bald statement that "Even the Yellow-breasted Chat (*Icteria*) proves to be a Warbler" (p. 10).

The book's major contribution is the color-plates and chapters concerning the wood warblers of México, the West Indies, Central America, and South America. The plates covering the resident forms of these areas portray birds whose names and patterns are unfamiliar to all but very few ornithologists. The crowding of figures is objectionable artistically, but from the standpoint of persons eager to learn, close grouping of the species of *Basileuterus* and *Myioborus* makes comparison easy, at the same time provoking thoughts concerning distribution, centers of origin, and the validity of certain family characters. Students who have come to think of *Dendroica* as a complex and "difficult" genus will now sense that *Basileuterus* may be even more so. The thoughtful user of Plate 34, realizing that *Basileuterus nigrocristatus* looks disturbingly like a Wilson's Warbler, may cogitate as never before on convergence in evolution. This is good for all of us. Not even the "average bird watcher" has the right to feel that all the thinking must be done by someone else.

The chapters on south-of-the-border areas are informative and readable, those by Alexander Skutch in particular revealing knowledge which can come only through patient, long-continued observation and a careful recording and interpreting of data. Skutch's paragraphs on the territorialism of northern warblers wintering in the tropics, and on certain vegetable foods—notably the "little pearly bodies, no bigger than a mustard seed" which are to be found on the petioles of the leaves of the Cecropia tree, and which are eaten by small birds as well as by Aztec ants—are full of interest (p. 272). Eisenmann's comments on the Bay-breasted Warbler in Panamá (p. 290) are of special interest, as are also E. R. Blake's concerning the various yellowthroats (*Geothlypis*) of México (pp. 253-4), and Bond's concerning such species as *Dendroica vitellina* and *D. pityophila*, which he considers West Indian representatives of *D. discolor* and *D. graciae*, respectively (pp. 264-5). Elsewhere in the book *pityophila* is considered by Griscom a representative of *D. pinus* (p. 40).

A practical note is sounded when that veteran warbler observer, Ludlow Griscom, discusses the techniques of warbler study (Chapter 3). The carefully worked out but over-long chapters concerning warbler song (as well as the badly repetitious material on song in several species writeups) will help some observers, not others—a pessimistic statement made after years of trying to help students identify warblers by their songs. Much of the material in the chapters on the warblers of Alaska, British Columbia and the Canadian prairie provinces might, it seems to me, have been added to the writeups of various species. In their "The Warblers in Eastern Canada," on the other hand, Roland C. Clement and W. W. H. Gunn have discussed habitats, populations, and reproductive potential in such a way as to stir our

thinking with regard to the evolution of the family, and we turn with renewed interest to Griscom's chapter on geographical distribution (pp. 38-40) less surprised than we were on first reading at his disposal of not wholly satisfactory theories concerning areas of origin.

The book purports to be a major reference work, yet in the section devoted to the species of the United States and Canada there is only one colored picture (Prothonotary Warbler) and little more than a scattered word or two concerning that important part of the group's morphology, the juvenal plumage. L. H. Walkinshaw, in his well-worded contribution concerning the Black-throated Blue Warbler in Michigan, touches on the subject when he says of three chicks: "When they left the nest we noted that two . . . had feathers much darker than the third, indicating that the sexes are discernible even at that age" (p. 122). Otherwise not a word anywhere as to what the ten- or eleven-day-old chick looks like; not a word about its being dark woodsy *brown* and unstreaked; not a hint of the fact that without the parent birds as "help" identification would be impossible for most ornithologists. In another part of the book Skutch mentions a fledgling *Ergaticus versicolor*, but all we learn of it is that it is dark and that it has "no trace of red" (p. 283). A tantalizing description, to say the least, of a plumage which may be more important than that of the adult as a means of understanding the species' affinities!

The juvenal plumage of parulids has, admittedly, absorbed my interest for years. I have marvelled at the brown-ness of the juvenal Black-throated Blue and Ovenbird, the ashy grayness of the juvenal Yellow; the over-all dullness of the juvenal Wilson's and Canada, the clear-cut wingbars of the juvenal Redstart, the oddly shaped markings of the under parts of the juvenal Kirtland's. I have learned from long hours of searching and from specimens as they have made their way into my collection that in the Black-and-white, Blackburnian, Tennessee and Flame-throated (*Vermivora gutturalis* of Costa Rica), the pattern of the juvenal suggests that of the parent, while in the Black-throated Blue, Bay-breasted, Chestnut-sided, Canada, and Golden-browed (*Basileuterus belli* of México)—to mention only a few—it does not. Drawings of juvenals, especially drawings direct from living models, would have made this book a reference work indeed, and comments from such stimulating writers as Skutch, Griscom, and Josselyn Van Tyne would have guided the thinking of many of us as regards (1) the ways in which juvenal patterns point relationships; (2) the almost incredible rapidity of the postjuvenal molt in many species (especially of *Dendroica*) and (3) the sometimes striking way in which this molt produces birds the likes of which are never pictured anywhere. In this connection I think especially of a young Yellow-breasted Chat in my collection. The stub-tailed bird is dull olive gray all over except for a V of incoming bright yellow first winter feathers on the chest.

The foregoing criticism is offered in the hope that those who may at this moment be planning works of comparable scope on other groups, will not neglect this important aspect of their subject. Natal plumage too should be considered. To me it is extremely interesting that in the Vireonidae, within itself a remarkably homogeneous group in many ways (notably, as contrasted with the Parulidae, in color-pattern), some species are psilopaedic while others are not. All newly hatched parulids are believed to wear down (see p. 6). For many tropical species this plumage has never been described.

The colored illustrations by John Henry Dick are an all-important part of this book. Without the artist's resolve to do them, we are told, the book might never have come into being. The originals have been reproduced (in Holland) by six-

color offset lithography. With them most species can readily be identified, but the back-color of *Basileuterus rufifrons* (Plate 32) is much too pale and pinkish a gray in my copy of the book. Dick obviously enjoys these delicately beautiful birds and he has worked with them devotedly; but he should study further the shape and proportions of the tarsi and toes; he should measure the distance between the mouth-corner and the eye; and he should prop open the bill of a freshly killed warbler and draw from various angles by way of understanding the face of a singing bird. The face of his singing Ovenbird (Plate 23) is spoiled largely because the open bill is drawn wrong. Personally I do not like the transverse lines or the cross-hatching in his decorative sketches, many of which look as if they had been made under pressure. Someone should have caught the misspelling of the word *axillars* in his topography chart (opp. p. 288). There appears to me to have been over-hastiness in getting certain parts of the book together.—GEORGE MIKSCHE SUTTON.

The Flamingos: Their Life History and Survival. With Special Reference to the American or West Indian Flamingo (*Phoenicopterus ruber*).—Robert Porter Allen. 1956. 285 pp., 15 pls., 4 in color, 48 text figs. National Audubon Society, New York. Research Rept. No. 5. \$3.95. Allen's third report on a large American wading bird has been honored by the Brewster Award. The account is not restricted to the red American species; he has gathered a wealth of comparative information on the other five species that adds depth and interest to the account. Despite studies in the field, many important aspects of life history are still unknown (e.g., incubation period) and others are poorly understood. Flamingos are fantastic birds in behavior as well as appearance. Their distribution is obviously relictual. That of the red species, restricted to islands and coasts of the Caribbean or its periphery, but with isolated colonies on the Pacific Galapagos Archipelago, seems peculiar enough. But when the six known species are all considered the range is amazing, extending from sea-level or below in the Rift Valley of Africa and the Mediterranean coast of France, to the Great Rann of Kutch in India and above 14,000 feet in the Andes of South America. According to Allen, all known breeding colonies are on brackish to highly saline (and often stinking) lagoons and lakes, in desolate areas, almost wholly devoid of other vertebrates. He believes that the major item of their diet is mud—organic ooze rich in micro-organisms. Plant seeds, molluscs, crustaceans, insects, small fishes and other diminutive animals are also eaten, when available.

The flamingos have been variously placed in the Ciconiiformes (present A.O.U. Check-list treatment), the Anseriformes, and their own order. Anatomical arguments exist for each view. Allen lists the arguments, without taking any position, but seems to favor alliance with the duck-geese order, on the basis of pairing and copulatory behavior (which elsewhere in the book he depicts in a field sketch). One point not mentioned in this connection (though reported by Allen as observed by others) is that when feeding in deep water flamingos tip-up precisely like freshwater ducks. Anyone who has seen this behavior in the field or in motion pictures, with the flamingo's peculiar head hidden in the water while its body points vertically upwards, will surely be impressed by the amazing resemblance to a swan, and can hardly avoid the inference that a real relationship exists—a relationship supported by the appearance of the precocial downy young, the parasitic mallophaga, and many anatomical features.

Allen is of course concerned with the conservation problems, which present great difficulties. These gregarious birds seem to demand isolation from disturbance during the breeding stage. With the growth of human population and the improve-

ment of transportation facilities, the maintenance of the requisite freedom from disturbance becomes increasingly hard to ensure. Most surviving colonies are in areas where the people have slight interest in birds, except as food; so passage of protective laws cannot secure the birds' safety unless there is sympathetic appreciation by the local population. In the case of so spectacular a species as a flamingo, a colony may well have touristic values, that even the most economically minded people can understand. This presents another problem. In some accessible areas photographers and other well-meaning visitors have at times caused egg destruction and nest desertion. In places like the Camargue, southern France and Bonaire, Netherlands West Indies, one can easily see numbers of flamingos without approaching the nesting sites. Moreover, were it possible to assure complete protection, one wonders whether a wild breeding colony might not ultimately become as indifferent to man as the artificial and partly pinioned colony that for many years has produced about sixty young annually at Hialeah, Florida.

Though full of meat, in style this report is informal and eminently readable. Allen's own field sketches supply one of the most attractive features, and there are many photographs, some in color, as well as a plate of the six flamingo species by Roger Peterson.—E. EISENMANN.

The Suborder Charadrii in Arctic and Boreal Areas during the Tertiary and Pleistocene.—Sten Larson. 1957. *Acta Vertebratica*, 1, no. 1: 1-84, 15 maps. Nordiska Museet and Skansen, Stockholm. 15 Sw, Kr.—Larson reviews the geographical speciation of the northern shorebirds. If we accept the evidence of fossils, the shorebirds are a remarkably conservative group in evolution. Larson ably develops his thesis that in the Eocene-Oligocene, when mild climates extended to the arctic oceans, shorebirds in montane areas moved into temperate and cold climate habitats, transgressing what he calls the ecoclimatological rule—that once in a certain climate and ecology, a phylogenetic group tends to stay adapted to it. This is the assumption used whenever biologists have interpreted the climate of the past. If a group gains adaptation to the new ecoclimate, the adaptation persists, and this persistence has led to development of high arctic, low arctic and temperate species groups. During the Tertiary the continuing drop in temperature culminating with the Pleistocene Ice Ages tended to pull these groups apart.

In following the evolution of this group, Larson leans heavily on the concept of persistence of animals and plants near the glaciers. He brings out the relations of pairs of species and of subspecies to the three great boreal unglaciated areas ("refugia") in Europe-Central Siberia, Northeast Siberia-Alaska, and northern North America. He depends largely on the classical work of Eric Hultén, "Outline of the History of Arctic and Boreal Biota during the Quarternary Period," (1937), growing out of Hultén's botanical work on the great Beringia Refugium (East Siberia-West Alaska). I feel Larsen did not adequately consider Fernald's controversial paper, (*Persistence of Plants in Unglaciated Areas of Boreal America*, Mem. Amer. Acad. Arts and Sci., 15 (3): 241-342), which established the importance of biological data in evidence of glacial histories. (See Deevy's *Biogeography of the Pleistocene*, Bull. Geol. Soc. Amer., 60(9): 1315-1416, 1949, for a recent summary of this subject). Larson, I feel, could have profited from more recent geological opinion, which, acknowledging the world-wide synchrony of glaciation, appreciates that in any of the 15-17 glacial advances, the various centers were differentially activated—some ice-sheets probably did not advance anywhere near so far in each of the advances. Larson accepts Flint's conservative concept that glacial advance is synonymous with increased cold. Cold is certainly in part responsible, but climatological work

such as that of Willet (*in* Shapley, "Climate Change": 51-71, 1953) indicates, supported by evidence from peri-glacial regions, that increased rainfall may be much the most important factor. The variation in advance, and the different types of weather, can greatly alter our picture of weather and vegetation in refugia.

Larson avoids the problems of complexity of glacial advances by suggesting that only the most recent advance and retreat bear upon the speciation he is discussing: the retreat in restricting total tundra area and squeezing out many unadaptable populations and the advance in bringing subspecies together to swamp them.

A botanist like myself feels Larsen does not give enough credit to ecological adaptability of plants or animals. Eurasian Golden Plovers nesting in northern England are in quite a different habitat from those nesting in Siberia. Dunlin in northern Germany are in a different world from those in Greenland or Siberia. Considering such variation, transgressions of ecoclimatological zones can well be very gradual, and do not require the cataclysmic effects of continental glaciation. The concept of a single large break-through depends upon the unconscious assumption of the organic reality of the natural community of "tundra" or "life zones." This concept fails to give conscious consideration to the significance of the wide-spread crossing by plants and animals of the natural vegetation and faunal borders.

Nevertheless, the paper is a fine one, which again opens a large field to be considered in our thinking about ecology and speciation in birds. Unfortunately it is a complicated field, all of whose contributing fields are not yet generally appreciated in zoogeographic studies.

This is the first monograph of a new series by the Zoological Department of Nordska Museet and Skansen, Stockholm, to be published at irregular intervals. Contributions are invited, dealing chiefly with broad aspects of northern vertebrate zoology, or involving a synthesis, surveys and reviews of other faunas on broad principles.—WILLIAM H. DRURY, JR., *Hatheway School of Conservation Education, South Lincoln, Massachusetts.*

The Birds of Banks Island.—T. H. Manning, E. O. Höhn and A. H. Macpherson. 1956. Nat. Mus. Bull. Canada, no. 143. 143 pp., 12 photos., map. \$2.50.—Banks Island is an arctic island in north-western Canada with an area of 24,600 miles, all above tree-line. This paper is based on the field work of the authors, chiefly in 1952 and 1953, the reports of other observers, and a study of the arctic bird collections in the National Museum of Canada. It is much more than the usual annotated faunal list. In addition to local status, with definite estimates of numbers, and data on breeding, habitat, and behavior, we are given a wealth of information as to status in other parts arctic Canada and very full literature references.

To non-Canadians some of the most interesting aspects of the paper are the detailed taxonomic discussions as to relations of certain boreal forms. These are supported by statistical tables or pertinent photographs. The Blue and Snow Geese are deemed one species, but treated as separate subspecies, apparently because of the considerable geographic segregation. The Black Brant is held to be conspecific with *Branta bernicla*, birds from Prince Patrick Island being regarded intergrades, contrary to the view taken by Handley (1950). The tables and photograph seem to support the conclusion. The hypothesized east coast population of dark-breasted Brant, supposed by Delacour and Zimmer to have existed and become extinct, probably represent intergrades from the west, which still sometimes wander to the Atlantic coast. There are useful discussions of color clines in the Gyrfalcon and of the possibly circumpolar arctic population of the Peregrine Falcon, characterized

by a narrow malar stripe and more white on the face. *Larus hyperboreus* and *L. thayeri* both breed on Banks Island; their difficult taxonomy is treated. Tentatively, *thayeri* is considered a distinct species; the A.O.U. Check-list arrangement making this bird a race of *Larus argentatus* is negated by the presence of what are probably breeding colonies of *L. argentatus smithsonianus* and *L. thayeri* some eight miles apart near Frozen Strait, with no evidence of intergradation. In addition to morphological characters (which in some specimens show intermediacy), *thayeri* is said to differ in breeding only on cliffs. Salomonsen's suggestion that *thayeri* be grouped with *kumlieni* (in the *L. glaucooides* group) is rejected, because the two forms seem geographically isolated and there is no obvious reason to suppose that they are derived from a common ancestor more closely related than *L. argentatus*. The tables of measurements indicate that in most characters *thayeri*, though not geographically intermediate, is morphologically intermediate between *smithsonianus* and *kumlieni*, but it is said to differ from both in darker eye color and mantle. As here pointed out, much of the coast of central arctic Canada is still ornithologically unworked, so that relations between forms of the east and west, low arctic and higher arctic, remain uncertain. The relatively recent changes in this area, with continental glaciation in retreat, make arctic Canada a region of dynamic speciation. The present paper summarizes the literature and the present inadequate knowledge bearing on some of the interesting problems. It should stimulate and aid further field research.—E. EISENMANN.

Audubon Western Bird Guide.—Richard H. Pough. 1957. xxxvi + 316 pp., 32 col. pls., 138 text figs. This well-illustrated book completes the coverage of the avifauna of North America (north of Mexico) treating species not included in the eastern volumes, "Audubon Bird Guide" (parrots through passerines) and "Audubon Water Bird Guide" (loons through pigeons). Like its predecessors, it contains not only data on identification, but succinct accounts of habits, voice, nest and eggs, and range—on a species basis. A useful regional bibliography is included. The colored plates by Don Eckelberry depict those western species (219) not already illustrated in the two earlier volumes of the series. There are pictures of a number of Asiatic and Palearctic birds, recorded chiefly in Alaska, not usually found in American bird books, such as Red-faced Cormorant, Baikal and Falcated Teal, Black-tailed Gull, Crested Auklet, Dotterel, Mongolian Plover, White-rumped Swift, Petchora Pipit, Crested Myna, and many others. The effort to be complete goes so far as to include *Fregata minor*, for which there is no valid record within the A. O. U. Check-list area. The color reproduction of some plates seems somewhat pallid, failing to do justice to Eckelberry's artistry. Numerous line drawings by T. M. Shortt, chiefly of birds in flight, are designed to illustrate additional field marks.

The book is not in itself a complete western guide, for though all the western species are listed, with their ranges and dimensions, those species already treated and illustrated in color in the eastern guides are not treated anew. Instead, we have a cross-reference to the page and plate of the earlier volume. To use this guide in the field one must also carry the other two. Perhaps in these days of automobile "birding" this is no great burden, for the books are of pocket-size.

Though subspecies are generally ignored, a number of distinctive races are illustrated; e.g., the Fox Sparrow is represented by figures respectively marked "townsendi race" and "megarhynca race" (no italics). But in this and several similar instances the reader is not told where these geographical forms occur. Technical and common names are those of the new A. O. U. Check-list, except where the Check-list Committee made a nomenclatural change too late for inclusion. Thus in this book

the Western Wood Pewee is still designated *Contopus richardsonii*, rather than *sordidulus*; the names of the three-toed woodpeckers differ from those ultimately adopted; and "Crested" is omitted from Wied's Crested Flycatcher (*Myiarchus tyrannulus*)—a word needed to distinguish another South American Wied's Flycatcher. Incidentally, the range given for *M. tyrannulus* fails to include South America, where the nominate form is found. As to distribution south of the United States the book seems unnecessarily weak. The breeding ranges are said to extend south only to Mexico or some northern Central American country for several species that are resident as far as Panama, or beyond; e.g. White-winged Dove, Mourning Dove, Dipper, Eastern Meadowlark, Grasshopper Sparrow. On the other hand, the Western Bluebird is given a range south of Mexico; it is actually the Eastern Bluebird that has the southerly range, breeding into Nicaragua, where one also finds the Red-shafted Flicker, Red Crossbill and Chipping Sparrow. The suggestion that our Warbling Vireo "probably winters in c. and n. South America" seems unwarranted; the southernmost record is from El Salvador. One wonders why Pough did not check ranges with his copy of "The Species of Middle American Birds."

As this book is much more than an identification guide, and no doubt will ultimately be consolidated with the predecessor volumes as a library reference work, it has seemed fitting to indicate oversights that should be corrected. My criticisms are minor in relation to the over-all usefulness of a book that brings together conveniently and concisely, with a wealth of excellent illustrations, a vast amount of widely scattered, or otherwise unavailable, information. Both amateurs and professionals will find it a handy and attractive work.—E. EISENMANN.

The Birds of Massachusetts. An Annotated and Revised Check-List.—Ludlow Griscom and Dorothy E. Snyder. 1955. xiii + 295 pp., 3 maps. \$3.75, cloth \$4.95. Peabody Museum, Salem, Mass.—Here we have the status of all forms deemed to have occurred in the state which, ornithologically, has surely been the most thoroughly worked in the Union. Known Massachusetts specimens in many institutions were critically examined and under each listed form the location of such specimens is stated. A good annotated bibliography is included. Many published Massachusetts bird records are now considered erroneous. Apparently this book appeared too late to prevent the perpetuation of some of these errors in the 1957 A.O.U. Check-list; e.g., the supposed *Arenaria i. interpres* and *Larus canus brachyrhynchus* are here said to be *A. i. morinella* and *L. c. canus* respectively, reports of wintering jaegers in Massachusetts are regarded as unsubstantiated, and the European Black-headed Gull, *L. ridibundus*, rather than an "accidental" is found to be regular, though rare. 384 species and an additional 46 subspecies are admitted to the "official" list. A hypothetical list includes published records believed erroneous, those possibly representing escapes, and those lacking specimen corroboration or its equivalent. Birds are not admitted to the regular list, even though identified by the two authors, unless supported by a Massachusetts specimen, by a banding record of a reputable ornithologist, or by a recognizable photograph on file. Indicative of the severity of these standards is the fact that several species credited by the A.O.U. Check-list to Massachusetts are here deemed hypothetical; viz., Tufted Duck (possibly escapes), Louisiana Heron and Tufted Titmouse (no specimens).

Subspecies are given treatment equal to that of species. This may have a tendency to force allocation of specimens that, on present knowledge, can at best be only doubtfully identified subspecifically. For example, the nominate race of the Iceland Gull, *Larus g. glaucooides* is credited with being more numerous in Massachusetts

than *L. g. kumlieni*, though it is stated that no sight records of immature *kumlieni* can be accepted—presumably because of insufficient knowledge as to the differences between the younger stages of these allied forms. One wonders what proportion of the sight and specimen records attributed to nominate *glaucoides* represents immatures, some of which might well be *kumlieni*.

The senior author's vast experience and pre-eminence in field identification give interest and great weight to comments as to changes of status, discrimination of related birds, and the standards needed for screening sight reports. The comments are pungently expressed and stimulating even to readers not concerned with Massachusetts status. One point, little emphasized in discussions of the reliability of sight reports, is that "birding" has become not only a popular, but often a *competitive*, sport. This reviewer suggests that before an observation can be accepted as a scientific record, there should be proof not merely of the observer's competence to identify the bird, but of circumstances assuring a careful and self-critical attitude.

—E. EISENMANN.

Birds of Sakhalin Oblast'.—A. I. Gizenko. 328 pp., 73 figs. Moscow, 1955. (In Russian; no foreign language summaries.) This useful book deals with the avifauna of that part of the Soviet Union comprising Sakhalin and the Kurile Islands, which includes territory held by Japan until the last war. The distribution and natural history of 308 species (339 forms) are treated. The author spent from 1947 through 1949 in the area, made several collecting trips, and screened the literature and the available specimen collections.

Data on migration schedules and routes are given for most species. Stomach contents were analysed in many cases and some interesting information on food habits was developed. The Rubythroat (*Luscinia calliope*) was found to feed in the autumn and early spring partly on marine crustacea (*Gammarus*), gathered along the shores of salt water estuaries. The Whimbrel (*Numenius phaeopus*) not only eats *Gammarus* but in the fall is reported to feed on the fruit of crow-berry, bog bilberry, whortle-berry, cranberry, and foxberry. Steller's Eider (*Polysticta stelleri*) contained molluscs and "a half-digested mass smelling of iodine, which suggests the sea kale (*Crambe maritima*)."
Much information is included on the so-called bird "bazaars"—extensive breeding colonies of alcids, gulls, and cormorants, which are commercially exploited to a considerable extent. The author states: "One single bird bazaar on Tyulen' Island [southern tip of Sakhalin] yearly renders the Oblast' up to 100,000 eggs and 10,000 bird carcasses." Interesting statistical data are given on relative weights, measurements, and chemical composition of the different elements of alcid eggs. Suggestions are included for the control of the bird harvest to the end that the size of the colony will not be affected.

Americans may be distressed by Gizenko's description of what appears to be ruthless exploitation of alcids. Soviet literature reflects that commercial use of birds is widespread. This applies to islands of the Arctic Ocean (e.g. Novaya Zemlya) as well as the North Asian colonies here described. As the exploitation is carried on under the supervision of trained ornithologists, presumably there will be awareness of the population fluctuations that presage serious decline, in time to curtail the harvest and avoid extinction.—DAVID G. NICHOLS.

Check List of the Birds of Northern Rhodesia.—C. W. Benson and C. M. N. White. (Government Printer, Lusaka, Northern Rhodesia), xxii + 166 pp., 20 black and white plates, 8 colored plates by John G. Williams, map, 1957. Price, 15 shillings.—This is a most useful work, forming a comprehensive duo of volumes, along

with Smithers, Irwin and Patterson's equally up-to-date publication (1957), "A Check List of the Birds of Southern Rhodesia", on the birds of central Africa.

The introductory part of Benson and White's work is especially valuable, a guide to habitats listing forest, grass land, water and other types of habitat following the botanical listings of Trapnell. Using these habitats, and condensing and abbreviating as much as possible, it is astonishing how much material of real ecological value it is possible to put in a short paragraph in what otherwise could be simply a dry-as-dust checklist. In addition many notes on feeding habits, nesting habits are incorporated, dealt with in a type of shorthand manner using many abbreviations explained in the Introduction. The result is to produce a definitive list which is not only a taxonomic synthesis, but also the distillation of a very considerable volume of range and distribution data as well as notes on habits.

There is an appendix on taxonomic points, a second containing a complete bibliography on all publications dealing with Northern Rhodesian birds, including the much-disputed recent paper by R. B. Horniman which has now been blotted off the ledger of time, and a third containing a complete gazetteer of localities. The plates by John Williams are useful, especially of little-known species such as *Macronyx grimwoodi*, a recent and outstanding discovery by the senior author.

As the book is in fact a check list, it is perhaps unfortunate that the citations of the original descriptions of the species and subspecies listed has been omitted. While less important except to a specialist, it is perhaps confusing to one not well versed in African ornithology, not to be able to refer back to recently described forms that may not be cited in the existing standard works. But for the field observer and visitor to central Africa, this compact octavo volume should prove indispensable.—S. DILLON RIPLEY.

Of Men and Marshes. Paul L. Errington. 1957. 150 pp., 22 line drawings. Macmillan Co., New York. \$4.50. An appreciation of marshes, particularly the glacial marshes of the prairie states, by one who knows his subject intimately, as naturalist, sportsman and conservationist. The author loves these wetlands, but there is no sentimentality in the writing. Death and decay form part of the picture of abundant life. The glacial and topographic background and the inter-relationships of plants and animals (including man) are effectively depicted. Emphasis is on the birds, yet the species which roused the greatest interest in this reader was the muskrat. The drawings by H. Albert Hochbaum vividly evoke the marshland atmosphere.—E. EISENMANN.

A Field Guide to the Birds of Britain and Europe.—Roger Tory Peterson, Guy Mountford and P. A. D. Hollom. 1954. 318 pp., 1100 ills., 600 in color, distr. maps. Houghton Mifflin Co., Boston, Mass. \$5. This book, not reviewed in 'The Auk,' is by now probably known to all but a few American bird students. For those few it need only be said that the format follows Peterson's American guides, but the illustrations are generally superior and the text is more informative. The area west of the U.S.S.R. is covered. The book has been translated into most of the major languages of western Europe and has rapidly become the identification guide of European bird-watchers. From actual use in the field, I can unhesitatingly aver that its enormous popularity is merited. E. EISENMANN.