

RECENT LITERATURE

Wilder and Hubbard's 'Birds of Northeastern China.'—This¹ is an attempt to popularize bird study in China. It deals particularly with the avifauna of Hopei Province (formerly Chihli), but it probably applies equally well to the adjoining provinces of this part of China. Three hundred of the forms that are treated more or less fully, are of established occurrence and one hundred and forty-five which are accidental or of doubtful status are given in footnotes. After a number of pages of text, explaining the object of the book, use of the keys, geography of the region, etc., keys to the orders and families are given, followed by keys to the species. Then the systematic treatment of the species is commenced, starting with the crows and ending with the pheasants. Under each family a few pertinent characters are given. The species are then taken up and brief descriptions given, mostly confined to field-marks; measurements are rarely given. Notes on the habits, calls, nest and eggs, and distribution are briefly given under each form and are one of the most valuable features of the book, as they are mostly founded upon personal observation during many years' residence in the country. The book is embellished with many wood-cuts, more or less crude, but sufficiently accurate in most cases to be of assistance in identification. Following Hartert, the authors unite the Sylviidae, Turdidae, Timaliidae, and Muscipidae under the latter name. This makes a bulky and unwieldy assemblage of heterogeneous elements and is a retrograde step in classification. The form, *Pterorhinus davidi davidi*, is placed in *Garrulax*, which is certainly no improvement. The modern tendency to combine genera is a step backward and does not have the reviewer's sympathy. The Curlew Stint (p. 538) is placed in *Calidris*; this is probably a slip, as the Knot is also and correctly placed in this genus on p. 545. In my opinion Mathews was justified in erecting the genus *Ateliotringa* for *Totanus tenuirostris* Horsfield. These are minor matters, however. The chief criticism of the work as a field-book is its bulk; the same matter could have been more condensed at a great saving, which would have made it more convenient to carry. For the audience it was designed to meet, this is an excellent book and it is to be hoped will meet with great success. The authors are to be congratulated upon being able to produce it in a war-torn country.—J. H. RILEY.

Oberholser's 'Bird Life of Louisiana.'—This² latest of 'State lists' is the result of a cooperative enterprise undertaken jointly by the Department of Conservation of the State of Louisiana and the U. S. Bureau of Biological Survey. It consists of a brief introduction, a short chapter on migration, a calendar of bird migration in the State and a few pages on the protection of birds, these sections totalling only about twenty-three pages. The annotated list deals with 429 forms plus a hypothetical list of twenty-two and covers over 650 pages, while a comprehensive bibliography of 477 titles, together with an unusually complete index occupies the balance of the volume.

The annotated list is of course the chief reason for the publication of the volume, and as such deserves especial notice. The treatment for each form of regular occur-

¹ *Birds of Northeastern China.* A practical guide based on studies made chiefly in Hopei Province. By George D. Wilder and Hugh W. Hubbard. Illustrated mainly by Li Chu-nung, Richard Mather, and Gertrude S. Wilder. Published by the Peking Natural History Bulletin, 12mo, v + 700 pp.; many wood cuts, 2 maps, April 1938. Price, \$7.50 local currency (in foreign countries \$1.50 more).

² Oberholser, Harry C. *The Bird Life of Louisiana.* Bull. no. 28. Department of Conservation, State of Louisiana, New Orleans, 8vo, pp. i-xii, 1-834, 45 pls., June, 1938.

rence is virtually the same: a brief statement of the status of the bird, its haunts, habits, field-marks, migration and nesting dates and then, the most valuable feature of the entire list, the detailed distribution throughout the State based on the examination of all available specimens collected in the State, and reports of occurrence based on literature and on the hitherto unpublished records by numerous correspondents, the author's personal observations and the material in the files of the Biological Survey. Certain species are added to the avifauna of the State on the basis of sight records; in the reviewer's opinion such species are better placed on the hypothetical list until substantiated by specimens.

It would have been better, in preparing this list of Louisiana birds had the author confined himself to the more conventional type of 'State list' following the nomenclature adopted by the fourth edition of the A. O. U. 'Check-list,' instead of adopting a number of generic subdivisions rejected by the Check-list Committee. Further, such a list hardly seems to be the proper place for describing new subspecies, or for reconstituting old ones that have not hitherto been deemed worthy of recognition. No less than five new races are proposed by Dr. Oberholser in this volume as follows:—

Sterna forsteri litoricola (p. 290), type from Smith's Island, Virginia, breeding along the Atlantic and Gulf coasts from Virginia to Texas.

Penthestes carolinensis quilloti (p. 425), type from Belair, Louisiana, inhabits the lower Mississippi Valley region in the central-southern United States.

Molothrus ater buphilus (p. 611), type from Marsh Island, Louisiana; distribution, central-southern United States west to New Mexico and central-western Texas and south to northeastern Mexico.

Pipilo erythrophthalmus leptoleucus (p. 641), type from New Orleans, Louisiana; distribution, southeastern and central-southern Louisiana.

Melospiza georgiana ericrypta (p. 675), type from Fort McMurray, Alberta; distribution, breeds from Alberta and Manitoba to North Dakota, winters south to Tamaulipas, Louisiana and Florida.

Of the long-disused subspecific names, the following have been resurrected, and in many instances the evidence in support is too insufficient to be convincing:—*Charadrius melodus circumcinctus* (Ridgway), *Larus atricilla megaloptera* Bruch, *Sphyrapicus varius atrothorax* (Lesson), *Riparia riparia maximiliani* (Stejneger), *Toxostoma rufa longicauda* (Baird), *Hylocichla ustulata almae* Oberholser, *Setophaga ruticilla tricolora* (P. L. S. Müller), and *Peucaea aestivalis illinoensis* Ridgway.

The concluding paragraph of the foreword by Mr. William G. Rankin, Commissioner of Conservation, expresses the hope that "these [the plural referring to a supplemental bulletin now in preparation] will serve to aid the efforts of teachers everywhere throughout the State in educating students to a richer appreciation of the aesthetic beauty and practical value of our birds as an important part of our wild life." In the reviewer's opinion this volume is too technical to serve this purpose; rather it will prove of more value to the taxonomist and student of distribution.—
J. L. PETERS.

Anker on 'Bird Books and Bird Art.'—It is significant of the almost universal interest in birds, that the University of Copenhagen, wishing to mark by some worthy memorial the completion of a new modern building for its great library on natural sciences and medicine, should have decided to issue in commemoration of that happy event, this splendid volume¹ on the history of ornithology with special refer-

¹ Anker, Jean. Bird Books and Bird Art | An outline | of the literary history and iconography of | descriptive ornithology | etc. 4to, xviii + 251 pp., 14 pls., 1938; Levin and Munksgaard, Norregarde 6, Copenhagen. Price 42 kr. in paper, 48 kr. bound.

ence to its iconography. For the development of ornithology has closely paralleled our cultural advance. While the historical development of ornithological science is not a new subject, it has perhaps never before been treated so inclusively as in the present account, which emphasizes especially the use of illustrations to supplement, or, as in some early works, even to supplant verbal description. The text is divided into two main sections, the first of which is devoted to the narrative, while the second is mainly a bibliography of the works containing illustrations of birds, to be found in the University's library.

The history of ornithology and of the iconography of birds is treated in seven chapters. The first of these very briefly considers the few remains of carvings or outlines that have come down to us from the Stone Age, with a brief paragraph only on the many bird paintings to be found in the tombs and temples of ancient Egypt. No mention is made of the many fine figures of birds by American aborigines, such as those of the Maya codices. The beginnings of ornithology as found in the works of Aristotle and Pliny formed the basis of European knowledge of birds in the Middle Ages, while in addition many excellent figures are known in certain manuscripts of those times of which the author has something to say. Shortly after the art of printing had been invented, there followed a period when the making of woodcuts was highly developed, with the use of woodcuts in books so that the illustrations could be printed with the type matter. The year 1555 marked the inception of a new era in natural history, with the publication of the works of Bélon, Gesner and Olaus Magnus, all in the same year and we are given many interesting details of the artists and authors of these and preceding years. There followed the period of engraver's art, giving us the first works with plates engraved on copper, later on stone, and either plain or hand-colored, or still later with printed colors. A milestone on this road of progress was the 'Ornithologiae libri tres' by Willughby and Ray, almost the first of the works of a scientific nature on birds, with perhaps the exception of Bélon's. The last third of the eighteenth century was marked by the great works of Buffon, the 'Planches enluminées,' and the 'Histoire Naturelle,' which were received with such universal favor that "even ladies found amusement" in them. This, too, was the period of great exploring voyages with their beautifully illustrated reports prepared by various naturalists, and of many encyclopedic works that assembled descriptive accounts of the known birds. The first half of the nineteenth century was notable for its many magnificent folio works illustrating birds, such as those of Audubon, Gould, and Levaillant, works of such unwieldy size and such great cost that it became a question if they really aided scientific progress. Finally, the author passes in review country by country, many of the main contributions to ornithology made by each, bringing the subject to the present time. He believes, and no doubt rightly, that photographs of birds, in spite of their modern perfection, can never wholly replace the work of the bird artist, whose hand and eye combine to give the charm of a personal touch.

The second half of the book contains an annotated bibliography of works on birds that contain illustrative material apart from photographic, and are to be found in the University Library of Copenhagen. Of these there are over five hundred titles, with as many more in a second part of the list, of general works, especially those relating to the history of art and its bearing on ornithology, concluding with an index of authors and artists, fifteen pages in double column, with the addition of the dates of birth and death of the various persons, the compilation of which must in itself have been an immense task.

The book is handsomely printed, the text in double column to facilitate reading on

account of the size of the page. Twelve of the plates are reproduced from the works of selected authors to illustrate the progress of ornithological art, from the woodcut period beginning with von Meigen's 'Buch der Natur' (1475), through the hand-colored engraving era of Edwards and Catesby, to the more modern colored lithograph and offset. It is a matter of satisfaction that the last of this series should be one of the plates by Fuertes of the Nile Helmet Shrike, illustrative of work that ranks high and loses little in comparison with that of Gould or of Thorburn. Two additional plates show, as frontispiece, paintings of three species of dead birds contributed by Johannes Larsen, a modern Danish artist; and (the second) a reproduction of an Egyptian tomb-painting of the Red-backed Shrike, remarkable for its faithfulness to details combined with Egyptian artistic restrictions. The text, originally written in Danish, has been beautifully translated into English, and there are very few typographical errors, so that its important historical matter is thus readily available to a wide circle of English-speaking people. The author and sponsors of the work may well feel satisfaction in having produced a book in every way worthy of the event it commemorates.—G. M. ALLEN.

Bent's 'Life Histories of the Birds of Prey,' Part 2, concludes the treatment of the raptorial birds of North America north of Mexico, taking in the falcons and caracaras and all the owls. It forms the eleventh volume¹ in this well-known series and fully maintains the excellent standard of the previous parts. The method follows that of the other volumes, giving for each species a general account of the habits (haunts, courtship, nesting, eggs, food, behavior, and voice), a brief description of plumages, the detailed distribution in summer and winter, and egg dates. In the case of subspecies, the account gives only such points wherein they are found to differ characteristically from those of the form first described. In all, eighteen species and races of falcons and two species of caracaras are considered, as well as fifty of owls. Of these only one, the caracara of Guadeloupe Island, is extinct, having been wiped out about 1900 by herders, whose young goats it preyed upon. As before, the greater part of the authorship rests upon Mr. Bent, who possesses a happy faculty for presenting in few and well-chosen words the outstanding characteristics of the habits and haunts of each bird, and for weaving into a coherent whole the vast amount of notes gleaned from literature, or contributed by many correspondents, or drawn from his own wide experience in the field. Of European species that just come within the North American area, the accounts of the Peregrine Falcon and the Kestrel are contributed by Rev. F. C. R. Jourdain; those of the Short-eared Owl and Richardson's Owl were prepared by the late Dr. Charles W. Townsend; that of the Eastern Sparrow Hawk by Dr. Winsor M. Tyler; while the excellent life history of the Prairie Falcon and those of eight other western species are the work of Milton P. Skinner. The ninety-two plates illustrating this part are from photographs of a high order of excellence and show the varied nest sites, the eggs and nests, the young stages and adults of six species or races of the Falconidae and twenty-six of owls. Some of these birds are very fully illustrated; thus there are six plates of the Prairie Falcon, five of the Duck Hawk, eight of Great Horned Owls, seven of Barred Owls, five each of the Barn Owl and the Snowy Owl. The total amount of time and effort involved in securing these series, contributed by various persons, must add up to a large whole, and is a good example of the cooperative nature of the work.

With the volumes on hawks and owls now complete, it is natural to compare the

¹ Bent, Arthur Cleveland. *Life Histories of | North American Birds of Prey | (Part 2) | Orders Falconiformes and Strigiformes* | Bull. U. S. Nat. Mus., no. 170, viii + 482 pp., 92 pls., 1938. For sale by the Superintendent of Documents, Washington, D. C., price 60 cents.

accounts with those of Bendire in the original 'Life Histories' of 1892. In this, one cannot fail to be struck by the vast amount of new matter that has accumulated in the meanwhile, so that the present work is much more nearly a monographic treatment than was possible in Bendire's day. The great advances made in photography and the many devotees to that branch of ornithology have also rendered possible now the permanent preservation in pictorial form, of the life appearances of a multitude of species that was quite out of the question in 1892.

While lack of space forbids extensive quotation from the present volume, it may be pointed out that Mr. Bent in reviewing the western races of Great Horned Owl, quotes Dr. L. B. Bishop as saying that the race named by Dr. Oberholser as *icehus*, though not recognized by the A. O. U. 'Check-list,' is perfectly valid. He has in his collection a series of over twenty specimens and regards it as the breeding bird from Tillamook County, Washington, south in the coastal area to Monterey, California.

The wealth of useful and detailed information, well arranged and sifted from all available sources, makes this series of bulletins a standard work of reference on the general biology of North American birds.—G. M. ALLEN.

Chapman's 'Life in an Air Castle.'—A new book from Dr. Chapman's facile pen is always an event. The present volume¹ telling of further studies and experience at Barro Colorado Island forms a sequel to his earlier book, 'My Tropical Air Castle' (1931), and is the outcome of later winters spent at this ideally situated observatory in the American tropics. Here, as nowhere else in this hemisphere, the naturalist finds himself comfortably situated in the midst of a luxuriant forest with its undisturbed wildlife literally at his doors, to be studied at leisure.

The opening chapter finds the author once more on a steamer bound for Panama, and prepares the way for the reader's arrival at the Laboratory. Succeeding chapters picture the familiar birds and mammals to be seen from the balcony of his 'air castle,' with more extended accounts of some of the species of particular interest, the trogons, tanagers, toucans, and night birds. The account of the Turkey Buzzards throws new light on the migratory habits of these great birds, which, drawn evidently from some northern localities, pass semiannually to and from a more southerly wintering area, here suggested as the savanna region of the Orinoco. Experiments are described which were designed to throw some light on the sense of smell in these birds, but certain conclusions seem difficult to make. An entire chapter is devoted to the social habits of the Smooth-billed Ani, another to the remarkable mating procedure of Gould's Manakin, while others deal with the monkeys, the versatile coatis, the peccaries, and shyer forest animals. A final word sums up the past history of Barro Colorado and something of the work of the Laboratory since its foundation fifteen years ago, with a bibliography of special investigations published concerning its flora and fauna. An appendix gives a useful list of the birds hitherto ascertained to occur on the island, with very brief annotations.

Although several of the chapters have previously appeared elsewhere, so that much of the more important studies are not here told for the first time, there is nevertheless a great deal that is new, while some of the more detailed accounts, such as that of the Gould's Manakin, are partly re-written in adaptation to the needs of a popular book. The thirty-one plates are from excellent photographs, mostly taken by the author; while chapter-headings from pen-and-ink sketches by Jaques are an attractive addition.

There is a need for works of this kind, that shall picture for the reading public in

¹ Chapman, Frank M. *Life in an Air Castle*. 8vo, xii + 250 pp., 31 pls., 1938; D. Appleton-Century Co., New York. \$3.00.

attractive form some of the results of a naturalist's studies, and thus vividly convey some conception of the abundant and remarkable life of the stable tropics so unfamiliar to those of the north-temperate zone. In presenting this sequel to his previous volume, Dr. Chapman once more makes a welcome contribution to our knowledge of living birds and mammals. Most of us build air castles; but Dr. Chapman puts foundations under his.—G. M. ALLEN.

Horton-Smith's 'Flight of Birds.'—Ever since men began to fly they have been steadily acquiring a clearer knowledge of the flight of birds, and of the mechanics, adjustments, limitations and hazards of this method of locomotion. "It is highly desirable," writes Sir Gilbert Walker in his foreword to this little volume,¹ "that from time to time the understanding based on this information should be presented" in form suitable for readers unfamiliar with the complex technicalities of the subject. With this laudable purpose the author here sets forth a short account of the history of man's attempts to study and imitate the flight of birds with especially a review of the development of this mode of progress in birds, their various types of flight, the mechanical factors involved, and some of the special adaptations of the wing under various conditions of environment. Probably the first to study and formulate some of the principles of bird flight was that remarkable Florentine, Leonardo da Vinci, whose treatise on the subject was published in 1505.

At the present day sustained soaring flight has been successfully imitated by human gliders. In tracing the evolution of bird flight one may disagree with the author that the ancestors of birds were dinosaurs, that enlarged scales on the fore limbs provided their first support in the air, or that fore-limb membranes "laid the foundation" for future wings. If Archaeopteryx, with its primitive style of wing, was capable only of "fluttering flights" or "prolonged glides," it might have been emphasized that its flight feathers seem to have consisted of small weak secondaries only, so that rowing flight may not have been developed at that stage at all. The structure of modern birds' wings, the correlation of wing form with types of flight and habitat and a discussion of the action of the wings in relation to the air medium form the subject of six of the eight chapters, while the two remaining deal with velocity and safety devices. The author divides soaring birds into two categories according to the relative altitudes at which this action takes place. The high soarers, like eagles, are broad-winged and make use chiefly of ascending convectional currents of air, hence are mostly land birds, whereas the low soarers like albatrosses and gulls, have long narrow wings and make use of the "variations of the wind" as currents flowing in general parallel to the earth's surface. This division, while instructive and interesting, may have its exceptions, while such a bird as the Herring Gull may soar in both types of air currents. The chapter on velocity of flight points out the common faults in estimating this speed through the usual disregard of the essential conditions of wind direction and wind velocity as affecting the speed of the bird and provides a simple means of making approximately correct calculations by plotting to a given scale the observed course, distance and wind velocity, the last to be determined through use of the Beaufort scale, which is reproduced. Examples are given showing how from simple observations of these factors the true speed may be worked out. The final chapter contains much that is interesting in explanation of the meaning of the wing slits produced by emarginated primaries in stabilization of flight while soaring. Finally there is a glossary as well as a short bibliography which might have been much more helpful if dates, pages and place of publication had been uniformly

¹ Horton-Smith, C. *The flight of birds*. Small 8vo, 182 pp., 17 pls., 30 text-figs., 1938; H. F. & G. Witherby, Ltd., 326 High Holborn, London, W. C. 1. Price 7s. 6d net.

given. Although many questions remain unanswered, the book forms an interesting exposition of the general subject which will be of value to anyone interested in making further (and needed) observations on flight and speed. It is especially commendable for its simple treatment of a complicated matter, with the addition of results derived from recently developed knowledge of aërodynamics.—G. M. ALLEN.

Allee's 'Social Life of Animals.'—It is only of recent years that we have begun the more careful study of the social relations of animals. Such relations have been variously defined but at least have their beginning when 'the behavior of one individual affects that of another'; while with further development groups and aggregations may show increasing complexity of individual and collective interdependence, leading in some cases, as in ants, bees and some vertebrates to a social organization involving intricate adaptations. The volume¹ here noticed grew out of the author's course of Norman Wait Harris lectures given at Northwestern University and presents in brief and readable style a summary of his own and other studies on certain social animals, particularly some of the invertebrates. It traces the beginnings of cooperation, the formation of aggregations brought about through some common stimulus or advantage, the behavior of groups as units, and simple or complex organization within the groups. That there are often advantages of survival value in group formations is pointed out even in the case of flatworms, certain species of which, if isolated and exposed to ultra-violet light soon die, but if in groups, crowd together so that the upper protect the lower ones, prolonging the lives of the latter.

The portions of the work dealing with birds are necessarily limited and do not nearly cover the subject. It is clearly apparent that only a beginning has been made in careful study of individual species. Thus the author points out that the social hierarchy or 'peck-order' established by Schjelderup-Ebbe among groups of domesticated hens proves to be of a different nature in doves and parrots, or even in different groups of hens, while continued research will doubtless show further variations among other species. Nor has it been possible to extend the investigation very far as yet among birds in a wild state. Nevertheless it might have been suggested that the spacing out of certain species in the breeding season is perhaps but a manifestation of a similar instinct. Very little mention is made of the work of other recent students of avian sociology as of Heinroth in Germany, Lorenz in Austria, Noble and Mrs. Nice in this country, but after all the sociology of birds demands a volume in itself.

The implications of the study of social behavior in lower animals as applied to the human species are set forth in a later chapter of the book with much that is interesting and entertaining. While the author warns that we must be cautious in the distinction between analogy and homology, he inclines to the view that many of the more complex relations may have developed in different lines of descent from common basic origins.

The book is well printed and attractive to hand and eye, is well indexed and contains a useful bibliography. It forms a suggestive and illuminating review of certain aspects of the modern study of animal sociology that should be of wide interest not only to biologists but to the general reader as well.—G. M. ALLEN.

Commons's 'Log of Tanager Hill.'—Since most of the published matter on bird-banding is in the form of pamphlets or short articles in journals, this book² recounting the author's adventures in this field comes as a welcome addition to the

¹ Allee, W. C. *The Social Life of Animals*. 8vo, 293 pp., 49 text-figs., 1938; W. W. Norton & Co., Inc., New York City. Price \$3.00.

² Commons, Marie Andrews. *The Log of Tanager Hill*. 8vo, xvii + 244 pp., illustr., map; Williams & Wilkins Co., Baltimore, Maryland. \$2.50.

literature of the subject. Tanager Hill is the country estate overlooking beautiful Lake Minnetonka in Minnesota, where Mr. and Mrs. Commons spent their summers. Their especial interest in banding was aroused through listening to a presentation of the subject at a meeting of the A. O. U. at Chicago in 1922. Inspired by the thought of a closer intimacy with birds in this way, they commenced in the following spring to trap and band birds on their estate and found it a most absorbing occupation. The fascination of handling and knowing individually the birds thus marked gave a wholly new insight into the personalities of these visitors; and when in succeeding years the summer resident birds returned wearing their bands they seemed like old friends come back. The work was continued with meticulous care in handling the birds and in keeping the records until the death of Mr. Commons after eight years.

An introduction by Frederick C. Lincoln and a Foreword by Dr. Thomas S. Roberts, precede the author's account of the activities at Tanager Hill. An entire chapter is devoted to each of the eight years, and if the recital of the birds banded from day to day or from week to week becomes a trifle dull at times, one may gather nevertheless something of the author's enthusiasm and sense her keen interest in the changing moods of the seasons and their accompanying phenomena. During the eight years, a total of over eighteen thousand birds was banded, of which some 626 returned in following years, or about three and a half per cent. The two final chapters summarize the main results of the eight years of banding. Here a number of interesting facts are brought out. The local Western Mourning Doves winter in Texas as shown by four recoveries; several recoveries of Robins showed that the birds had gone to Louisiana, Alabama, Arkansas and even Mexico to winter; Giant Red-wings went to Louisiana and Texas; while Juncos, banded in October during migration, turned up in later winters in such scattered localities as New Jersey, Arkansas and Illinois. The summary tables show that by far the greater number of the many returns occurred in the year following banding, much fewer in the second year, while the number of banded birds that returned to the place of banding for a third or a fourth year was very small indeed. One Chipping Sparrow, however, returned to nest at Tanager Hill for five consecutive years.

The volume is really a memorial to the author's husband, Frank Watkins Commons, whose keen interest in the banding operations was the inspiration of her own. In it the author has with a measure of success imparted to her readers her own sympathetic delight in birds and natural beauty. Barring occasional misprints, the volume is attractive in appearance and contains much of interest to bird-banders as well as many facts of permanent value in the study of bird migration. The frontispiece is a portrait of the late Mr. Commons, and there are other illustrations many of them loaned by the U. S. Biological Survey, that enliven the text. Here is an excellent example of what may be done by amateurs in bird study to enrich our detailed knowledge of the habits of birds.—G. M. ALLEN.

Van Tyne's 'Check List of the Birds of Michigan.'—This is the first time since W. B. Barrows published his 'Michigan Bird Life' in 1912 that a complete checklist of the birds of Michigan has been made available. Dr. Van Tyne has listed 328 forms, 199 of which have known breeding records. Besides the common and the scientific name of each form, the status, so far as it is known, and the general range are given. Naturally in twenty-six years' time a great deal has been learned about the birds of Michigan. An increase in the number of competent observers has aided materially, although there are some regions not yet covered at all regularly.

To the average observer this new list¹ is full of surprises, although some were sus-

¹ Van Tyne, Josselyn. *Check List of the Birds of Michigan*. Occas. Papers Mus. Zool., Univ. of Michigan, no. 379, 44 pp., June 16, 1938. 25 cents.

pected by the more profound students. For example, the Ohio House Wren is the common form in most of the Lower Peninsula, the Western House Wren is found in the Upper Peninsula, while only one, an old record, is known for the Eastern House Wren in the State. Likewise we have the Mississippi Song Sparrow below the Straights, and the Dakota form for most of the area above. The Lesser Loon is the type found here, as is the Western Henslow's Sparrow. More confusing to the novice is the fact that the Veery is a common migrant, and the Willow Thrush is the breeding bird, and that the similar Grinnell's and Northern Water-Thrushes are both summer residents.

At the time Barrows published his book the Starling had not yet invaded the State; the Cardinal, which has now been taken in the Upper Peninsula, was to be found only in the southernmost three tiers of counties, although it occurred sparingly farther north. The Tufted Titmouse, now ranging at least to Charlevoix, was rare even in the most southern counties. Likewise the Western Meadowlark, which had been taken but once prior to 1912, is now common in the western part of the Upper Peninsula, and singing males have been found over much of the rest of the State. A recent addition is the Arkansas Kingbird which, although still very rare, has nested at least once (1937). Many of the other additions are based on single records. Some, such as the Yellow-throated Vireo, a rare summer resident, return persistently to certain areas where they are thought by residents there to be common.

This summary of the status of our species is of great help to the Michigan observers.
—MARGARET E. GROSS.

PERIODICAL LITERATURE

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- BALL, STANLEY C. Summer birds of the Forillon, Gaspé County, Quebec. *Canadian Field-Nat.*, **52**: 95-103, map, Oct. 1938.
- BARTELS, MAX, JR. Zwei neue Drosseln aus Java. *Ornith. Monatsber.*, **46**: 113-115, July 27, 1938.—New are *Turdus javanicus stresemanni* and *Geocichla citrina orientis*.
- BATES, G. L. On birds from Hadhramaut. *Ibis*, (14) **2**: 437-462, pl. 8, map, July 1938.—Discusses extent of Ethiopian Region along Gulf of Aden, and lists three recent collections of Arabian birds.
- BAUMGARTNER, MARGUERITE H. A plea for hawks. Jack-pine Warbler, **16**: 8-10, July 1938.—Hawk migration along shores of Lake Michigan and at Hawk Mountain.
- BAXTER, EVELYN V., AND RINTOUL, LEONORA J. Notes on the status of birds in Scotland in 1937. *Scottish Nat.*, no. 230, pp. 47-51, 1938.
- BEARD, DANIEL B. The 1938 count of Noddy and Sooty Terns at the Dry Tortugas. *Florida Naturalist*, new ser., **12**: 7-10, Oct. 1938.—The numbers of the Noddy have decreased to hardly more than four hundred birds.
- BEHLE, WILLIAM H. Highlights of ornithological work in Utah. *Condor*, **40**: 165-173, July 15, 1938.—Historical account of ornithology in Utah.
- BERLIOZ, J. Les collections ornithologiques du Muséum de Paris. *L'Oiseau et Rev. Française d'Ornith.*, new ser., **8**: 237-260, 1938.—A short account of the history and collections of the great Paris Museum, rich in historic specimens. This institution, which recently celebrated its tercentenary, was originally a botanical garden, but its scientific collections of birds began about the middle of the eighteenth

- century. Here was the repository for the spoils of the great exploring voyages. It is unfortunate that many of its types and historic specimens are mounted.
- BEYER, LEONARD K. Nest life of the Bank Swallow. *Wilson Bull.*, **50**: 122-137, text-fig. 20-21, June 1938.
- BIRD, SIDNEY. Notes on little known eggs. *Oologist*, **55**: 74-76, July 1938.—Descriptions of various eggs laid by rarer birds in a California aviary. An embryo removed from an Emu's egg showed "a very conspicuous keel" on the sternum, absent in the adult.
- BISHOP, LOUIS B. Correct names for the Red-backed Sandpiper and Northern Long-billed Curlew. *Condor*, **40**: 225-226, Sept. 15, 1938.—The former should be known as *Pelidna alpina pacifica* (Coues), the latter as *Numenius americanus parvus* (Bishop), as previously shown.
- BOURDELLE, E. Les recherches sur la migration des oiseaux par le baguage et leur organisation en France. *L'Oiseau et Rev. Française d'Ornith.*, new ser., **8**: 350-359, 1938.—An account of the work of the Service de Recherches sur la Migration des Oiseaux, carried on during the last seven years at the Paris Museum.
- BRAUND, FRANK W. Nesting records for Ohio birds—Jan. 8, 1937 to Sept. 1, 1937. *Oologist*, **55**: 81-83, July 1938.
- BRODKORB, PIERCE. Five new birds from the Paraguayan Chaco. *Occas. Papers Mus. Zool.*, Univ. Michigan, no. 367, 5 pp., Apl. 5, 1938.—New forms are: *Rhea americana araneipes*, *Nandayus nenday campicola*, *Asthenes baeri chacoensis*, *Thraupis bonariensis schulzei*, and *Coryphospingus cucullatus fargoi*.
- BRODKORB, PIERCE. New birds from the district of Soconusco, Chiapas. *Occas. Papers Mus. Zool.*, Univ. Michigan, no. 369, 7 pp., Apl. 11, 1938.—New are: *Chaetura nubicola*, *Hylomanes momotula chiapensis*, *Lepidocolaptes souleyetti matudae*, *Thamnophilus doliatum crepitans*, *Catharus dryas ovandensis*, *Cyanerpes cyaneus striatipectus*, *Tanagra affinis esperanzae*, *Melozone biarcuatum hartwegi*, and *M. occipitalis grandis*.
- BRODKORB, PIERCE. A new species of Crested Tinamou from Paraguay. *Occas. Papers Mus. Zool.*, Univ. Michigan, no. 382, 4 pp., June 20, 1938.—*Eudromia mira* from Puerto Pinasco.
- BROOKS, MAURICE. Bachman's Sparrow in the north-central portion of its range. *Wilson Bull.*, **50**: 86-109, June 1938.—Habits and status in Ohio, West Virginia and southwestern Pennsylvania. "Evidence is presented to show that this species invaded the territory under consideration from the south or southwest during the latter years of the nineteenth and early years of the twentieth centuries."
- BROOKS, MAURICE. The Eastern Lark Sparrow in the upper Ohio Valley. *The Cardinal*, **4**: 181-200, 1 pl., map, July 1938.—The bird has invaded many parts of this area from the west and southwest, but has somewhat decreased again in recent years.
- BRYANT, C. E. Photographing the Hoary-headed Grebe. *Emu*, **38**: 15-17, pls. 7-8, July 1, 1938.—Nesting habits near Melbourne, South Australia.
- CASAL, P. S. La cria de la Perdiz colorada (*Rynchotus rufescens*). *El Hornero*, **7**: 22-24, text-fig., Aug. 1938.—Breeding in captivity may be easily managed.
- CERNY, WALTER. Sur la position systématique des bouvreuils *Pyrrhula pyrrhula* de Tchécoslovaquie avec quelques notes sur la variabilité de cette espèce. *Alauda*, (3) **10**: 76-90, 1938.—Notes on variation, especially of wing length, of the Bullfinch in Czechoslovakia.
- CHAVIGNY, J. DE, AND LE DÛ, R. Note sur l'adaptation des oeufs du Coucou de l'Afrique du Nord, *Cuculus canorus bangsi* Oberholser, suivie de quelques observa-

- tions biologiques. *Alauda*, (3) **10**: 91-115, 1938.—Habits and hosts in region of Tebessa. An egg in the nest hole of *Diplotocus* the authors believe must have been placed by the cuckoo taking it in her bill, as it seemed impossible for the bird to enter.
- COLE, RANDALL K. Vitamin E and avian neurolymphomatosis. *Science*, **88**: 286-287, Sept. 23, 1938.—Thirty-one fowls suffering from fowl paralysis failed to recover when treated with wheat-germ oil, contrary to results previously reported.
- CONDON, H. T. The birds of Reevesby Island, Sir Joseph Banks group. *South Australian Ornithologist*, **14**: 187-192, July 1, 1938.
- CRABB, WILFRED D. Fall records of Golden Plover in Iowa. *Wilson Bull.*, **50**: 139, June 1938.—Report of flocks of "from twenty to two hundred" from Woodbury County. One bird was killed.
- DANFORTH, CHARLES H. Some feeding habits of the Red-breasted Sapsucker. *Condor*, **40**: 219-224, text-fig. 60, Sept. 15, 1938.—The bird follows a cycle in utilizing sap trees which flower or bud in sequence. In late summer and autumn insects and cambium augment the regular diet of sap.
- DANFORTH, STUART T. Observations on some Barbadian birds. *Journ. Barbados Mus. and Hist. Soc.*, **5**: 119-129, Apl. 30, 1938.—Maintains the distinctness of the Barbadian *Elaenia*.
- DELACOUR, J. Les collections ornithologiques de Clères. *L'Oiseau et Rev. Française d'Ornith.*, new ser., **8**: 219-227, 3 pls., 1938.—An account of the author's aviaries in France. One of the plates shows in colors the Imperial Pheasant (*Hierophasis imperialis*) discovered in Annam in 1923 and described by the author who brought the first known living pair to France. No other wild examples have since been taken, but the progeny of the original pair has supplied various museums with specimens. The male of this pair is still alive and in breeding condition after sixteen years.
- DEWAR, J. M. The Dipper walking under water. *British Birds*, **32**: 103-106, Sept. 1, 1938.—The explanation of the bird's ability to walk on the bottom is that in facing the current the fore part of the body is inclined downward, so that the force of the water against its back keeps it down unless the current carries it off its feet.
- DEIGNAN, H. G. A new subspecies of the European nuthatch from North Siam. *Journ. Washington Acad. Sci.*, **28**: 371-372, Aug. 15, 1938.—*Sitta europaea delacouri*, from summit of Doi Suthep, northern Siam, Chiangmai province.
- DIXON, JOSEPH. Birds & mammals of Mount McKinley National Park, Alaska. *Fauna of the Nat. Parks of U. S.*, Fauna Series, no. 3, 236 pp., illustr., 1938.—Of the birds listed there are given description, distribution and many notes on habits within the Park, often with illustrations from excellent photographs.
- DINELLI, LUIS M. La proteccion de las aves. *El Hornero*, **7**: 34-40, Aug. 1938.—Conclusion of article on bird protection in Argentina.
- D'OMBRAIN, A. F. Destruction of birds by hail. *Emu*, **38**: 59, pl. 25, July 1, 1938.—The photograph shows a mass of hail in the Mailland district, New South Wales, as a result of a storm which was disastrous to many birds.
- DONCASTER, C. C., AND DUNSHEATH, M. H. Some observations on nuthatches at the nest. *British Birds*, **32**: 136-137, fig., Oct. 1, 1938.—In Reading, England.
- DUNAJEWSKI, —. [A new flycatcher from Algeria.] *Bull. British Ornith. Club*, **58**: 148, July 13, 1938.—*Muscicapa striata berliozii*.
- ELLIOTT, A. J. Birds of the Moonie River district adjacent to the border of New South Wales with Queensland. *Emu*, **38**: 30-49, pls. 9-23, July 1, 1938.—With many excellent photographs of nesting birds. The author notes a curious associa-

- tion of the Zebra Finch with the Brown Hawk (*Falco berigora*) into a nest of which or near at hand a number of the finches had built their nests.
- ERRINGTON, PAUL L., AND BRECKENRIDGE, W. J. Food habits of *Buteo* hawks in north-central United States. *Wilson Bull.*, **50**: 113-121, June 1938.
- FRILEY, CHARLES E., JR., BENNETT, LOGAN J., AND HENDRICKSON, GEORGE. The American Coot in Iowa. *Wilson Bull.*, **50**: 81-86, June 1938.
- GABRIELSON, IRA N. Summer notes from Blue Sea Lake, Quebec. *Canadian Field-Nat.*, **52**: 79-87, Sept. 1938.—List of birds seen.
- GEYR VON SCHWEPPENBURG, H. Zur Systematik der *fuscus-argentatus*-Möwen. *Journ. f. Ornith.*, **86**: 345-365, July 1938.—A reconsideration of the relationships of the Gray and the Herring Gulls and their subspecies with theories as to the origin of these forms. The problematical region of distribution is northwestern Russia and in Finland.
- GODFREY, W. EARL. Yellow-crowned Night Herons in Nova Scotia. *Canadian Field-Nat.*, **52**: 109, Oct. 1938.—Four records of single birds near Wolfville, September 13, 1932, July 28, 1937, August 12, 1937, September 14, 1925.
- GRANT, OLOF. Versuch zur quantitativen Untersuchung der Vogelfauna einer Fjeldgegend in Nordfinland. *Ornis Fennica*, **15**: 53-65, Aug. 1938.—Census studies on open type of country in northern Finland.
- GRANT, C. H. B., AND MACKWORTH-PRAED, C. W. [Seven notes on the status of certain African barbets, honey-guides, and other birds.] *Bull. British Ornith. Club*, **58**: 140-147, July 13, 1938.
- GROTE, HERMANN. Der Terekwasserläufer (*Terekia cinerea* Gould) und sein Nest. *Journ. f. Ornith.*, **86**: 457-465, July 1938.—Account of the nesting of this sandpiper near Orenburg, western Asia.
- HAMPE, HELMUT. Bur Biologie des Singsittichs, *Psephotus haematonotus* (Gould). *Journ. f. Ornith.*, **86**: 328-344, 7 text-figs., July 1938.—The habits, moult, breeding and nesting of this parrot in captivity.
- HEINROTH, O. Das Baden der Vögel. *Ornith. Monatsber.*, **46**: 97-100, July 27, 1938.—On bathing of birds. Dust baths only are taken by some open-country ground-living species as fowl, larks, bustards, but waterbirds and marshbirds never dust. Other species do both.
- HINDWOOD, K. A. The occurrence of the White-tailed Tropic-bird in Australia. *Emu*, **38**: 12-14, pl. 6, July 1, 1938.—Account of a third specimen from the east coast of Australia. Characters given.
- HOESCH, WALTER. Zur Balz von *Choriotis kori*. *Ornith. Monatsber.*, **46**: 110-112, fig., July 27, 1938.—Display of this African bustard.
- HOESCH, W. Vom Paradiesfliegenschnapper, *Terpsiphone viridis plumbeiceps*. *Journ. f. Ornith.*, **86**: 328-329, pl. 14-15, July 1938.—Brief notes on the breeding of the Paradise Flycatcher in Southwest Africa, its most southern nesting area, where it is migratory, arriving about mid-November and raising two or three broods before leaving in mid-April, probably for the Congo region, where it occurs in the southern winter. Two photographs show the birds at the nest.
- HOLLOM, P. A. D. Summaries on inland occurrences of some waterfowl and waders, 1924-1936. *British Birds*, **32**: 64-77, Aug. 1, 1938.—In England.
- HOOPER, EMMET T. Another jay shoot in California. *Condor*, **40**: 162-164, July 15, 1938.
- HUNTSMAN, A. G. North American Atlantic Salmon, [in] Comparative studies of the fluctuations in the stocks of fish in the seas of north and west Europe. *Conseil Perm. Internat. Expl. Mer, Rapp. et Procès-verbaux des Réunions*, **101**: (4, 1, B)

11-15, 3 figs., 1938.—In discussing fluctuations in the salmon population the author says, "An angler (Griswold, 1929) was the first to notice a scarcity occurring every nine years in the salmon of the Grand Cascapedia and Restigouche rivers, and as well in the commercial catches of Quebec and New Brunswick. Phelps and Belding (1931) confirmed this for the Restigouche angling catch in a very thorough analysis, finding the period to be nine or ten years. Independently Huntsman (1931) discovered it as occurring generally in the commercial catches and as far back as statistics have been collected. The average length of the period was determined as 9.6 years in close agreement with a periodicity in abundance of various fur-bearing animals (snowshoe rabbit, lynx, marten, etc.) of the interior of Canada. The ruffed grouse (*Bonasa*) of the interior shows a similar period."

As to the cause he states that "the unknown factor can best be considered as acting upon a particular smolt year-class, previous to its descent to the sea," and he continues, "Study of the river life has revealed the chief mortality of the larger parr as due to fish-eating birds (belted kingfisher and American merganser), which nest and rear their young along the salmon streams (White, 1936, 1937). These birds are largely unable to secure food when the streams are swollen and murky, as in rainy weather. I have accordingly explored the possibility of dry summers being responsible for increased mortality of the large parr (of the smolt year-classes related to the times of salmon scarcity) by restricting their habitat and exposing them to attack by birds. The last scarcity affected chiefly the 1926 and 1927 smolt year-classes and in correspondence with this the summers of 1923 to 1926 prove to have been dry, as shown by both rainfall and river discharge records. Pronounced scarcity of salmon is thus seen to follow with the proper interval, a succession of dry summers."

If this be correctly understood as placing the responsibility for depleted year-classes of salmon upon depredations by kingfishers and mergansers, the ornithologist can only say, "Try again." It is utterly incredible that birds existing in such small numbers could cause the fluctuations observed. It would seem that there might be numerous factors associated with dry years that could be inimical to the salmon population.—W. L. McATEE.

ILLINOIS AUDUBON SOCIETY. The Audubon annual bulletin, no. 28, 44 pp., illus. Published by The Society, Chicago Acad. Sci., 1938.—With numerous brief articles by well-known contributors, on bird life of Ohio, Texas, the Chicago region, Michigan and Florida.

INGRAM, G. C. S. The movements of the Dipper under water. *British Birds*, **32**: 58-63, Aug. 1, 1938.—Has never seen the Dipper use its wings under water, but it walks in and continues to walk on the bottom.

IREDALE, TOM. William Anderson—ornithologist. *Emu*, **38**: 60-62, July 1, 1938.—Assistant surgeon on Cook's second voyage, Anderson was selected as naturalist on the third and fatal voyage. Two of his manuscript notebooks describing various animals, are preserved in the British Museum and stamp him as an able scientist. Otherwise, all that seems to be known of him is the date of his death, August 3, 1778.

JOURDAIN, F. C. R. On the occurrence of *Larus marinus* in Spitsbergen. *Ibis*, (14) **2**: 539-540, July 1938.—Correcting Marshall's recent statement as to a supposed 'first record' of the species from Spitsbergen, it is shown that the bird has been known from there since at least 1923, and that it has bred there for the last eight years. Colonization has taken place from Scandinavia via Bear Island, not from Greenland.

- KALELA, OLAVI. Ueber die regionale Verteilung der Brutvogelfauna im Flussgebiet des Kokemäenjoki. Ann. Zool. Soc. Zool.-Bot. Fennicae, Helsingfors, **5**: no. 9, xv plus 291 pp., 81 text-figs., 1938.—A detailed analysis of the geographical distribution of the breeding birds of this part of Finland, and the causes influencing it.
- KELLOGG, P. Hunting the songs of vanishing birds with a microphone. Journ. Soc. Motion Picture Engineers, **30**: 201-207, 5 figs., Feb. 1938.
- KINNEAR, N. B. [A new *Sheppardia* from Nyasaland.] Bull. British Ornith. Club, **58**: 138-139, July 13, 1938.—*Sheppardia bensoni*.
- KÖNIG, D. Zum Balzflug des Habichts. Beitr. z. Fortpflanzungsbiol. d. Vögel, **14**: 129-130, fig., July 1938.—Aërial courtship actions.
- KUERZI, RICHARD G. Some notes on the birds of St. Lucie County, Florida. Florida Naturalist, new ser., **12**: 11-15, Oct. 1938.
- LASHMAR, ALLEN F. C. Notes on birds found in the eastern portion of Kangaroo Island. South Australian Ornithologist, **14**: 183-185, July 1, 1938.
- LAY, DANIEL W. Some relations of Bobwhite Quail to second-growth pine woodland in Walker County, Texas. Trans. 2d No. Amer. Wildlife Conference, Mar. 1-4, 1937, St. Louis, Missouri, pp. 575-578, 1938.—Proper control of vegetation so as to extend the early sapling growth of pine would favor a concentration of the birds in such areas.
- LAY, DANIEL W., AND SIEGLER, HILBERT R. The Blue Jay as link between acorn and Quail. Trans. 2d No. Amer. Wildlife Conference, Mar. 1-4, 1937, St. Louis, Missouri, pp. 579-581, 1938.—The number of acorns made available to Quail by Blue Jays "is so great, that the jay is very likely the most important link between the acorn and the quail" in woodlands of Walker County, Texas.
- LEACH, E. P. Recovery of marked birds. British Birds, **32**: 78-82, 107-112, Aug.-Sept. 1938.—Summary of recoveries of birds recently banded in British Isles.
- LEDLIE, REGINALD C. B., AND PEDLER, EDWARD G. Nesting of the Little Ringed Plover in Hertfordshire. British Birds, **32**: 90-102, pls. 3-4, Sept. 1, 1938.—A detailed account of the nesting of this species which has only recently become a breeding bird in the British Isles.
- LEGENDRE, MARCEL. Ornithologie Parisienne. L'Oiseau et Rev. Française d'Ornith., new ser., **8**: 267-283, 1938.—A briefly annotated list of the birds found in the immediate region of Paris, with bibliography.
- LEWIS, HARRISON F. Occurrence of the Lapland Longspur in the Ottawa district. Canadian Field-Nat., **52**: 93, Sept. 1938.—Three seen near Ottawa, December 26, 1937, are the first to be noted there since 1890.
- LEWIS, HARRISON F. Musical warble of the Savannah Sparrow. Canadian Field-Nat., **52**: 93-94, Sept. 1938.
- LEWIS, HARRISON F. Greater Yellow-legs and Pigeon Hawk. Canadian Field-Nat., **52**: 94, Sept. 1938.—The former sought refuge in a pool of water when a Pigeon Hawk stooped at them.
- LIBBERT, WALTER. Der Zug des Kranichs. Journ. f. Ornith., **86**: 374-378, July 1938.—Migration of the European Crane.
- LINSDALE, JEAN M. Bird life in Nevada with reference to modifications in structure and behavior. Condor, **40**: 173-180, July 15, 1938.—An account of adaptive behavior and structure shown by Nevada birds in response to local conditions.
- LOCKLEY, R. M. We live alone, and like it—on an island. Nat. Geogr. Mag., **74**: 253-278, illustr., Aug. 1938.—An illustrated account of life and particularly the bird life of Skokholm, bird sanctuary off the coast of Wales.

- LOWE, PERCY R. Some anatomical notes on the genus *Pseudochelidon* Hartlaub with reference to its taxonomic position. *Ibis*, (14) 2: 429-437, pl. 7, July 1938.—Concludes that it is a true swallow, not requiring a separate family for its reception.
- LUTTRINGER, LEO A., JR. Pymatuning, a paradise for sportsmen. *American Forests*, 44: 447, 466, illustr., Oct. 1938.—Illustrations of birds.
- LUTTRINGER, LEO A., JR. Pennsylvania bird-life. A booklet designed to further the study and appreciation of our feathered friends. *Bull. Pennsylvania Game Comm.*, Harrisburg, no. 17, 66 pp., col. pl., illustr., 1938.—An attractive popular account of some familiar birds and methods for attracting and observing them.
- MACLULICH, D. A. Birds of Algonquin Provincial Park. *Contrib. Roy. Ontario Mus. Zool.*, no. 13, 47 pp., 1938.—A list of 169 species, of which 32 occur as residents or winter visitors.
- MACKWORTH-PRAED, C. W., AND GRANT, C. H. B. Systematic notes on East African birds. *Ibis*, (14) 2: 525-533, July 1938.—On the races of the Redshank occurring in East Africa and a brief review of the *Apalis* group in this region and South Africa.
- MADON, PAUL. Notes sur quelques espèces. *Alauda*, (3) 10: 62-75, 1938.—Miscellaneous notes on habits of various European birds.
- MARIETTI, GIUSEPPE. Di una serie di "ovum in ovo" di gallina ibrida da Libornese e Orpington. *Rivista Ital. di Ornitologia*, 8: 17-22, Jan. 1938.—A fowl hybrid of Livornese by Orpington breeds, produced several enormous eggs, which with other abnormal eggs are here described.
- MATHEWS, GREGORY M. Overlooked names of European and other birds from the 'Analyst' and other sources. *Ibis*, (14) 2: 521-524, July 1938.—Three overlooked names for American birds are: *Philomeloides*, type *Turdus mustelinus* Gmelin; *Bombicilla cedrus* C. T. Wood, for the Cedar Waxwing; *Hirundo garrula* C. T. Wood, for the Chimney Swift.
- MATTINGLEY, A. H. E. Birds of the Hogans and other islands of Bass Straits. *Emu*, 38: 7-11, pl. 5, July 1, 1938.—A breeding place of "millions" of seabirds.
- MAYAUD, NOËL. La Gorge-bleue à miroir en France. *Alauda*, (3) 10: 116-136, 1938.—Three races of the Blue-throat occur in France, of which two breed. The plumages, distribution and general biology are described.
- MAYAUD, NOËL. Commentaires sur l'ornithologie française. *Alauda*, (3) 10: 188-198, 1938.—Additional notes on waterbirds since the publication of his list of the birds of France.
- MAYAUD, NOËL. L'avifaune de la Camargue et des grands étangs voisins de Berre et de Thau. *L'Oiseau et Rev. Française d'Ornith.*, new ser., 8: 284-349, 3 pls., 1938.—A list of birds of the famous Camargue region of France, with an extensive bibliography. One of the plates shows a flock of Flamingos in flight, a species which still nests in the marshes of the Camargue, though probably not in every year. One or two hundred birds may winter, but the summer population may reach ten thousand.
- MEINERTZHAGEN, R. On the birds of northern Afghanistan. *Ibis*, (14) 2: 480-520, pls. 10, 11, July 1938.—Account of a collection made, and with remarks on the fauna and country.
- MENGEL, ROBERT M. The waterfowl of Kentucky. *Kentucky Warbler*, 14: 25-28, 1938.—A briefly annotated list.
- MEYLAN, OLIVIER. Premiers résultats de l'exploration ornithologique de la Dombes. *Alauda*, (3) 10: 3-61, 1938.—An account of this well-situated ornithological station in the interior of France, with an annotated list of its birds. Where the three

- species nest in close proximity, eggs of both Black-headed Gull and Black Tern were occasionally found in nests of the Black-necked Grebe.
- MICHAEL, CHARLES W. Does the Ouzel use its wings in swimming? *Condor*, **40**: 185-186, July 15, 1938.—Pertinent to recent discussion in British journals, are the observations of this author that the Ouzel does not use its wings under water but usually feeds on the bottom, heading upstream, and that the force of the current holds it down. In one instance a bird was frequently seen swimming on the surface near its nest.
- MICHENER, HAROLD, AND JOSEPHINE R. Bars in flight feathers. *Condor*, **40**: 149-160, 5 sets of figs., July 15, 1938.—Each of the bars in a flight feather similar in appearance to a watermark in paper, represents a day's growth. These bars are not usually shown by juvenal feathers.
- MILLER, LOYE. The singing of the Mockingbird. *Condor*, **40**: 216-219, text-fig. 59, Sept. 15, 1938.—Analysis of the character of the song at different seasons.
- MOLTONI, EDGARDO. Escursione ornitologica all'Isola degli Uccelli (Golfo della Gran Sirte, Cirenaica). *Rivista Ital. di Ornitologia*, **8**: 1-16, Jan. 1938.—An account of the colony of Caspian and Rüppell's Terns on this small island off the north coast of Africa.
- MOREAU, R. E. [A new *Artisornis*, from Morogoro district, Tanganyika Territory.] *Bull. British Ornith. Club*, **58**: 139, July 13, 1938.
- MURIE, OLAVS J. Four birds new to St. Lawrence Island, Alaska. *Condor*, **40**: 227, Sept. 15, 1938.—These are: Rusty Blackbird, Gray-cheeked Thrush, Slate-colored Junco, and Mountain Accentor (*Prunella montanella*), of the last of which this is the second record for the North American area.
- MURPHY, ROBERT CUSHMAN. Birds of the high seas. *Nat. Geogr. Mag.*, **74**: 226-235, continued as Wings over the bounding Main, 227-231, 7 photographic illustrations and 8 colored plates by Allan Brooks, Aug. 1938.—An interesting and well-illustrated account of albatrosses, petrels, gannets, tropic-birds and man-o'-war birds.
- NATORP, O. Zur Brutbiologie des Pirols (*Oriolus oriolus* L.). *Beiträge z. Fortpflanzungsbiol. d. Vögel*, **14**: 121-123, July 1938.—Plumage changes. The adult male Golden Oriole does not acquire full plumage until its third year.
- NICHOLSON, E. M. The index of heron population, 1938. *British Birds*, **32**: 138-144, Oct. 1, 1938.—British figures indicate an increase in the population of *Ardea cinerea* of about eight per cent in the last two years.
- NICKELL, WALTER P. Bird sounds as an aid to identification. *Jack-pine Warbler*, **8**: 11-12, July 1938.
- NIETHAMMER, G. Welche Brutvogel Oesterreichs sind neu für Deutschland? *Ornith. Monatsber.*, **46**: 101-107, July 27, 1938.—The annexation of Austria by Germany has added at least nine breeding species to the German list!
- OLIVIER, GEORGES. Les oiseaux de la Haute-Normandie. *L'Oiseau et Rev. Française d'Ornith.*, new ser., **8**: 99-218, 4 pls., 1938.—An annotated list of the birds of this region of France.
- ORFILA, RICARDO N. Los psittaciformes argentinos. *El Hornero*, **7**: 1-21, pl. 1, text-fig. 20-30, Aug. 1938.—The concluding part of a review of the characters of Argentine parrots.
- PAATELA, J. E. Beobachtungen über das Verhalten der Vögel in der Sommernacht. *Ornis Fennica*, **15**: 65-69, Aug. 1938.—With an interesting table of length of sleeping period of certain day-living birds in southern Finland in summer, ranging from less than an hour in the twenty-four in the case of the Redshank, to nearly six hours in the case of a siskin.

- PALAS, ARTHUR J. Extreme northeastern Iowa for bird observation. *Iowa Bird Life*, **8**: 34-36, Sept. 1938.
- PALMGREN, P., AHLQVIST, H., AND SYLVIN, E. Einige Labyrinthversuche mit Kleinvögeln und Mäuse. *Ornis Fennica*, **15**: 74-77, Aug. 1938.—Comparison of the action of four small birds in a labyrinth, with the behavior of a white mouse. The birds quickly learned the labyrinth, but the mouse seemed slower on account of its more thorough exploratory movements.
- PEREYRA, JOSÉ A. Algunos nidos poco conocidos de nuestra avifauna. *El Hornero*, **7**: 24-30, 5 figs., Aug. 1938.—Nests of some rarer Argentine birds.
- PICKWELL, GAYLE, AND SMITH, EMILY. The Texas Nighthawk in its summer home. *Condor*, **40**: 193-215, text-fig. 45-58, Sept. 15, 1938.—A well-illustrated account of the courtship and nesting of this species. The nesting female was observed to go through its 'intimidation display' at the approach of a quadrupedal enemy but on the approach of a human the distress simulation was given. In the case of the European Nightjar, it has been shown that the reaction to a biped at night is intimidation, but this apparently was not tried.
- PUTZIG, P. Ueber das Zugverhalten umgesiedelter englischer Stockenten (*Anas p. platyrhynchos*). *Der Vogelzug*, **9**: 139-145, text-fig., July 1938.—Eggs of the sedentary Mallards of the British Isles were hatched in Prussia and the young grew up and failed to migrate. The next year, however, their progeny did migrate to some extent.
- REGNIER, ROBERT. Les collections ornithologiques du Muséum de Rouen. *L'Oiseau et Rev. Française d'Ornith.*, new ser., **8**: 228-236, 1938.—A brief account of the bird collection, principally the exhibitions, in the museum at Rouen, with mention of a few of its rarities. The local collection is exceptionally good.
- RETT, EGMONT Z. Hailstorm fatal to California Condors. *Condor*, **40**: 225, Sept. 15, 1938.—Two found freshly killed from the effect of a storm of hailstones as 'large as walnuts'.
- RICHTER, ROLAND. Beobachtungen an einer gemischten Kolonie von Silbermöwe (*Larus argentatus* Pont.) und Heringsmöwe (*Larus fuscus graellsii* Brehm). *Journ. f. Ornith.*, **86**: 366-373, July 1938.—In a mixed colony of Herring and Gray Gulls, the distribution is believed to be determined by the number of available standing places for the adults.
- RILEY, J. H. Three new birds from Banka and Borneo. *Proc. Biol. Soc. Washington*, **51**: 95-96, May 19, 1938.—*Porzana pusilla mira* from East Borneo, *Rhopodytes sumatranus minor* from Dutch East Borneo, and *Erythrocichla bicolor bankana* from Banka.
- RUTHKE, PAUL. Am Brutplatz des Nord-Seetauchers. *Beitr. z. Fortpflanzungsbiol. d. Vögel*, **14**: 131-136, July 1938.—Nesting habits of Red-throated Loon on the arctic coast of Finland.
- RUTTLEDGE, ROBERT F. Bird-migration by the overland route between Killala Bay and Galway Bay [Ireland]. *British Birds*, **32**: 130-135, Oct. 1, 1938.
- SCHARNKE, HANS, AND WOLF, ANTON. Beiträge zur Kenntnis der Vogelwelt Bulgarisch-Mazedoniens. *Journ. f. Ornith.*, **86**: 309-327, July 1938.
- SCHILDMACHER, H. Zur Physiologie des Zugtriebes. IV. Weitere Versuche mit künstlich veränderter Belichtungszeit. *Der Vogelzug*, **9**: 146-152, July 1938.—Redbreasts subjected to increased artificial lighting showed nightly activity (the 'migratory urge') in the first half of February while in control birds without such lighting these reactions did not set in for a week to three weeks later.
- SERVENTY, D. L. Waders and other aquatic birds on the Swan River estuary, Western Australia. *Emu*, **38**: 18-29, July 1, 1938.

- SERVENTY, D. L. A guide to the field identification of the waders. *Emu*, **38**: 65-76, pl. 26, July 1, 1938.—With a field key to the various Australian shorebirds.
- SHARLAND, M. S. R. Two small terns (*Sterna albifrons* and *Sterna nereis*). *Emu*, **38**: 1-7, pls. 1-4, July 1, 1938.—Nesting habits in southern Australia.
- SHARLAND, M. S. R. Mimicry in wild cockatoos. *Emu*, **38**: 17, July 1, 1938.—Reports a case of a wild Yellow-tailed Black Cockatoo imitating some of the utterances of the Kookaburra.
- SHAW, TSEN-HWANG. The avifauna of Tsingtao and neighbouring districts. *Bull. Fan Mem. Inst. Biol., zool. ser.*, **8**: 134-222, map, June 25, 1938.—An annotated list of the 253 species ascertained to occur in this district of China.
- SHUEL, RONALD. Further notes on the eggs and nesting habits of birds in northern Nigeria (Kano Province). *Ibis*, (14) **2**: 463-480, pl. 9, July 1938.
- SNYDER, L. L. The northwest coast Sharp-shinned Hawk. *Occas. Papers Roy. Ontario Mus. Zool.*, no. 4, 6 pp., July 14, 1938.—Describes as a new race *Accipiter striatus perobscurus* from Queen Charlotte Islands, British Columbia.
- SNYDER, L. L. A faunal investigation of western Rainy River district, Ontario. *Trans. Roy. Canadian Inst.*, **22**: pt. 1, 157-213, 1938.—Lists the mammals and birds with notes. The Starling has lately reached this region.
- SNYDER, L. L., AND HOPE, C. E. A predator-prey relationship between the Short-eared Owl and the meadow mouse. *Wilson Bull.*, **50**: 110-112, June 1938.—Convergence of owls to feed on the meadow mouse when the population of the latter had reached plague proportions.
- STANFORD, J. K., AND TICEHURST, CLAUD B. On the birds of northern Burma.—Part III. *Ibis*, (14) **2**: 391-428, July 1938.
- STECHOW, JAN. Ueber die jahreszeitliche Verbreitung der europäischen Lummern (*Uria aalge* (Pont.)). *Der Vogelzug*, **9**: 125-138, 3 maps, July 1938.—Results of banding European Guillemots at Helgoland.
- STEINFATT, OTTO. Das Brutleben der Waldschnepfe. *Journ. f. Ornith.*, **86**: 379-424, July 1938.—An extensive account of the migration, courtship, breeding and nest life of the European Woodcock.
- STEINFATT, OTTO. Das Brutleben der Sumpfmehse und einige Vergleiche mit dem Brutleben der anderen einheimischen Meisen. *Beitr. z. Fortpflanzungsbiol. d. Vögel*, **14**: 137-144, July 1938.—Breeding habits of the Marsh Tit.
- STRESEMANN, ERWIN. Ueber einige seltene Vögel aus Ecuador II. *Ornith. Monatsber.*, **46**: 115-118, July 12, 1938.—Concludes brief notes on certain rarer birds from Ecuador, including a new race of parrot, *Touit emmae papilio*, from Oriente province.
- STRESEMANN, ERWIN. *Spizaetus alboniger* (Blyth) and *Spizaetus nanus* Wallace zwei falschlich vereinigte Arten. *Journ. f. Ornith.*, **86**: 425-431, July 1938.—These two raptorial species of the Malay region are distinct and the characters of each are pointed out.
- SUTTON, GEORGE MIKSCH. The breeding birds of Tarrant County, Texas. *Annals Carnegie Mus.*, **27**: 171-206, Sept. 24, 1938.—This list, based mainly on earlier observations of the author from 1911-1914 in the vicinity of Fort Worth, Texas, is valuable as a record of the many changes that have taken place locally through settlement and the formation of an artificial lake.
- TICEHURST, N. F. Incubation-period of Common Gull. *British Birds*, **32**: 87, Aug. 1, 1938.—A summary of four instances makes the period twenty-two to twenty-three days for *Larus canus* in Kent, England.
- TREUFENFELS, H. VON. Beobachtungen an Weidenlaubvogel (*Phylloscopus c. col-*

- lybica*). Beiträge z. Fortpflanzungsbiol. d. Vögel, **14**: 124–129, July 1938.—Nesting habits; weather has much influence on the time required in nest building.
- TROUCHE, LUCIUS. Le Flamant Rose de Camargue erratique? sédentaire? nicheur?. *Alauda*, (3) **10**: 159–187, 1938.—Status of the Flamingo in the Camargue: not a true resident in 1931–34, not breeding but appearing as a straggler in the first half of the year, but in numbers from July to December, when two groups arrive, one in July, the main body in August.
- TROUT, ALLAN M. A castle has been built. Kentucky Warbler, **14**: 28–31, 1938.—An account of the Audubon Museum at Henderson, Kentucky.
- TUFTS, R. W. First recorded nest of Baltimore Oriole for Nova Scotia. *Canadian Field-Nat.*, **52**: 109, Oct. 1938.—At Berwick, 1938.
- VAN ROSSEM, A. J. [Descriptions of twenty-one new races of Fringillidae and Icteridae from Mexico and Guatemala.] *Bull. British Ornith. Club*, **58**: 124–138, July 13, 1938.
- VAN ROSSEM, A. J. A northwest race of the Cinnamon Hummingbird. *Condor*, **40**: 226–227, Sept. 15, 1938.—The pale bird of northwestern Mexico is described as *Amazilia rutila diluta*.
- VAN ROSSEM, A. J. A race of the Green Kingfisher from northwestern Mexico. *Condor*, **40**: 227–228, Sept. 15, 1938.—The new race is named *Chloroceryle americana leucosticta*, type from Saric, extreme northern Sonora.
- VIHMEYER, GLENN. Is the Prairie Chicken passing? *Nebraska Bird Review*, **6**: 25–28, Sept. 20, 1938.—“Today Prairie Chickens have disappeared over the greater part of their former range” and in Nebraska are now confined mostly to the sandhill region where they can be numbered by dozens in places that only a few years ago supported thousands. Refuges are recommended.
- VÖLKER, OTTO. Porphyrin in Vogelfedern. *Journ. f. Ornith.*, **86**: 436–456, 3 text-figs., July 1938.—An important paper on the occurrence of porphyrin as a coloring matter in feathers, and especially on its presence in the bustard, *Lophotis ruficrista*. This pigment is of the same group as turacin which produces the red coloring of the Turaco. It has been isolated from the bustard's feathers in the form of coproporphyrin III and its chemical and physical properties have been studied. It is found also in the eggshell and dung, and its formation may be regarded as an excretory process.
- VÖLKER, OTTO. Ein eigenartiges Prinzip der Federpigmentierung. *Ornith. Monatsber.*, **46**: 107–110, July 27, 1938.—The dull red ornamental feathers of the African bustard, *Lophotis*, owe their color to a powder which can be rubbed off and belongs to the porphyrin group, though lacking red fluorescence after exposure to ultra-violet light. The first to report this colored powder was H. Lynes.
- VOGT, WILLIAM. Preliminary notes on the behavior and ecology of the Eastern Willet. *Proc. Linn. Soc. New York*, no. 49, 42 pp., 2 pls., Oct. 1938.—Results of a study of breeding birds carried on in the salt marshes near Fortescue, New Jersey. The birds are apparently monogamous and are usually paired before claiming territory. The male defends the female before territory. The birds are able to recognize the sex of other individuals by other means than trial and error.
- VOGÜÉ, GEORGES DE, AND JOUARD, HENRI. Premiers résultats de l'enquête sur les Anatides. *Alauda*, (3) **10**: 137–158, 1938.—Summary of notes contributed by various observers relative to the ducks of France.
- WALTERS, DON L. Destruction of nesting areas in Missouri river bottoms. *Oologist*, **55**: 78–79, July 1938.—Nesting areas destroyed by clearing in 1934 were flooded in 1935, with great destruction of nests and subsequent reduction of the bird population.

- WETMORE, ALEXANDER. A fossil duck from the Eocene of Utah. Journ. Palaeontol., **12**: 280-283, 5 text-figs., May 1938.—*Eonessa anaticula* new genus and species, based on wing bones about the size of a Lesser Scaup.
- WHITLEY, GILBERT P. New species in newspapers. Emu, **38**: 63-64, July 1, 1938.—A list of new species of birds and fishes described by Ramsay in early newspapers of New South Wales are here brought to light.
- WHITTELL, MAJOR H. M. The birds of the Bridgetown district, South-western Australia. Part II. Emu, **38**: 54-59, pl. 24, July 1, 1938.
- WOODBURY, A. M., AND SUGDEN, JOHN W. An hour in the life of a Broad-tailed Hummingbird. Condor, **40**: 160-162, fig., July 15, 1938.
- ZANGHERI, PIETRO. Fauna di Romana, uccelli. Elenco ragionato di tutte le specie fino ad oggi osservate in Romagna e notizie di indole generale. Rivista Ital. di Ornitologia, **8**: 23-36, Jan. 1938.—Concluding part of this list of birds of Rome.
- ZIMMER, JOHN T. A new form of *Crypturellus noctivagus*. Proc. Biol. Soc. Washington, **51**: 47-52, Mar. 18, 1938.—Describes as new *C. n. duidae* from Mt. Duida, Venezuela.
- ZIMMER, JOHN T. Studies of Peruvian birds. No. XXIX. The genera *Myiarchus*, *Mitrephanes*, and *Cnemotriccus*. Amer. Mus. Novitates, no. 994, 32 pp., June 2, 1938.—Critical and distributional notes, including the description of five new races of *Myiarchus* and one of *Cnemotriccus*.
- ZOTTA, ANGEL R. Nuevas adiciones à la avifauna argentina. El Hornero, **7**: 46-64, Aug. 1938.—Adds twenty species to the known avifauna of Argentina.