

Even as I write this I seem to see thousands of eyebrows lifted in doubt, and I seem to hear scornful sniffs from every side. Two hundred and fifty thousand! Who counted them? Here was the situation: Along the west side of the Little Cedar Point property, between the marsh and Maumee Bay, a stone road bordered by large trees leads up to the clubhouse. Millions of gnats which had bred in the swamp rested on these trees during the day and swarmed forth in great clouds at dusk. These myriads of insects attracted Bank Swallows to such an extent that they formed a group about one mile long, measured by the speedometer, and 1,000 feet in width. The density of most of this constantly moving mass was almost unbelievable. The scene resembled nothing more than a highly magnified section of the swarms of gnats upon which the birds fed. Mingled with the Bank Swallows were a few hundred Tree Swallows and Barn Swallows, Starlings, and a flock of Common and Black Terns.

The mathematics of the case is quite simple: Allowing each swallow twenty square feet, without making any allowance for the additional number resulting from figuring the third dimension also involved, 5,000 times 1,000 equals 5,000,000 gives the very conservative estimate of 250,000. Actually there may have been nearly a million.

This congregation marked the climax of the flight, although large flocks were seen both before and after that date, roosting on telephone wires along the roadside. This habit of roosting makes estimating numbers a very easy task for the observer. The count for the entire season is: July 12—100; July 18—200; July 26—3,000; August 2—8,000; August 8—250,000; August 15—30,000; August 23—50,000; August 30—500; September 7—50; and September 13—8.—Louis W. CAMPBELL, *Toledo, Ohio.*

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## ORNITHOLOGICAL LITERATURE

FLORIDA BIRD LIFE. By Arthur H. Howell. Published by the Florida Department of Game and Fresh Water Fish, in cooperation with the Bureau of Biological Survey, United States Department of Agriculture. 1932. Pp. i-xxiv+1-579. Pls. 1-58 (37 in color). Figs. 1-72 (mostly maps). Price, \$6.00 (to be ordered from the Department of Game and Fresh Water Fish, Tallahassee, Fla.).

The new year in ornithological literature opened with the distribution in January of Howell's "Florida Bird Life". This is another large, single volume, somewhat comparable with Bailey's "Birds of New Mexico", and also prepared through the cooperation of the United States Biological Survey. To make the comparison go further, this volume is also published through the generosity of a patron, Marcia Brady Tucker, of New York. The latter fact should be emphasized in order to express our gratitude and also as an example to others who may be philanthropically inclined toward science.

The text of this new work opens with a very full historical account of Florida ornithology. It seems to us that this is one of the most important parts of a work of this kind. There is also a section listing all of the birds which have been described from specimens taken in Florida, of which there are 82—a considerable number. The history of bird protection in the state makes a separate chapter written by Mr. Robert W. Williams. A chapter each on physiographic regions and life zones then brings us to the catalogue proper. The latter treats

423 forms, including 362 species and 61 additional subspecies. The routine account of each species includes statements on recognition marks, range, Florida distribution, haunts and habits, and food. Supplementing the text there are many state maps (about 71 of them) marked to show the distribution of a given species within the state. This we regard as the most valuable single feature of the book, even though the information may be incomplete in some cases.

Besides the text figures (maps) already mentioned, the chapter on life zones contains an inserted colored map of the state showing the distribution of life zones. Of the fifty-eight plates twenty-one are in black, and are reproduced from photographs by various artists. The remaining plates are in color and are reproduced from paintings by Francis L. Jaques. It has been the avowed intention of the artist to group his subjects together according to their habitat, rather than according to their relationships. This seems to be an innovation in the composition of modern bird pictures. We are not sure that we like it quite as well. Perhaps it leads the artist to give too much emphasis to the landscape, resulting in a corresponding reduction in the bird portraits. Most of the water bird plates are composed in this style, while the shore birds and land birds have been shown in the conventional way. Our preference would be for the shore bird plates. Possibly this is because we feel that the artist has been more successful in portraying the resting bird than the one in flight.

Mr. Howell is so well known through his connection for thirty-five years with the United States Biological Survey and his authorship of the "Birds of Arkansas" and the "Birds of Alabama", that the authenticity of the text may be accepted at face value. One by one the states are putting out their ornithological treatises in a sumptuous style hitherto almost unthought of; and made possible, doubtless, by the very great and widespread interest in the study of bird life. With these beautiful descriptive works now available, we are forced to reflect on the calamity which will befall the human world in each instance of extermination of these interesting creatures. It seems certain that each succeeding human generation will regard its bird life with increasing curiosity and concern. The present generation indeed owes much to the future in this matter.

A bibliography covering seventy-nine pages is probably quite complete, and is correspondingly valuable. A list of biographical references to students of Florida birds is a novel feature.—T. C. S.

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HANDBOOK OF BIRDS OF EASTERN NORTH AMERICA WITH INTRODUCTORY CHAPTERS ON THE STUDY OF BIRDS IN NATURE. By Frank M. Chapman. Second revised edition. Published by D. Appleton and Company, New York, 1932. Pp. i-xxxvi+1-581. Pls. I-XXIX, figs. 1-166. Price, \$5.00.

This book, the second contribution of the year to American ornithological literature, is the same "Handbook" as of other years, but modified to conform to the new A. O. U. Check-List in nomenclature and sequence. The Handbook has been in use so long and is so well known, that it is sufficient merely to announce the revised edition. Except for the new names and the altered sequence we see very little change from the last edition. The new edition contains, nevertheless, fifty-one pages more than the former one. There is the same preliminary study of "the bird", making an excellent practical introduction to ornithological knowledge, the value of which is enhanced by generous reference to other literature.

The bibliographical appendix is a most valuable portion of the book, and has been brought up to date in this last edition.

The older editions of this book are still good for identifications, but for technical names and sequence they will lead the student astray in many cases. It may be truthfully said that Chapman's Handbook is the lineal successor to Coues' Key; perhaps not so indispensable to the student as was the Key, because of the abundance of good bird literature now available in these modern days. Yet, every earnest student of birds requires a descriptive manual with keys dealing with all the birds of the larger territory in which his interest lies. The Handbook now meets this need in an admirable way. An interval of thirty-one years elapsed between the first and the last (5th) edition of Coues' Key. Now thirty-seven years have already passed between the first and the present edition of Chapman's Handbook, and it seems to be destined for many more years of usefulness.—T. C. S.

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EFFECTIVENESS IN NATURE OF THE SO-CALLED PROTECTIVE ADAPTATIONS IN THE ANIMAL KINGDOM, CHIEFLY AS ILLUSTRATED BY THE FOOD HABITS OF NEARCTIC BIRDS. By W. L. McAtee. *Smithson. Misc. Coll.*, Vol. 85, No. 7, pp. 1-201. Washington, D. C., 1932.

In the days before Darwin developed the theory of natural selection, color in animals was generally looked upon as accidental and non-significant. As the selection principal became better understood color patterns were interpreted as adaptive, i. e., protective. Some color patterns were explained as concealing in effect, so that natural enemies were prevented from finding and devouring the possessor. Other color patterns were regarded as revealing in effect, but were supposed to confuse or frighten away the predator. In all these cases of protective color adaptation the result was to preserve or "select" the possessor and allow him to reproduce. There is a discrimination in nature, therefore, in favor of those animals which possess some color or other protective adaptation. This is the principle of natural selection, briefly stated. Through this principle of selection the color pattern, often a specific characteristic, was believed to have originated and to have become perfected. Thus it became a method of evolution.

Mr. McAtee questions whether nearctic birds actually practice any discrimination in the capture of food animals because of the latter's possession of color pattern or other so-called protective adaptation. If these protective adaptations are serviceable to the owners there should be what might be called a differential death rate among them. And if there is such a difference in the death rate among the food animals of birds it should be discoverable in the stomach contents of birds. The author undertakes to show that most animals are used as food by nearctic birds (and presumably the rule will apply in general) in proportion to their abundance, regardless of "protective adaptations". In order to show this he finds the estimated totals of animals in each phylum, and then the percentage of species in each phylum to the whole number of species. For instance, there are estimated to be 418,250 species of arthropods, which is 74.6188 per cent of all known species of animals. Then it is found that from 80,000 bird stomachs examined in the U. S. Biological Survey since 1885, 237,399 species of animals have been identified. For instance, 210,752 species of arthropods were identified, which amounts to 88.7751 per cent of the whole number identified. The approximation of these two percentages is interpreted as indicating that the food

is taken at random and in proportion to abundance—not by selection of unprotected forms.

The several phyla are then examined by the same method, and a very strong case is made against color and other supposed protective adaptations, and for the theory of indiscriminate capture. The author says, "Within size limits, animals of practically every kind accessible to birds are preyed upon, and as we consider the records for group after group a tendency for the number of captures to be in proportion to the abundance of the animals concerned is unmistakable. Availability undoubtedly is the chief factor involved in the choice of food, and predation therefore tends to be in proportion to the population."

Our experience, derived from field observation without statistical measurement, leads us to acquiesce in the view that "predation tends to be in proportion to population". But a count of species is one thing and a population of individuals is something quite different. Birds are prone to feed heavily upon a species when it is at a numerical maximum or in a state of irruption. This excess of one insect species upon which birds may easily satisfy their appetites doubtless protects another species more than any color pattern which the latter may possess. We predict, however, that selectionists will not docilely yield ground which they have held, almost without dispute, for a generation. Mr. McAtee is boldly attacking a fundamental and far-reaching problem.—T. C. S.

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WHAT BIRD IS THAT? A GUIDE TO THE BIRDS OF AUSTRALIA. By Neville W. Cayley. Published by Angus & Robertson, Ltd., 89 Castlereagh St., Sydney, Australia. 1931. Pp. i-xx+1-319. Col. Pls. I-XXXVI, halftones, 14. Price, 12/6.

It is seldom that we are privileged to review a bird book from the other side of the ocean, and we are glad to present this particular one to our readers. The book is organized around the thirty-six colored plates. Each plate shows diminutive figures of a number of birds, varying from ten to thirty. A section, or chapter, of the text is then devoted to the description of these figures on the accompanying plate. The sequence of species is not systematic, but rather ecologic. That is, species are grouped on the plates (also in the text) according to their habitats. While this plan of arrangement varies from the usual custom, we can not see that the scientific value of the book is lessened in the least, while its usefulness is probably increased. In this way the book pictures in color and describes 708 species of native Australian birds. And many of the plates show the female in addition to the male.

The text does not describe the plumage, since the figures are amply descriptive for ordinary identification; the text does, however, treat of the distribution, nest, eggs, food, song, habitat, etc. Furthermore, the text is not burdened with subspecies; and thus we have an example of a perfectly scientific and usable treatise based upon the species concept alone. How conservative and sensible the Australians are in this matter!

The outstanding feature of the book is the colored plates, which are also the work of the author. The large number of portraits placed on each plate precludes the use of any background. Nothing is shown but the bird in perching or standing posture. And while the figure is necessarily small, it is clear and distinct, and is as adequate for identification as a larger one would be. Considering the

large number of species illustrated and the preciseness of the coloring, even in such small figures, we are bound to regard the book as a marked success.

The book is sponsored by the Gould League of Bird Lovers of New South Wales. We are astonished in reading that the League has a membership of six hundred thousand. In view of this fact, however, it is not surprising that the first edition of 3,500 copies was exhausted within the month of publication (December, 1931), and that a second edition was promptly issued. It may be worth mentioning that the publishers have also on their list a book on the snakes of Australia, and one on the Platypus, and we have no doubt that many college libraries in this country will have special need for the latter work, at least (at 10/6).—T. C. S.

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THE BIRDS OF LOUISIANA. Bulletin No. 20, Louisiana State Department of Conservation. Pp. 1-598. Distributed by the Department of Conservation, 126 N. O. Court Building, New Orleans. Price, 25 cents. Free to residents of Louisiana.

The first thing to be noticed about this work is its anonymity. In general people prefer to read from a known author, to say nothing of the justice of giving credit to the author. On page 522 this remark is made: "If one were forced to have only one favorite among the many appealing and beautiful warblers, the Hooded Warbler would be mine." This is probably an unedited reminder of the unknown author's role. The introduction gives some credit to Mr. Stanley C. Arthur, but there is no way of knowing, from the text, to what extent Mr. Arthur is responsible for the preparation of the work. In the "History of the Pelican Seal" of Louisiana we think we recognize Mr. Arthur's workmanship. However, it is difficult to understand the desire to suppress the authorship of a work which would otherwise be a credit to the State. It is also unfortunate that the numerous illustrations are not credited to either an artist or to previous publications.

One is much puzzled at first with the key of families of perching birds (pp. 394-395) until it is discovered that the printer has paragraphed the family name with the description below rather than the one above, simply by a misplacement of spacing. In most cases the treatment of a species is accorded a heading, but in some cases this is omitted. Apparently, the slight is given to some birds because they do not nest in, or visit frequently, the area under consideration.

The text contains many interesting and descriptive comments on the habits of our common birds in the southland. Special attention is given to the various vernacular names, and in many instances the origin or meaning of both vernacular and scientific names is given, often to the enlightenment of the experienced reader. A curious mixture of ornithological and editorial Latin, found on page 384 (and several other places), gives the scientific name of the Pileated Woodpecker as *Phloeotomus pileatus stet*—trinomialism inadvertently carried too far! Perhaps after all the author will be happier with the omission of his name from a work over which he had lost editorial control. However, notwithstanding these criticisms we are compelled to admit that in no other instance have we seen so much information on birds given for so little money.—T. C. S.

THE PHYSIOLOGY OF DEVELOPMENT OF FEATHERS. I. GROWTH-RATE AND PATTERN IN THE INDIVIDUAL FEATHER. By Frank R. Lillie and Mary Juhn. Reprinted from *Physiol. Zool.*, Vol. V, No. 1, Jan. 1932. Pp. 124-184, pls. I-VIII.

This paper is based on studies conducted under the auspices of the Whitman Laboratory of Experimental Zoology, at the University of Chicago. The text reports on two main lines of investigation, namely, the feather development and the experimental modification of feather type and pattern. The studies were made on the Brown Leghorn fowl, which has been the subject of study by the authors for eight years. While barnyard fowls do not make a strong appeal to nature lovers, yet they serve just as well for the study of biological problems, and the principles discovered may then be applied to wild birds in general. To facilitate their experimental work the authors found it necessary to go into the matter of regenerative development of the feather germ after plucking or normal molting. It may be sufficient to say that the mode of development of the feather is restated clearly, and with new facts and figures. The experimental work consisted of injecting the birds with thyroxin and female sex hormone. It was found that varying quantities of these hormones produced alteration in the color pattern of the growing feather—usually in the form of bars. The general trend of the work seems to be an analysis of the cause of color pattern in terms of physiological factors. Asymmetry in structure and color of feathers is briefly discussed. A more difficult experimental problem will be that of composite plumage color pattern.—T. C. S.

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BIRDS OF POLK COUNTY, IOWA. By Philip A. DuMont. Published by the Des Moines Audubon Society, 1931. Pp. 1-72. Price, 50 cents.

Besides the list of 289 species this paper gives a bibliography of twenty-two titles which deal more or less directly with the birds of Polk County. Perhaps this list is not complete, for we can name offhand three titles not in the list. Oberholser reported (1902) a specimen of *Otocoris alpestris praticola* from Polk County; Smith (1914) mentioned the Florida Gallinule in Polk County; and Bailey (1917) referred to a specimen of the supposed dark subspecies (*iowensis*) of the Broad-winged Hawk taken in Polk County. This specimen is mentioned in the catalogue, but the 1917 paper is overlooked. The author was wise in excluding (on present evidence) the Ground Dove from the list. It is rather surprising to find Swainson's Hawk listed as a "fairly common migrant"; we had regarded it as rare at present in the state. The misspelling of the word "species" has been mentioned in other reviews. The paper brings together a quantity of information for one of the representative portions of the state, and lays a splendid foundation for the larger problem of a state-wide report.—T. C. S.

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THE PARASITIC HABIT IN THE DUCKS, A THEORETICAL CONSIDERATION. By Herbert Friedman. *Proc. U. S. Nat. Mus.*, Vol. 80, Art. 18, pp. 1-7. Washington, D. C., 1932.

Attention is here called to the facts that often the eggs of the European Ruddy Duck may hatch without complete incubation, and that several species of ducks have the habit of laying their eggs in the nests of other birds; for example the Argentine black-headed duck is "regularly and entirely parasitic in its reproductive activities". These facts lead to some interesting speculation as to the origin of the peculiar habits.—T. C. S.

PROGRESS IN THE WESTERN DUCK SICKNESS STUDIES. By E. R. Kalmbach. Reprinted from Science, Jan. 8, 1932, Vol. 75, No. 1932, pp. 57-58.

This communication is a further report on the theory that the duck sickness is caused by the toxin of a bacillus. Previous reports (noticed in this magazine for June, 1931, p. 143) had indicated the presence of the bacillus, *Clostridium botulinum* Type C, in the tissues of birds dead from the disease and in the immediate environment of the sick birds. Now, the announcement is made that during the past year the toxin of *C. botulinum* Type C has been demonstrated in the bodies of birds dead from the disease, and also in the mud and water of their environment. These facts seem to satisfy the demands of bacteriological proof of the bacterial nature of the disease.—T. C. S.

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“CHECK-LIST OF NORTH AMERICAN BIRDS. Prepared by a committee of the American Ornithologists' Union. Fourth Edition. Lancaster, Pa. (American Ornithologists' Union) 1931. 8 vo. xix+526 pp. (Price 4 dollars).

“Under the leadership of Dr. Witmer Stone and with years of difficult work a committee of ten has prepared the long awaited Fourth Edition of the familiar ‘Check-List’, which is important because it not only forms the standards of nomenclature for the ornithologists of North America but also gives reliable information on the distribution of the birds of that continent at breeding-time and a survey of their migrations. The basis for the nomenclature of generic and specific names is indicated with great accuracy. In contrast with the Third Edition a number of essential revisions have proven necessary. In the arrangement of orders, families, and genera the classification worked out by Wetmore and Miller (1926) has been followed. The number of recognized genera has remained approximately as before; some genera of the Third Edition have been combined (as *Archibuteo* with *Buteo*, *Budytes* with *Motacilla*, *Astragalinus* with *Spinus*), while to about the same extent new divisions have been made (as the separation of *Morus* and *Sula*, *Phaeopus* and *Numenius*, *Thalasseus* and *Sterna*, *Melanitta* and *Oidemia*). If one draws a comparison with the nomenclature of the European ornithologists, which goes back essentially to Hartert, the fact must be admitted with regret that the gulf which separates the views on nomenclature on the two sides of the ocean is still large in spite of many attempts at approach, and that the gulf will probably not be closed very soon. This is manifested in the various decisions as to what constitutes a Genus. The Americans are far more inclined to split genera than we are, and the question arises if they are always fortunate thereby. The type of the genus *Turdus* is *T. merula* L. The American migratory thrush [Wanderdrossel=*Turdus migratorius*] is considered congeneric with our blackbird [Amsel] by the authors of the Check-List, in contrast with which they designate our red-thrush [Rotdrossel] ‘*Arceuthornis musicus*! They call the common curlew *Numenius arquatus* (although Linnaeus wrote *Scolopax Arquata*, ex Gesner: *Arquata*); the whimbrel, or jack-curlew, on the other hand is *Phaeopus phaeopus*. The fairy tern, or shrimp-catcher [Zwergscheschwalbe=*Sterna minuta*], is placed with the picktarny [Fluszseeschwalbe=*Sterna hirundo*] in the genus *Sterna*, the Brandseeschwalbe [?] on the other hand is *Thalasseus*. Examples of that kind can be shown in still greater numbers. The agreement of the views regarding the treatment of species is equally small in innumerable cases. Here is clearly demonstrated that the European

ornithologists of the present have taken the lead in the question of the limits of species and are years ahead of their American colleagues. The latter still separate *Nettion crecca* and *N. carolinense*, *Somateria mollissima* and *S. v-nigra*, '*Astur*' *gentilis* and *A. atricapillus*, *Lagopus mutus* and *L. rupestris*, *Hirundo rustica* and *H. erythrogaster*, '*Nannus*' *trogodytes* and *N. hiemalis*, etc., as species; yes, in several cases they have even gone back beyond the point of view of the Third Edition in 'retrograde development', (for example, with *Arquatella* and *Junco*!). The goal of an internationally recognized nomenclature still lies in the distant future. In order to attain it, questions like the following must be settled for all time by general agreement: does *Eremophilus* exclude the later name *Eremophila*, and is Reichenbach's (1852) fixation of the genotype for *Colymbus* valid, etc.? The magnificent supplement 'The fossil birds of North America' from the pen of Dr. A. Wetmore is a valuable addition."—Dr. Erwin Stresemann, in *Ornithologische Monatsberichte*, Vol. 40, No. 2, March, 1932. [Translated from the German by Henry Rath].

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FALL MIGRATION OF THE BLACK DUCK FROM NORTHERN MICHIGAN. By Miles D. Pirnie. Reprinted from Mich. Acad. Sci. Arts & Letters, Vol. XV, 1931, pp. 485-490.

It is here stated that the Black Duck "breeds in almost every county in Michigan". The paper is based on data obtained from banded birds. Of 845 Black Ducks banded in northern Michigan, 199 returns were secured. These returns were distributed throughout the Mississippi Valley, with also a considerable number along the Atlantic Coast. The paper draws certain conclusions concerning the time of the movement and the dispersion.—T. C. S.

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THE HAWKS AND OWLS OF ONTARIO. By L. L. Snyder. Handbook No. 2, Royal Ontario Museum of Zoology. Pp. 1-48. Toronto, 1932. Price, 35 cents.

Nineteen species of hawks and eleven species of owls are treated in this pamphlet. There is a general description of each species, with a careful statement of the economic status—the latter in most cases being illustrated by a circular percentage diagram.—T. C. S.

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USEFULNESS OF BIRDS ON THE FARM. By W. L. McAtee. Farmers' Bull. No. 1682, U. S. Dept. Agric. Washington, D. C., 1932. Pp. 1-13. Price, 5 cents.

This bulletin contains much new information, and serves as a good summary of the general economic status of these birds.—T. C. S.

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FOOD HABITS AND ECONOMIC STATUS OF THE BREWER AND RED-WINGED BLACKBIRDS. By Pablo S. Soriano. Reprinted from Calif. Fish and Game, Vol. 17, No. 4, Oct., 1931. State Fish and Game Commission, 510 Russ Bldg., San Francisco.

We find in this paper a very extensive examination into the economic status of the two species in question. Much evidence was collected, and the conclusion was reached that both species are more beneficial than harmful, and that they should be protected during the breeding season. But it was also recognized that because of their gregarious habits after the breeding season they may become locally destructive, and may then be reduced in numbers in fairness to the farmers.—T. C. S.



A BIBLIOGRAPHY OF TENNESSEE ORNITHOLOGY. By Jesse M. Shaver. Journ. Tenn. Acad. Sci., VI, No. 4, Oct., 1931, pp. 179-190.

This list of titles contains 237 items, and we note that the greatest number of titles by one author is thirty-eight, by A. F. Ganier. Those who have not attempted it will perhaps scarcely realize the amount of work involved in assembling even an approximately complete bibliography. The publication of one is always of great value to the progress of any particular phase of science—it fixes the progress that has been made up to that point.—T. C. S.

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BIRDS OF NORTH LOUISIANA. By George H. Lowery. Bull. La. Polytechnic Inst., XXIX, No. 4, 1931, pp. 1-60. Published by the Polytechnic Institute, Ruston, La.

This paper reports on 252 species and subspecies of birds observed in Louisiana north of latitude 31°. Most of the study hitherto given to the birds of this state has been made in the southern part of the state. The northern part, which seems to have been neglected, is treated in the present paper.—T. C. S.

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BIRDS OF SIOUX CITY, IOWA. By Walter W. Bennett. Published by the Sioux City Bird Club, 1931. Price, 10 cents.

This pocket booklet of eighteen pages lists 293 species and subspecies. The evidence for a number of forms admitted is not convincing. Even if specimens are not insisted upon, the documentary evidence is not fully presented. The reviewer knows of no evidence of the former abundance (or even occurrence) of the Passenger Pigeon in the vicinity of Sioux City. The Glossy Ibis mentioned is an immature specimen, and is more probably a White-faced Glossy Ibis (*guarauna*). Perhaps a dozen other species in the list are open to question of one sort or another. For the most part, however, it is a useful list for the purposes for which it was intended.—T. C. S.

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THE SEASONS OF BIRDS IN CENTRAL OHIO AS SHOWN BY SIX YEARS' MIGRATION RECORDS. Compiled by Charles F. Walker. Published in Ohio State Mus. Bull., Vol. I (date not shown).

In this paper Mr. Walker has attempted to compile the dates of arrival and departure of the birds and from an area of central Ohio comprising all or parts of several counties, and which may be called the Columbus region. The table is based on observations obtained during the years of 1922-1927. A list of winter birds for the same region is appended.—T. C. S.

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OHIO GAME AND SONG BIRDS IN WINTER. By Lawrence E. Hicks. Bulletin of the Bureau of Scientific Research, Division of Conservation, Vol. I, No. 2, Jan., 1932, pp. 1-68. Columbus, Ohio.

Mr. Hicks has prepared a very useful manual on the winter care of wild bird life. The subject is treated under six heads, viz., 1) emergency feeding in winter, 2) report on experimental field work, 3) conservation and checks on natural increase, 4) planting of food crops for birds, 5) list of all Ohio winter birds—to the number of 159, and 6) a bibliography of literature. Ten halftone reproductions of photographs make interesting illustrations.—T. C. S.

THE CALIFORNIA GROUND SQUIRREL CONTROL PROGRAM. By Eugene S. Kellogg. Calif. Dept. Agric. Special Publ., No. 109. Pp. 1-21. Sacramento, 1931.

Apparently this paper is prepared as a defense against attacks on the widespread use of poison for rodent control purposes in California and other parts of the west. The paper discusses the need of control of rodents, the occurrence in rodents of disease to which man is susceptible, and the secondary effects of poisoned bait on other forms of wild life. The paper concludes with a direct reply and criticism of the much-quoted article by Dr. Linsdale in the *Condor* last year. Innuendo is used repeatedly to asperse the validity of Linsdale's "facts", but it seems to us that the author has been careful to avoid an unequivocal denial of the facts. After all, to the general observer and conservationist it makes very little difference whether the deaths were caused by one kind of poison or another.—T. C. S.

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To the *Migrant* Mrs. Sanford Duncan contributes two notes on "snakes vs. birds"; in the last December number one note records that a small snake was found in a Mockingbird's nest containing eggs; in the last March (1932) number she also reports the capture of a full grown flicker by a bullsnake. Messrs. Dillon and Ganier, in the December number, record the nesting in Tennessee of the Prairie Horned Lark. The *Migrant* is an 8-page quarterly, the subscription is fifty cents per year, and the Editor is Mr. George B. Woodring, 1414 Stratton Ave., Nashville, Tenn.

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In the March, 1932, number of the *Gull* Mr. C. A. Harwell gives a few notes on the Water Ouzel. He records that during one period of observation "the birds submerged twelve times in twenty seconds, rested ten seconds; submerged eight times in fifteen seconds, rested twelve seconds; submerged twelve times in twenty seconds". The *Gull* is a 4-page monthly, \$1.00 per year, Mrs. A. B. Stephens, Editor, 1695 Filbert St., San Francisco.

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The *Audubon Annual Bulletin* (Illinois) for 1932 contains sixty-four pages of text and pictures. Two very interesting photographs attract attention, one of Benjamin F. Gault with the late Robert Ridgway, and another, a very unusual flashlight picture of a deer in the wild. Many short articles make up an excellent number.

During the past few months we have received the following mimeographed publications: the *Yellowstone National Park Nature Notes*, issued monthly in the office of the Superintendent, Yellowstone National Park, Wyoming. *The Raven*, monthly organ of the Virginia Society of Ornithology, edited by Dr. J. J. Murray, Lynchburg, Va. *The Flicker*, quarterly organ of the Minnesota Bird Club, edited by Gustav Swanson, 3305 47th Ave., S., Minneapolis, Minn. *The Chickadee*, monthly organ of the Forbush Bird Club, Worcester, Mass. This is a new periodical, but from copies we have seen we have not learned the subscription price nor business address; however Dr. W. Elmer Ekblaw, Clark University, Worcester, Mass., is president of the club and can give information. *Inland Bird Banding Notes*, quarterly organ of the Inland Bird Banding Association, Edward R. Ford, Secretary, 7077 Ridge Ave., Chicago, Ill. *News from the Bird Banders*, quarterly organ of the Western Bird-Banding Association, Museum of Vertebrate Zoology, Berkeley, Calif. *Bird Banding Notes*, issued by the Bureau of Biological Survey, U. S. Department of Agriculture, Washington, D. C.