

## REVIEWS

**The Passenger Pigeon, its Natural History and Extinction.**—A. W. Schorger. (Madison, the University of Wisconsin Press). 424 pp. with 22 figures and 5 tables. Feb. 18, 1955. Price \$7.50.—This book is as notable, painstaking, and laborious a piece of scholarship as the reviewer has seen in many years. Not only does the bibliography contain over 2200 titles, but a thorough search has also been made of early newspapers in Wisconsin, Minnesota, western New York, and doubtless elsewhere, which would raise the number to about 10,000 items. The bibliography in the book alone is 103 printed pages, most ingeniously arranged. Each chapter has a series of numbered notes to references, and to make using easier, there is a running head on every page reading "Notes on pages so and so," making it unnecessary to remember the pages of the various chapters.

The object is to come as near as possible to recreating the various phases of the life history of this extinct bird as can be done, since no early ornithologist ever attempted to do it in time, most of the early writing being on hearsay evidence from hunters and trappers. Once one of the most abundant birds on earth, its sudden disappearance confounded all the experts, and the effort to save it came 20 years too late. As the writer so well says in the preface, "It is not an easy task to reconstruct the life history of an extinct species in the face of a large and contradictory literature since much is beyond absolute proof."

This quotation is the key to the objective analysis which is the outstanding feature of the book. Mr. Schorger by no means swallows everything whole, uses a real gift for sifting and reasoning, rejects many statements as unsatisfactory, and reaches certain conclusions with which some people might not agree. It is no fault of his if some of the evidence is incomplete or unsatisfactory, and hence open to varied interpretation. In some cases he does not believe or doubts his own quotation.

The text is divided into a total of 16 chapters, on a more or less routine order of topics, which call for little comment here. Chapter I (early accounts) begins with early March (1534) and is as widely selected geographically as possible. It closes with some real "curiosa," where great flights of pigeons were portents of epidemics or disaster. The chapters on description, anatomy, nomenclature, and distribution (notably thorough) are more or less routine. The one on migration is invaluable as it brings together in one place, every reliable date of record, both spring and fall, ever published. Another chapter on late records is highly critical, casts doubt on some, and quietly discards many already published on the ground that the data were unsatisfactory or inconclusive. As might readily be expected, sight records do not fare very well. A highly original chapter is on the evaluation of illustrations, and our author finds relatively few entirely satisfactory.

An ideal chapter to discuss is the one on food, which includes such subheadings as methods of feeding, plant foods, animal foods, mineral substances, and effect on agriculture. The number of separate items or facts brought out is truly remarkable, many of them still doubtful, improbable or highly controversial. Beech mast in the North and acorns in the South were vitally important, and Mr. Schorger gives records to show how irregular great years of beech mast were in both New York and Michigan, usually on alternate years, odd in New York and even in Michigan. It is possible that we have here one of the primal causes of the irregularity of large pigeon nesting, though it is now too late to prove it by any definite or direct correlation. It was assumed that large nestings in Wisconsin required a great crop of acorns of oaks of known species. Our author also shows the importance of earthworms and salt in the nesting seasons, but perhaps overlooked the fact that in the

Northeastern States, there were no native earthworms, all were recently introduced from Europe. We have the same mystery here as with the Woodcock. Long billed as "food primarily earthworms," what was it in the days of its former abundance in New England prior to 1700?

I have deliberately left the to me most interesting and controversial chapter to the last, Chapter 9 on decrease and extinction, with sub-headings population figures, decrease, enemies, extinction, conservation, and legislation. Our author distrusts all estimates of the enormous size of most of the flocks. In some cases he shows that the arithmetic was incorrect, and all figures are based on the premise that the great flocks flew at an average speed of 60 miles per hour, which cannot be proved. Nor is there now any way of finding out how many pigeons occupied a cubic yard of space. Mr. Schorger adopts a most ingenious method, the total number of acres of principal range; allowing 5-6 birds per acre, we *might* get a total population of 3-5 billion birds. The author has already pointed out that Nuttall's idea was incorrect, that the entire population was in one great flock. The problem of the numbers in one great flock is unimportant, as there is no answer to the rhetorical question, how large were the other great flocks and where were they?

Mr. Schorger immediately raises the questions, how were such enormous numbers attained and maintained when it laid but one egg. He cites other species still existing in great numbers with similar low reproductive capacity.

The reviewer has long thought himself moderately familiar with the literature on pigeons in the northeastern States. Schorger's first critical comment on decrease stopped me cold. It was alleged "long before the colonists could have had a noticeable effect on their numbers." This brings out the extreme irregularity of pigeon flights in earlier days, owing possibly to fluctuating food supply, cold weather in the South, and later the cutting of primeval forests. This involved the rereading of the entire book twice to search for additional lines of evidence, and by no means in vain.

We now approach the topic of final extinction. Mr. Schorger's mounting evidence shows that in the Northeast there was a marked decline in the latter part of the 18th century. It became precipitous from 1871-1880, and the bird's eventual extinction was foreseen at that time, although an optimistic note was struck in 1889. This presupposed adequate protection laws which were not forthcoming. Every cause except overshooting was invoked, and Mr. Schorger deals shortly but fairly with all of them. They are mass drowning, fire, poison, disease. More plausible were the cutting of the great forests, the lack of beech mast and acorns in adequate quantity, lack of sex rhythm in a bird requiring mass association and colonial nesting. Such topics can be debated indefinitely. The facts are that after 1880, the species, for reasons which will never be exactly known, went out like a light, and was finally doomed by 1900 at the very latest. There is an amazing parallel with the Heath Hen here. When perfectly protected, with no effort and expense spared, and apparently doing very well, it too went out like a light, leaving us to wonder as to just why.

In preparation for this review, I have reread Mershon's early book, and all of Forbush's writing. Mr. Schorger's book is incomparably superior. It is far more complete and detailed than Mershon's, and while there is no effort at fine or dramatic writing as in Forbush, the latter was utterly lacking in any critical faculty requiring a balanced judgment. The present work exudes a wholesome atmosphere of this judgment, and the very late reviewer must close with an expression of wholehearted admiration at the happy completion of so scholarly, painstaking, and laborious a work.—LUDLOW GRISCOM.

**Migration and Distribution. A Study of the Recent Immigration and Dispersal of the Scandinavian Avifauna. (Flyttning och utbredning.)** GUNNAR OTTERLIND. 1954. *Vår Fågelvärld*, 13: 1-13, 83-113, 147-167, 245-261. Detailed English summary. Previous work on this problem is reviewed extensively and recent observations studied and analysed. The extension from north to south of the Scandinavian Peninsula and its abrupt coastal borders are especially favorable conditions for such a study. It is argued that, in general, climatic variations are responsible for the changes which have occurred in the avifaunal ranges through prolonged migration during the past 100 years. Some changes have also taken place through abbreviated migration, but these are more difficult to determine.

With regard to the prolonged migration, the extension of the ranges northwards and westwards has been most conspicuous. Various causes of prolonged migration are discussed, such as the drying out of lakes and marshes, especially in Asia, the increased cultivation, the climatic changes, etc. Overpopulation often influences prolonged migration. First-year birds which lack strongly developed territorial faithfulness become the pioneers. Highly favored habitats are first occupied, and for this reason the young bird may often be forced to move on along with the migratory movement while some of its companions settle on less favorable territories. High spring temperatures have a stimulating effect on the migratory drive. The sight of migrating individuals of other species often induces many birds to continue to move in the same direction, a phenomenon frequently observed along the coasts in places where migratory flights are more concentrated. Birds with a strong migratory drive, in the extensive meaning of the term, react more readily to any external factors prompting them to move past the place of birth or the territory held the previous year. Sometimes, therefore, the reason for prolonged migration may be that individuals with overly strong migratory drive tend to accumulate along the northern limits of the range and then "spill over" into adjacent territories. It is suggested that the tendency to disperse beyond the normal range of young birds in species like the herons, for example, is not the actual cause of their colonizing new territory, but rather the fact that as immatures they have usually stayed in these places for a considerable length of time and in this way acquire a "homing instinct" by a process similar to imprinting relative to this out-of-range locality.

Factors that influence prolonged migration in Scandinavia are: 1) the surrounding seas which have an inhibiting as well as a stimulating effect on bird movement, stimulating in the sense that once over water the migrant landbird must continue to the nearest land or perish; 2) the availability of desirable habitats in the direction of the migration movements; 3) flock migration which is not only individually stimulating, especially in connection with starting flights across bodies of water, but which also increases the chances of finding mates in new territories; 4) the daily rhythm of the birds, which, for example, increases the probability of successful pairing of the night-singing night migrant over that of a day-singing night migrant as the birds travel into new localities.

Sometimes a lack of species companions may cause extreme prolongation of migration, since, conversely, successful pairing quickly leads to the interruption of movement. An excessive wander urge in certain individuals is another reason for extreme prolongation; such an urge tends to eliminate these birds as it considerably diminishes their chances of survival.

Abbreviated migration, the author defines as a movement in the normal direction during spring migration which is interrupted before the birth-place or the breeding-grounds of a previous year are reached. The cause for this type of migration is to

be found chiefly in unusually adverse weather conditions. When migration is thus interrupted, it causes an accumulation of migrants with an abundance of species companions which, in turn, inhibits the migration drive. This seems the least plausible of the arguments since many delayed arrivals to former territories have been noted in marked birds.

Undoubtedly, many of the hypotheses put forward in this paper are well founded on the studies and extensive field-work of Scandinavian ornithologists who, probably just because of the suitable topography of their Peninsula, have always been particularly interested in the problems related to the movements and range changes of their avifauna. With its many imaginative suggestions and deductions, it may serve to emphasize certain aspects of this vast problem which will prove useful in future research, and it must be considered a significant contribution towards the better understanding of birds' movements and dispersal.—LOUISE DE KIRILINE LAWRENCE.

**Birds of the Ussuril Region.**—K. A. Vorob'ev. Moscow, 1954. pp. 1-360, including 74 black and white figures, 19 color plates, 46 distribution maps, bibliography, contents, and list of species (in Russian, no foreign language summaries).—Of the increasing number of books from the Russian ornithological literature which are becoming available in the United States, the volume under review hits a high water mark with respect to quality of paper and binding, clarity of type, and general attractiveness of design. Unsatisfactory reproduction of the few landscape photographs included in this volume is more than offset by the excellence of the color plates. The artistry of A. Komarov and N. Kondakov has been reproduced with better success than this reviewer has yet seen (not excepting the fairly adequate color reproductions in the 6-volume 'Birds of the Soviet Union' by Dement'ev, Gladkov, *et al.*, 1951-54). This feature alone commends the volume to the attention of American bird students.

The first chapter consists of a history of the progress of ornithology in the Ussuri region during the past 100 years, from Schrenk (1854-56), Radde (1855-59), Maak (1855-59), Przheval'skii (1867-69), Arsen'ev (1910), Buturlin (1938), up to contemporary workers in the area, the author and his colleagues.

Chapter two, the main portion of the book, consists of brief commentaries on each of the 353 species which have been recorded in the area (roughly, the region between Nikolaevsk, Vladivostok, and Blagoveshchensk). A large number of the species dealt with are dismissed with a paragraph or two. The section on Brünnich's Murre is quoted in its entirety as a typical example:

"172. Brünnich's Murre. *Uria lomvia arra* Pall. As in the preceding species [*U. aalge*], this murre nests along the Northern shore of the Maritime Province. There is one specimen of this species in the collections of V. K. Arsen'ev. It was taken on 28 July, 1909, in a large nesting colony near Tumnin River. The details of distribution of these two murres along the coast of the Maritime Province as well as their abundance and the character of their residence here has not been clarified up to the present time."

Other species, particularly those which are endemic to eastern Siberia, are discussed more fully. The section on the Scaly Merganser (*Mergus squamatus*), for example, distinguishes between this species and *M. serrator* on the basis of the distance from gape to nostril and a table of measurements for this feature is supplied. There is also included under this species a habitat sketch plus a clear and instructive figure comparing the flank feathers of *M. squamatus* with those of both male and female *M. serrator*. The nesting habits, migration dates, and field identification marks

are discussed. *Falciennis*, as would be expected, is treated more fully than most of the species. The observations of this interesting grouse by early voyagers as well as contemporary ornithologists are quoted concerning the remarkable stupidity ("trustfulness" Vorob'ev calls it) which enables one to catch *Falciennis* with a loop of twine on the end of a stick. Data on the food, habitat preference, vertical distribution, mating call, and an excellent black and white sketch are included. Another interesting two pages concerns the Pheasant (*Phasianus colchicus pallasi*) which appears to be extending its range into those areas of the Maritime Province where agriculture is replacing forest land. There are some comments on the food regime of this species (which includes young potatoes and many other items), its cycles of abundance, and its autumnal, vagrancy type, migrations.

The fourth chapter is entitled: "General Review of the Avifauna of the Ussuri Region and Zoogeographic Analysis thereof." This chapter includes some interesting notes drawn from early day observations plus contemporary work which reveal phenomena such as changes in the specific composition of a heron nesting colony first noted by Przheval'skii in 1869. "The specific composition of this colony has changed at the present time: the Spoonbill is now completely absent as a nesting bird, but the Purple Heron (*Ardea purpurea manillensis*) is beginning to nest, having been found nesting here first by L. M. Shul'pin." The value of this chapter is substantially reinforced by a group of tidy distribution maps covering 45 species which reach the northern or southern limits of their range in the area under study. As would be expected, the valley of the Amur carries some species a little north and east of their "normal" ranges and, conversely, the Sikhote-Alin ridge carries some south, giving, on a smaller scale, a juxtaposition of valley and mountain avifauna similar in some ways to that in northern California.

With respect to nomenclature, the reviewer expected Vorob'ev to follow rather closely the comprehensive work of Dement'ev, Gladkov, *et al.* However, this is not the case. Vorob'ev uses *Nyroca* for the scaups and *Podiceps* for the grebes (*cristatus*, *griseogena*, *auritus*, *ruficollis*, and *caspicus*), whereas Dement'ev, Gladkov, *et al.*, use *Aythya* and *Colymbus* for the these genera. There are other similar adjustments (we hesitate to say corrections) throughout the book. With respect to common Russian names, the student who takes an interest in such matters will find much material for thought and some intriguing popular designations. *Uria lomvia* and *U. aalge* are called the Short-billed Kaira and Long-billed Kaira, respectively; *Cepphus carbo* and *C. columba* are referred to as Spectacled Chistik and Pacific Chistik. It is interesting that a generic distinction between *Uria* and *Cepphus* is made in the common name, thereby following American custom (Murre and Guillemot) rather than the European, which frequently uses Guillemot to refer to all four of the species involved. *Calidris alpina*, known commonly as Dunlin in England and Red-backed Sandpiper in America, appears under the apt title of Chernozobik (literally "black-breaster") in contradistinction to the Krasnozobik ("red-breaster") referring to *Calidris testacea*, the Curlew Sandpiper.

The title and format of this volume lead one to expect systematically organized descriptive material which would render it comparable to area guides such as those produced for many of our states by Forbush, Chapman, Hoffman, Howell, Bailey, and many others. Without the descriptive material it does not fall in this category. Nevertheless, it is a significant collection of notes on the birds of Northeast Asia and also serves as an excellent review of the status of the science in that part of the world, pointing out by implication (and in many cases directly) where future field work can fill in gaps in our knowledge of a rich and fascinating avifauna.—DAVID NICHOLS.

**North American Birds of Prey.**—Alexander Sprunt, Jr. Foreword by Roger Tory Peterson. Sponsored by The National Audubon Society. New York: Harper and Brothers, xxii + 227 pp., 43 color, 4 half-tone plates, 1955. Price, \$5.00.—So long as the crying need for adequate protection of our birds of prey exists, there will be need for such a work as Alexander Sprunt's "North American Birds of Prey." This attractive work is, as is stated on the title page, "based on and supplementary to 'The Hawks of North America' by John Bichard May," published in 1935. It does not depart widely from the treatment given the subject by Dr. May, beyond extending the scope of the work to include the owls, and adopting the nomenclature of the forthcoming fifth edition of the "A.O.U. Check-List." It brings up to date the situation regarding the battle for adequate protection of our vanishing birds of prey, and includes an appendix covering the state and provincial laws relating to bird protection by Kenneth D. Morrison, as well as a brief bibliography. Unfortunately, the cuts illustrating the winter and summer ranges of the different species contained in Dr. May's work have been omitted.

The appendix amply demonstrates how much educational work remains to be done before we can expect proper enforcement of adequate laws to discourage the senseless slaughter of all our birds of prey that continues over most of this continent, where the battle cry of the average man with a gun is still, "If it isn't game, it must be vermin."

In the opinion of this reviewer, the present work does not sufficiently dwell upon the seriousness of the situation in some of the northern and western states, where efforts in education made at Hawk Mountain and Cape May have only driven the hawk shooters to more isolated points where the slaughter cheerfully persists.

It is indeed unfortunate that so many of our state game organizations draw their financial support from the license fees of the gunners and are, in far too many cases, subject to undue pressure from so-called sportsmen's organizations, whose interests are confined to providing more and better hunting rather than toward a broader program of conserving our heritage of wildlife for future generations. It is to these, but especially to schools, youth groups, and farmer's organizations that the present work is addressed.

As in Dr. May's work, there is a concise resume of the whole hawk and owl question, and a systematic treatment of all the species and subspecies of hawks, eagles, vultures, and owls inhabiting North America, with full descriptions of their appearance in the field and in the hand, their nesting, range, and feeding habits.

The work is handsomely embellished with forty-three full-page color plates by Allan Brooks, thirty-seven of which were used previously in Dr. May's work, two by Louis Fuertes, and four half-tone plates by Roger T. Peterson, who also provided the foreword. It should be in the hands of everyone who wishes to keep informed on the present status of our birds of prey; and in every public and school library, with the hope that it may help to bring the rising generation to an appreciation of the place that these birds play in nature's economy—before it is too late to do anything about it.—EARL L. POOLE, *Director, The Reading Public Museum and Art Gallery, Reading, Pennsylvania.*

(For a different point of view on this book, see Parkes, *Wilson Bull.*, 68: 83-84, 1956. Ed.)

**Birds of Eastern and North Eastern Africa.**—Volume Two of Series One of the African Handbook of Birds. C. W. Mackworth-Praed and Capt. C. H. B. Grant. (Longmans, Green and Co., London) vii + 1099 pp., 43 color pls., 13 photo pls., numerous text figures and maps, 1955. Price, 45 shillings.—The second and final

volume of this handsome and useful field reference covers 825 species from the larks to the buntings. The format follows the pattern of the first volume [see Auk, 72: 307-308, 1955, for review. Ed.] and presents a concise summary of the available information on distribution, habits, habitats, nest and eggs, breeding season, food, and calls. The marginal distribution maps are a particularly valuable feature. An introductory paragraph and a key to the species of each family are instructive and well organized. Each of the color plates depicts fifteen or twenty birds. They are, for the most part, well executed and so arranged as to provide a basis for direct comparison. This represents a considerable improvement over the reduced pictorial plates used in the first volume. The absence of a scale of size on these plates may cause some confusion among amateur observers comparing, for example, a 2½ inch illustration of a tit on Plate 77 with a 1½ inch illustration of a bush shrike on Plate 76. Seventy-eight excellent photographs by V. G. L. Van Someren depict a wide variety of birds, mostly at their nests, and constitute a valuable feature of the volume despite their reduced size.

A flyer enclosed with the book announces that the second series of the Handbook, a two-volume work on the birds of the southern third of Africa, is "in an advanced stage of preparation."—JOHN T. EMLEN, JR.

**The Waterfowl of the World. Volume One.**—Jean Delacour. London: Country Life Limited. 284 pp., 16 colored plates by Peter Scott, and 33 distribution maps. Price, five guineas.—In 1945, when Delacour and Mayr published their important paper on the family Anatidae (Wilson Bull., 57: 3-55), little of the evidence on which they based their reclassification was presented, presumably owing to lack of space. The senior author of this paper has now published the first of three volumes which, to quote the jacket blurb "will provide a synthesis of all that is known of the waterfowl of the world as they exist at the present time." This first volume, covering the Magpie Goose (*Anseranas*), the whistling ducks (tree ducks), swans, true geese, and sheldgeese and shelducks, is noteworthy in being the only available work covering all the forms of geese and swans in the world. However, it is disappointing to those who look for more of the evidence on which the earlier classification was based or those who expect to find a complete summary of our knowledge of these birds' life histories and habits.

The major categories—subfamilies, tribes, and genera—are characterized. In the accounts of polytypic genera, keys to the species are provided, and these are followed by short sections on "general habits" and "captivity." Species and subspecies are treated more fully, and the general distribution of each form is shown on a map. Delacour is well known as an aviculturist and conservationist, so it is not surprising to find much information on the history and general characteristics of each species in captivity and on the status and history of rare and extinct forms.

A major contribution is the set of colored plates depicting the downy young. These and the colored figures of the adults of each form were painted by Peter Scott, whose experience with waterfowl in the wild and in captivity is second to none. The frontispiece of "Pinkfeet in Their Winter Quarters in England," with its unusually beautiful treatment of light, is a fine example of Scott's art. The semidiagrammatic illustrations of the individual species are less successful: whereas the poses are authentic, the bright backgrounds make accurate color comparisons difficult and the colors of some of the birds (notably the Crested Ducks) are very inaccurately represented. The latter may be in part the fault of the printer, nevertheless, Scott appears to be one of those rare individuals whose ability as an artist far excels his ability as an illustrator.

Much of the evidence on which Delacour and Mayr based their classification of the waterfowl was related to courtship and other displays. It is disappointing to find only the most general descriptions of these displays under the accounts of the genera and even more disappointing to read of the Hawaiian Goose, for instance, (p. 147) that "In its ways and behaviour, it resembles the Canada Goose to a great extent, but it has characteristics of its own; the voice is rather different, as is the display" and not to be told *how* it differs. There is a real need for a series of sketches and descriptions of the characteristic displays of each group of species. Delacour and Scott are extraordinarily well equipped to prepare such an analysis, and it is to be hoped that one of the remaining volumes will contain it.

The book has been so beautifully printed and bound that collectors of fine bird books will want to own it. Aviculturists, birders, and sportsmen who want to learn more about waterfowl will find much to interest them in it, but the more serious students of birds will probably be disappointed in the paucity of specific details to document many of the broad statements which the book contains.—ROBERT W. STORER.

**The Species of Middle America Birds.**—Eugene Eisenmann. Trans. Linnaean Soc. N. Y. 7, vi + 128 pp. April, 1955. Price, \$2.00.—There has long been a need for an up-to-date list of the birds of Middle America, and within the limits set by the author, this work fills the need very well. A brief introduction in which are discussed the procedure used in preparing the list and comments on the distribution of birds in Middle America precedes the list itself. After ordinal and family headings, the species are listed by scientific and vernacular names. A brief statement (usually not more than a line) of the range is given. Subspecies are not mentioned, but there are many footnotes which call attention to unsolved taxonomic problems. A useful twelve-page bibliography and an index end the work.

It is obvious that much thought and care have gone into the preparation of this publication. This is particularly true in the case of the selection of the vernacular names. With the passing of such names as Natterer's Chatterer and the Lesser Hairy Hermit, some of the flavor may have gone out of Central American ornithology; but we have Eisenmann to thank for eliminating subspecific vernaculars. This is a healthy trend and one which is becoming more general on this continent. It is to be hoped that the authors of the second part of the Mexican check-list will drop the useless and frequently absurd subspecific vernaculars in Spanish which are apparently being coined expressly for their list and which will never come into anything approaching general use.

One may disagree with Eisenmann on his choice of names (and I for one strongly object to the use of "woodcreepers" for the dendrocolaptids), but the names were not lightly chosen. In most cases the name selected was already in the literature and was decided upon only after consultation with several other workers.

'The Species of Middle American Birds' is a worthy successor to the earlier Transactions of the Linnaean Society of New York and is a work which will be useful for many years.—ROBERT W. STORER.

**The Birds of the British Isles. Volume Four.**—David Armitage Bannerman. (Oliver and Boyd, Edinburgh), xii + 259 pp., 29 colored plates by George E. Lodge. Price, 45 shillings.—The fourth volume of this work covers the swifts, nightjars, bee-eaters, hoopoes, rollers, kingfishers, woodpeckers, cuckoos, and owls. The format and treatment are similar to those of the first volume (see *Auk*, 71: 216-217, 1954). At least two more volumes are projected to treat the remaining non-passerines.—ROBERT W. STORER.