

## PUBLICATIONS REVIEWED

BIRDS OF MASSACHUSETTS AND OTHER NEW ENGLAND STATES. By Edward Howe Forbush. Part I. Water Birds, Marsh Birds and Shore Birds. Pages i-xxxii + 1-481. Issued by authority of the (Massachusetts) Legislature, 1925.

If the average of comprehensiveness and artistic merit of the more important bird books that have appeared during recent years could be plotted in a curve, it may safely be predicted that such a curve would be decidedly upward, not only in the taxonomic monographs, life history biographies and more elaborate group treatments but especially in the state bird lists. When the two volumes of Eaton's "Birds of New York" appeared, in 1909 and 1914, a new standard of pretentious state bird lists seemed to have been established. The recent appearance of Dawson's "Birds of California" seemed almost to reach the ultimate artistic possibility in books of this character. While the work mentioned above, of which "Birds of New York" appeared, in 1909 and 1914, a new standard of elaborate bulk of the "Birds of New York," and does not have the lavish illustration of the "Birds of California" in the opinion of the reviewer it is the peer of either of them in fundamental artistic merit and exceeds either of them in the character of the abundance, conciseness and availability of reliable and useful information about the birds treated. In other words, a new and yet higher standard has again been set in state bird books.

The present volume is the first of three that are to constitute the completed work. It deals with the water birds, while the following volumes are to deal with land birds. The sequence and nomenclature used is that of the A. O. U. Check-List and its supplements. There are detailed original descriptions of the plumages, molts and measurements of the included birds, and also concise but adequate paragraphs on the field marks, voice, haunts and habits of each, as well as a complete statement of the distribution of each form in New England and its seasonal occurrence in Massachusetts. From the standpoint of text, it would seem that nearly any ordinary inquiry regarding the birds dealt with could be found answered in these pages.

In the matter of illustration, the most striking feature is the series of thirty-three beautifully executed and admirably reproduced colored plates by Louis Agassiz Fuertes. These plates apply an artistic principle not previously used in any American bird book, in that they are without margins but go clear to the edge of the page, and bear no printed captions or explanations. The artist has been very successful in his grouping of the birds upon these plates, and their attractiveness is further enhanced by the fact that each plate is a complete picture, with a suitably colored background, thus bringing a unity to the picture that is usually lacking in colored plates of groups of birds. At the same time there is no loss in the accuracy and usefulness of the plates. In addition to the colored plates there are thirty-five pen sketches, by the author and others, interspersed in the text, and sixty-eight cuts of bird's nests and mounted specimens of the rarer or accidental species. In short, the entire content and make-up of the book appeals to the reviewer as adequate, reliable, artistic and mechanically well executed. Ornithologists of Massachusetts and the other New England states are indeed fortunate to have available such a splendid summary of the ornithological knowledge pertinent to their area.

This book is published by the State of Massachusetts, and copies may be secured by remitting five dollars to Dr. Arthur W. Gilbert, Commissioner, Massa-

chusetts Department of Agriculture, State House, Boston Massachusetts. It is safe to predict that the demand for this book will be such that it will soon be out of print, like the two preceding volumes by the same author that were also published by the state.—M. H. S.

A DISTRIBUTIONAL LIST OF THE BIRDS OF BRITISH COLUMBIA. By Allan Brooks and Harry S. Swarth. Pacific Coast Avifauna No. 17, Cooper Ornithological Club. September, 1925.

This is a comprehensive, and doubtless a complete and authentic, catalogue of the birds of British Columbia, the home of the senior author. The annotations concern only the status of the species treated. A glance at the hypothetical list and the list ascribed to British Columbia on unsatisfactory grounds brings a feeling of confidence in the care with which the major list has been prepared. We note an innovation in the inclusion of one or two Latin synonyms for many of the species of the list, although not a complete synonymy, of course. Heretofore the vernacular names have been regarded, in most cases, as the variables.

One colored frontispiece depicting the young and adult of the Queen Charlotte Saw-whet Owl, several half-tones, and numerous distributional maps, form the illustrative material. An extensive bibliography and index complete the book. The mechanical work is up to the standard of the California publications.—T. C. S.

BRITISH BIRDS. By Archibald Thorburn, F. Z. S. Longmans, Green and Co., New York. 1925. Demy 8vo. Per volume, \$5.50.

This work, which is to be completed in four volumes, may be regarded as a small edition of the earlier quarto work (published in 1915) under the same title and by the same author. The earlier edition was limited to 105 copies, which were sold (at \$40.00) before the prospectuses were distributed in America. The quarto edition illustrated from five to ten birds on a plate, and it contained only eighty plates. The octavo edition, on the other hand, contains one hundred and ninety-two plates, each showing from one to three birds. In spite of its smaller, though handier, size it appears probable that it will illustrate as many species. The set of four octavo volumes is priced at \$21.00, and we trust that the edition is intended for general distribution.

Volume I is devoted entirely to the passerine birds, and here we become better acquainted with many species which we have long known only by name, e. g., the Stonechat, Chaffinch, Nightingale, Bullfinch, Fieldfare, Mistle Thrush, Brambling, and Song Thrush; these and one hundred others are pictured in color in the forty-eight plates of this volume. Volume II completes the treatment of the order Passeres, and also includes the owls, hawks, cormorants, herons, and bitterns. This volume pictures the Jackdaw, the Sky-lark, the Cuckoo, and many others which are merely names to most American bird students. In this volume the same number of plates illustrate only seventy-one species, which is because most of the birds of prey have a full plate.

Of course, the outstanding feature of the work under review is the artistic work of the author. None but colored illustrations are used. The plates may well be described in superlative terms. The superb delicacy of the coloring and the subdued harmony grip the attention with such subtlety that the reader wonders what elements in the artistry may explain the effect. In most of the plates the background is solid and dark in tone. Even when the sky is shown it is painted in dark shades. This method of treatment results in the absence of sharp contrasts. There is a blending of tones and a mellowness which is very pleasing to

the eye; and we are bound to say that the distinctness of the bird's pattern does not suffer in the least.

On the average about one page of text matter is presented for each species. The text, which is the same as in the quarto edition with some revision, is an informal and non-technical account, stressing sometimes the distribution, or again the nesting habits, plumage, song, or food habits, as these topics may chance to be of greater interest in the species discussed. So far as nomenclature is concerned it probably makes little difference, in the work of this kind, whether one system or another is followed. Mr. Thorburn has followed Saunders' Manual of British Birds, and has not encumbered his work with trinomials. For the American students who wish merely a passing acquaintance with the British birds the present work will, we believe, definitely serve this purpose, and the work itself will prove a most delightful addition to one's ornithological library.—T. C. S.

BIRDS COLLECTED AND OBSERVED DURING THE CRUISE OF THE THIEPVAL IN THE NORTH PACIFIC, 1924. By Hamilton M. Laing, with systematic notes by P. A. Taverner. Bull. No. 40, Victoria Memorial Museum, Ottawa, Canada. November, 1925.

The route of the vessel is not made clear by the text; a map or chart showing the route and principal stops would add greatly to the interest and value of such a report. Most of the ornithological work was done apparently in the Aleutian Islands and Kamchatka. Little work was done in Japan because this government would not grant collecting permits. One hundred and twenty-five forms are treated in the list, most of which were identified from specimens taken; a few field observations are reported without attempt at close identification.—T. C. S.

FOOD HABITS OF THE VIREOS. By Edward A. Chapin. Department Bull. 1355, U. S. Dept. of Agriculture, November, 1925. Price 10 cents.

Ten species of vireos are discussed from the standpoint of economic value. The proportions of various foods are shown by dial charts and shaded diagrams. It is a valuable source of information.—T. C. S.

FOOD OF AMERICAN PHALAROPES, AVOCETS, AND STILTS. By Alexander Wetmore. Department Bull. 1359, U. S. Dept. of Agriculture. October, 1925. Price not given.

This bulletin treats of the food habits of the three species of phalaropes, the Avocet, and the Black-necked Stilt. It contains three full-page, black and white inserted plates from paintings by E. L. Poole. The bulletin is a useful source of information.—T. C. S.

CORNELL RURAL SCHOOL LEAFLET. Edited by Dr. E. Laurence Palmer. Published by the New York College of Agriculture, Ithaca, N. Y.

This periodical is devoted to nature study in general, and covers the ground in a most admirable way. We do not know of anything else like it. The number which has just come to hand (November, 1925) is devoted to mammals, and is well illustrated with animal pictures. The issue for March, 1921, was devoted to birds; and in the issue for September, 1922, we find an article on winter birds' nests, with a key by Dr. A. A. Allen for their identification. The only criticism we might offer is that much of the text material is anonymous, except as we may inferentially assign it to the editor, which, of course, is neither safe nor scientific. We submit that the editor should not withhold his name from contributions through a sense of modesty.—T. C. S.

THE LAND VERTEBRATE COMMUNITIES OF WESTERN LEELANAU COUNTY, MICHIGAN, WITH AN ANNOTATED LIST OF THE MAMMALS OF THE COUNTY. By Robert Torrens Hatt. Papers Mich. Acad. Sci. Arts & Let., III, 1923.

A survey of the ecological communities of the area with special reference to the land vertebrates, including birds.—T. C. S.

We have received a reprint of Mrs. Nice's article on "Extension of Range of the Robin and Arkansas Kingbird in Oklahoma" (*Auk*, XLI, October, 1924), in which there is a reported a westward movement of the Robin, and an eastward movement of the Arkansas Kingbird.

The January-February, 1926, number of the *American Naturalist* contains a lengthy historical and descriptive account of fishing with the Cormorant in China, by Dr. E. W. Gudger. The article is accompanied by sixteen half-tone illustrations, most of which are reproductions of ancient drawings. The earliest historical account of Cormorant fishing in China, so far as this author has discovered, dates back to the thirteenth century. Much interesting information concerning the habits of these birds is here presented.

The *Biological Bulletin* for January, 1926, contains an article entitled "Fauna of Penikese Island, 1923", edited by R. E. Coker. This paper contains a short list of twenty-nine species of birds which were found on this island in 1923. From the fact that one species is listed as the "Eve Swallow?" without the accompanying scientific name, although the scientific name is given in the other cases, we surmise that the Editor was unable to be certain just what an "Eve Swallow?" is, and therefore would not risk attaching a scientific name. Reasoning thus, we also wonder whether the other identifications were made by persons who were sufficiently familiar with birds to make the list valuable.

Penikese Island, in the Elizabeth Island group in Buzzard's Bay, is known in biological annals because of the establishment there in 1873 of a field laboratory, with which the great Louis Agassiz was connected. This laboratory is regarded as the forerunner of the present Marine Biological Laboratory at Woods Hole. To celebrate the fiftieth anniversary of the founding of the Agassiz laboratory a group of botanists and zoologists, in 1923, undertook a biological reconnaissance of the old island. The bird list is annotated by such terms as "few", "rare", "one pair", etc. Three terns are listed, but no census was attempted. We suspect that the list can have little value.—T. C. S.

Dr. Alvin R. Cahn, of the University of Illinois, contributes a most interesting article on "The Migration of Animals" in the *American Naturalist* for November-December, 1925 (pp. 539-556). After reviewing the existing theories which aim to explain the cause of migration the author concludes that, "Not food nor temperature nor wind nor length of day explain migration unless there is an internal mechanism upon which they can operate." "The animal body is a complex of regulatory mechanisms which regulate the body activities of the animal and, through these, may regulate the distribution of the species."

After pointing out that the animal regulates or adjusts itself to external changes the author reasons that similar regulatory movements may result from internal physiological changes. He then sets about to show the cause of certain

internal periodic changes which are coincident with migration in many animals. Discussing then the periodic activity of the sex glands, and their effects upon secondary sexual characters, the author inquires, "Since secondary sexual characters, which are ordinarily considered as being *physical* changes in the animal, are admittedly stimulated or repressed by gonad activity or inactivity, is it not conceivable that migration, a *behavior* change at the same time, is likewise an expression of gonad activity?"

Certain domesticated animals exhibit a periodic tendency to roam during the rutting period. Removal of the ovaries eliminates this roaming tendency, because, thinks the author, this operation prevents the formation of certain hormones in the corpora lutea of the ovary; and the presence of these hormones normally causes a certain physiological imbalance, which accounts for the roaming activity. So, "the singing of the male bird is characteristic of the spring migration and the period following. Why does he sing? Is he happy? Probably he is no happier than he will be a little later in the season when he is silent. His metabolic processes are speeded up by the activity of his reproductive hormones and the result finds expression in song as in other species it may find expression in color or plumage modifications or odd actions, as the dance of the prairie chicken and the drumming of the grouse."

The big waves of bird migration are practically independent of the weather; and the same species occur quite regularly in the same waves, or on a regular schedule. These facts suggest an internal rather than an external cause. "Non-migratory species are such because the degree of physiological change due to the activities of the gonads is insufficient to throw them out of harmony with the environment: their range of tolerance is greater." Non-migratory species, such as the English Sparrow and certain woodpeckers, do not exhibit secondary sexual characters in any marked degree. The author believes also that "specific differences are more than a matter of color of a feather or of number of primaries or length of toe. I believe that species are physiologically and perhaps cytologically different."

To sum it up we understand Dr. Cahn's proposition to be something like this: migration is caused by the elaboration of certain hormones during the periodic activity of the gonads, which set up a physiological imbalance, to which the organism attempts, automatically, to adjust itself by bodily movements.

The regularity in the path of migration is probably not explained by this theory; neither is it clear that the return migration in the fall is explained. The theory here outlined is, of course, contradictory to previous theories which are based upon heredity as a causal factor in migration.

Incidentally, the author explains certain other forms of bird behavior in terms of tropisms. For instance, the breeding bird has entered into a new physiological state, different from before. During the process of nest-building, and with the advent of the eggs, the female bird becomes positively thigmotactic, i. e., responds favorably to surface contact. Thigmotaxis is one of the well-known bodily responses in the lower organisms, but has not been often applied in explaining the behavior in higher animals. We may have opened up here a new line of investigation in which the experimental method may be successfully employed. This paper is one of the most important recent contributions in ornithological literature, insofar as it applies to birds.—T. C. S.