

RECENT LITERATURE

Stonor's 'Courtship and Display among Birds'¹ brings together from many sources a series of 58 magnificent photographs showing some of the most beautiful and spectacular displays of birds, including those of the Bustard, Frigate-bird, Bird-of-Paradise, grouse, heron, albatross, grebe, wagtail, penguin, Ruff, Lyre-bird and Kagu; the text describes these displays and touches on their uses. Courtship is said to be "of profound importance as an 'awakener' prompting the bird to begin its breeding activities, keeping it keyed up when once it has started." The displaying male stimulates himself as well as the female. It is suggested that visual stimulation acting through the pituitary gland effects this, and is compared to the effect of a work of art on a man, or an incomplete clutch of eggs stimulating a female to continue laying. However, it is also admitted that the attracting of a mate is often most important. Mutual display, continued after pairing, helps to keep the birds "up to the mark" in their nesting duties. Communal display increases advertisement value, and provides greater stimulation for each bird; lack of this might be a factor in the sudden extermination of a bird reduced in numbers. Display grounds increase the effect of displays. The possible social and recreational use of some of these is mentioned, still a rather problematic question. The comparative studies of some displays and the structures used in them are an interesting feature. The displays and adornments of a closely related group of Birds-of-Paradise can be arranged in a series of increasing complexity, illustrating their possible phylogeny; in this group evolution of display has kept pace with evolution of adornment. In gamebirds the displays show less variation; in this group the evolution of display has not kept pace with the evolution of adornment. Stonor concludes that in some cases evolution of form preceded that of display.

Many other generalizations are scattered through the book, but the discussion is not well rounded. Birds tend to breed when conditions are most favorable and environmental factors, notably light, appear to control this. Once started, display may have an additional effect, but probably it is more important in this phase in bringing the pair together and aiding physical contact. Some generalizations are too sweeping, as that all brilliant colors have a use, as those of fruit pigeons for protection; and that "the greatest thing a bird is up against . . . is that it must . . . blend and tone in with its surroundings." Some examples, such as the following, were better omitted: the account of five manakins sitting in a circle, one keeping somewhat apart and piping a short song while the rest hopped up and down in rhythm; Hudson's Cayenne Lapwings, in which mated pairs welcome with pleasure strangers that visit for purposes of amusement or play; and the hummingbird, *Loddigesia mirabilis*, that brings over its head the spatulate tips of two elongated tail-feathers and claps them together with a cracking noise. The data on Birds-of-Paradise in the wild contain some inaccuracies: it is doubtful if any species was ever in immediate danger of extermination; they do not all live in rain forest; the sexes do not live at different levels in the forest during the non-breeding season. This book is meant to acquaint the general public with some of the most beautiful and spectacular phenomena of bird life and both text and photographs serve their purpose well. There is a brief foreword by Dr. P. R. Lowe.—A. L. RAND.

¹ Stonor, C. R. Courtship and / Display among Birds. 8vo, xv + 139 pp., pls. 1-57, text figs. 1, 2, 1940; Country Life Ltd., London. Price 8 shillings 6 pence.

Chance's 'The Truth about the Cuckoo.'—In his second book,¹ Mr. Chance again tells the truth about certain aspects of the life history of the European Cuckoo (*Cuculus canorus*). The reviewer was not aware that the author's previous book, 'The Cuckoo's Secret' had failed to convince bird students that the cuckoo (1) lays the egg directly into the fosterer's nest and (2) deposits the eggs on alternate days. These points are adequately proved in the detailed series of experiments recounted in the body of the book. The author manipulated the nests of the hosts so that the cuckoo would have nests available for cuckolding. A series of excellent motion-pictures shows the details of oviposition. The principal host, the Meadow Pipit, and several less important hosts are treated in the descriptive chapters.

The interpretive chapters deal briefly with several subjects. The theory that the cuckoo lays the egg on the ground and then places it with the beak or from the gullet into the nest of the host is refuted. The adherence of a particular cuckoo to a certain species of fosterer is again affirmed. Admittedly basing his opinion on insufficient evidence, the author concludes that cuckoos are monogamous and pair for life. The theory that each female maintains a territory, at least in respect to one species of host, seems well founded. A description of the young cuckoo, call notes and the variation in egg markings comprises three chapters. It must be remembered that these studies are based on the extremely probable assumption that the identity of a cuckoo can be determined by the markings on the eggs. This assumption should be definitely proved. The book contains much valuable data on the host species and a chapter by R. C. Punnett on the genetical aspects of the cuckoo's life history.

The author obviously did not intend this book to be a monograph of the life history of the cuckoo. Accordingly there is no correlation of the literature. However, the experiments of Jenner in 1787 on the method by which the young cuckoo ejects the rightful occupants are quoted extensively. It is hoped that Mr. Chance will write another book making available his knowledge of the life history of this interesting bird. The complete truth would include such essential points as the incubation period, survival and development of the young, activities of the male, and a correlation with the voluminous literature on the various species of cuckoos. Banding experiments could prove the assumption that a cuckoo lays in the nests of that species by which she herself was raised. The author should avoid the lapses into the anthropomorphic and mystical viewpoints.—D. E. DAVIS.

'The New Systematics.'—While not properly a bird book, this volume² is still of such provocative and outstanding interest in the field of the natural sciences that it is perhaps not amiss to call attention to it here. The English have always been leaders in the field of evolutionary study. This book, sponsored, so Professor Huxley tells us in the Foreword, by the Association for the Study of Systematics in Relation to General Biology, is an interesting attempt to present the problems lying before those workers concerned with the field of evolution. To the museum taxonomist as well as to the field naturalist the question of the relationship of species whether it be through morphological characters or behavior is an all-important one. To the laboratory worker on the other hand the importance of species is in general only beginning to become apparent. Shortly after the publication of 'The Origin of Species' as someone has aptly remarked, "biology went into a

¹ Chance, Edgar P. *The Truth / about the Cuckoo* / 8vo, xvi + 207 pp., illustr., 1940; Charles Scribner's Sons, New York and London. Price \$4.00.

² *The New Systematics*. Edited by Julian Huxley. 8vo, viii + 583 pp., 1940; Oxford, at the Clarendon Press. \$6.00.

room and shut the door." Through the field of ecology it is only now beginning to poke its head outside again. This book then is a sincere and well-planned attempt to point out wherein the studies of the taxonomist, the ecologist, and the experimentalist are related, what their problems are, and how each should play a part in 'The New Systematics.'

Besides Huxley's Introduction, there is a total of twenty-one chapters by various specialists including de Beer on 'Embryology and Taxonomy,' Launcelot Hogben on 'Problems of the Origins of Species,' Calman on 'A Museum Zoologist's View of Taxonomy,' Diver on 'The Problem of closely related Species living in the same Area,' and Timofeeff-Ressovsky on 'Mutations and Geographical Variation.' There are several chapters primarily on genetic work by Sewall Wright, C. D. Darlington, and H. J. Muller as well as other sections on paleontology, plant taxonomy, and ecology with a good many examples taken from the field of birds. Some of the points brought out in regard to taxonomy are particularly interesting. Thorpe in his chapter, 'Ecology and the Future of Systematics,' suggests that "just as the experimental biologist has adopted the most advanced technique of physics, chemistry, and mathematics to advance his investigations, so the taxonomist must be prepared to adopt any and every line of attack in the study of the species-problem. The fact that taxonomic work in the past has in many cases been so strongly vindicated by subsequent biological investigation, while it reflects the greatest credit on the ability—or rather genius—of the best taxonomists, does not absolve him from adopting new methods. But to enable this development to take place the museum of the future, great though recent improvements have been, will have to be a very different place from that of the present day." Both Thorpe and Huxley point out the improvements which they envisage for museums, namely experimental departments, greater facilities for field studies, embryological studies, and finally, the need for greater amounts of statistical data taking advantage of the new developments in biometry.

But it is difficult to indicate in more than a very general way the scope of this book. Perhaps one of the most interesting aspects of it is that it attempts to be a prophetic book. It attempts to correlate the recent advances in various fields and to point out the ways in which further advances may be charted. Such a study is always fascinating and particularly so to the Ornithologist of today who must be aware that the days of purely descriptive taxonomy are numbered. But as Thorpe remarks, if taxonomy "is properly related with methods of experimental biology and ecology, there is no work of greater interest and importance." Lastly, it is not without significance that Professor Huxley, ever in the van of the trends in biology, should engage with such a notable company in this exhaustive consideration of the species-problem. It is difficult to avoid the conclusion that 'The New Systematics' represents a valuable and important addition to the literature on evolution.—S. D. RIPLEY.

Dr. Gabrielson's 'Wildlife Conservation' is a timely book,¹ written by a high authority, for the purpose of bringing more clearly before an awakening public some of the basic facts and principles underlying the perpetuation and legitimate use of our wildlife resources. The unthinking destruction and exploitation of pioneer days must give place to a wise planning for the future, yet in order to do even this much, more practical knowledge is needed of the varied requirements

¹ Gabrielson, Ira N. *Wildlife Conservation*. 8vo, xv + 250 pp., illustr., 1940; The Macmillan Co., New York City. Price \$3.50.

and complex interactions of the many elements that go to make up our fauna and flora.

The first half of the book is chiefly concerned with the factors of environment,—soil, water, forests, grassland; the latter half considers especially fish, furbearers, and large and small game animals, in their relation to man, to one another, and to their surroundings. Thus it is shown how the predatory mammals may be an important factor in regulating the numbers of a non-predatory species to the carrying capacity of its range (as the Kaibab deer); again, we cannot expect a species to maintain its numbers if we destroy its needed environmental conditions of food and shelter. Restoration of the environment may therefore be a crucial factor in preservation of the species. Conservation means far more than mere protection; it implies the maintenance of a harmonious balance between reproduction, the carrying capacity of the available range, the use and perpetuation of the species.

The chief difficulties in the way of proper conservation policies, the author sums up as three: (1) the shortsightedness of the human race; (2) the tendency to seek panaceas rather than real remedies; and (3) the lack of knowledge and understanding. We are beginning to lay up a store of knowledge; let us hope that it may increase fast enough to overcome the first and second of these obstacles!

The book is well written, in clear straightforward style, is well illustrated and makes interesting reading, while at the same time driving home the various points with incontrovertible facts and treating various aspects with the utmost fairmindedness and breadth of vision. The volume might well form a supplementary text in a college course on conservation or supply much-needed information for the general public on the urgent necessity for a farsighted program of reconstruction.—G. M. ALLEN.

Mrs. Cruickshank's 'Bird Islands Down East' is a narrative of the author's adventures on various expeditions with her husband to the seabird colonies on the rocky coast of eastern Maine. Many of the outer islands are uninhabited and support flourishing populations of terns, puffins, cormorants, Leach's Petrels, Herring and Laughing Gulls; on other lonely islets a lighthouse keeper or a lobsterman or two carry on their duties in the midst of the abundant bird life and welcome an occasional visitor. Ably and devotedly seconding her husband's work, the author recounts some of their difficulties and successes in reaching these outposts, banding, photographing and observing birds with a zest that is contagious. While there is much incidental information on the habits of the birds, no attempt is made to give detailed life histories or to present the results of the hours spent in blinds making observations. Nevertheless, the book¹ forms an interesting contemporary record of these bird colonies, now so populous where fifty years ago they had become reduced to precarious numbers.

The many illustrations are from well-chosen photographs secured on these expeditions, and form thirty plates. Some of them, such as those of an Osprey passing overhead, the close-ups of terns, phalaropes and cormorants, are of unusual merit. The volume itself is not too large nor too long for convenient companionship, and is a distinguished addition to the various popular bird books brought out by the publishers in recent years.—G. M. ALLEN.

¹ Cruickshank, Helen Gere. *Bird Islands Down East*. With photographs by Allan D. Cruickshank. 8vo, xii + 123 pp., 30 pls., 1941; The Macmillan Co., New York. Price \$2.50.

Laboratory Ornithology.—The simultaneous appearance of new editions of ornithological outlines for students attests their usefulness in connection with teaching this subject. Professor Baerg's 'Elementary Ornithology' now appears in printed rather than mimeographed form, neatly bound in stiff paper covers. The pages are the size of a typewriter-sheet, printed on the right-hand side, leaving the opposite pages blank for notes. The table of contents indicates the broad scope of treatment, beginning with a page of general reference books, a short sketch of ornithological history, with a few paragraphs on American ornithologists and bird artists. There are paragraphs on extinct birds, reptilian and avian characters, a geological time-table, food, color, plumages, anatomy, song, habits, with special accounts of certain species, all designed to supply the student with suggestive information and source references in gaining an elementary knowledge of birds. While one might criticize the somewhat vague sequence of the subjects and the miscellaneous nature of some of the information, nevertheless it is evident that the purpose of the author is to stimulate interest rather than to provide too formidable an array of facts. Misprints are few (on page 8, read *Teratornis* and *Aepyornis*), the type is large and clear and the many references enable the independent student to pursue the subject farther. For regional use, a better list of State ornithologies, rather than the few given on the prefatory page, might prove worth adding.

Dr. Arthur A. Allen's 'Ornithology Laboratory Notebook' now reaches its fourth edition in much improved form, bound in stiff paper covers, and with much additional matter in the way of charts to be filled in, giving the student a more vivid impression of the characters, colors and habitats of North American birds; added are printed check-lists to be filled in on field excursions. A map in colors shows the life zones of North America. While prepared originally with reference to the birds to be met with in central New York, this new edition is so arranged as to be applicable over a much wider field and thus to have a more extensive use. With thirty years' experience in teaching ornithology at Cornell University, the author finds that an excellent method of approach is for the student to learn to name the bird from a study of its characters, and from the interest thus aroused, to lead him on to the more detailed aspects of the subject. These, however, are evidently left for a more advanced course.

Helpful and suggestive outlines for elementary study such as these,¹ should prove very useful to the teacher confronted with the problem of offering a course on ornithology, and emphasize on the one hand the approach through literature, on the other the approach through laboratory and field studies.—G. M. ALLEN.

Roberts on Wilson's Petrel and the breeding behavior of Penguins.—A pressing need of modern ornithology is the study of species living outside the temperate zones. We are now fortunate to have comprehensive recent studies of two Antarctic species, Wilson's Petrel and Gentoo Penguin. These two monographs² result

¹ Baerg, W. J. *Elementary Ornithology*. Large 8vo, revised ed., 68 pp., 1941; Russellville, Ark. Price \$1.50, from the author at Fayetteville, Ark.

Allen, Arthur A. *Ornithology Laboratory Notebook*. Large 8vo, fourth ed., 204 pp., with 52 additional pages of figures, colored map, and other figures, 1941; Comstock Publishing Co., Ithaca, N. Y. Price \$3.00.

² Roberts, Brian. 'The Life Cycle of Wilson's Petrel, *Oceanites oceanicus* (Kuhl).' *Sci. Repts. British Graham Land Exp. 1934-37*, 1 (no. 2): 141-194, Aug. 30, 1940; British Mus., London. Price seven shillings six pence.

Roberts, Brian. 'The Breeding Behaviour of Penguins with Special Reference to *Pygoscelis papua* (Forster).' *Sci. Repts. British Graham Land Exp. 1934-37*, 1 (no. 3): 195-254, Aug. 30, 1940; British Mus., London. Price five shillings.

from the British Graham Land Expedition of 1934-37. Dr. Roberts observed the birds during three seasons and at several localities in West Antarctica.

Wilson's Petrel (*Oceanites oceanicus*) breeds in at least a dozen localities surrounding the Antarctic continent. The author divides the species into four populations—*Oceanites oceanicus oceanicus*, *O. o. exasperatus*, *O. o. parvus*, and *O. o. magellanicus*, nom. nov.—differing only in the mean of their measurements as determined by an extensive study of specimens and review of the literature. A colony of twenty-three nests supplied the data on breeding habits. After observations were concluded, dissection of one member of each banded pair determined the sex. Banding experiments proved that the same birds return yearly to the same burrow and mate; thus the joint ownership of the burrow provides the 'bond' between the sexes. Courtship, consisting of elaborate mutual preening and billing, and copulation occur inside the burrow. The one egg laid is not replaced if taken. Males and females incubate in alternate periods of about 48 hours, changing places at night. The incubation period varied between 39 and 48 days in nine cases. The young grow rapidly for about two weeks and then fluctuate greatly in weight, due to irregular feeding as a result of snowfall. Since the chicks frequently weigh twice as much as the adults, they can withstand starvation for a week by using up the stored fat. The chick attains the homoiothermic condition in the short time of two days; the interior of the burrow is not below freezing. A series of monthly distribution maps describes the migration in the several oceans. A complete summary, list of references and ten photographs complete the paper. About the only criticism is the conclusion that since oil or fat will quickly attract petrels, they have a "strong sense of smell."

The second monograph reports studies on the breeding behavior of the Gentoo Penguin (*Pygoscelis papua*) and of other penguins. The author proposes a partly new classification of the Sphenisciformes based on behavior, ecological relationships and functional characteristics as well as morphology. During August and September, Gentoo Penguins make a partial migration to the breeding colonies and begin bowing and crowing. As the snow disappears the display is confined to the nest site. Much of the early display is incomplete or abnormal; the rôle of the sexes approximates to that which is later followed by the male alone and is interchangeable. Experiments with stuffed birds show that "behaviour is the only guide which penguins have in selecting a mate of the right sex." "The essential difference in the behaviour of the sexes is that during the breeding season a male tries to dominate weaker birds, while the female loses this dominating urge during the short period when fertilization must take place." Five distinct types of display utilize various highly developed allesthetic characters. Fighting occurs between birds of the same and of different sexes, and is the result of trespass on the territory (nest site) of another bird. Brooding begins before eggs are laid and continues if stones are substituted. A table of incubation periods shows that most species of penguins incubate for about forty days. The young collect in groups after hatching and receive food from any adult.

The latter section of the paper deals with an "attempted correlation of the behavior phases with gonadal development." The author examined microscopically the gonads of birds collected while performing definite phases of the reproductive cycle. This ambitious attempt is handicapped by the incomplete state of avian endocrinology and the omission of relevant literature. Most endocrinologists will agree that Dr. Roberts has overlooked two important principles. The first is that different behavior patterns (and somatic characters) respond at different thresholds

of hormone concentration (Domm, 1927; Carpenter, 1933). Since a small amount of interstitial tissue will produce sufficient hormone, the volume of the testis is not useful as a measure of behavior. The condition of the tubules is governed by gonadotropic hormones; behavior in turn is, with certain exceptions, controlled by androgens or estrogens. The condition of the testis reflects the effect of gonadotropins, not androgens. The second principle concerns the use of the term 'estrous.' In mammals the divisions of the estrous cycle depend upon the follicle-stimulating hormone and the luteinizing hormone; hence these divisions should not be used for entirely different aspects of the avian reproductive cycle. The author modifies Howard's misguided usage somewhat but still implies that the mammalian and the avian phases are similar; it is thus not surprising that the author encountered great difficulties in using the terms. Students of bird behavior had best avoid entirely the words 'proestrous,' 'estrous' and 'anestrous.' Some less-important points merit attention, as when (on p. 23) the author confuses the stimulus to ovulation with the mechanism of ovulation. Further, he overlooks the probability that some birds ovulate spontaneously. Fortunately the author's "tentative analysis" is based on a mass of solid data which will long outlive the ephemeral interpretations of author and reviewer.—DAVID E. DAVIS.

Harris on the California Condor.—In this important paper¹ the author brings together the results of an exhaustive search for historical data concerning the California Condor, as a preliminary to the hoped-for publication of a modern life-history study now in progress by others. Although no mention of the species occurs in accounts of early visitors to our southwest coast prior to 1600, there is a brief notice of the bird in the diary of the Carmelite father, Fr. Antonius de la Ascension, who in 1602, observed from shipboard a crowd of these condors feeding on the stranded carcass of a dead whale in Monterey Bay. A page of the diary (in early Spanish) containing this first account is reproduced in Mr. Harris's article. Not until 1769 was it again noticed by the Spanish. The first specimen of the bird to reach Europe is believed to have been one mentioned by Martinez in 1791 or 1792, but it was soon lost sight of, or destroyed. In the latter year, however, the botanist and collector, Menzies, accompanying Vancouver's expedition, secured a specimen at Monterey that later served as the type of the species, and is still preserved in the British Museum collection. This specimen was originally mounted and on exhibition, but afterward was taken down to be made into a study skin. A photograph of it, showing its present state, accompanies Harris's paper. The bird was first formally described and named by Shaw in his 'Miscellany' in 1797, but since the bill of the type was broken the characters could not be completely made out.

The first good account of the bird in the field was that of Captain Meriwether Lewis of the famous Lewis and Clark expedition. Further interesting details of early specimens to reach European collections are given, as well as an account of some of the first figures, and details of observations quoted from the journals of Lewis, Douglas, Lichtenstein, and many others. Thus the knowledge of this magnificent bird slowly grew. In 1859 the first figure of the downy young was published from W. M. Ord's original drawing. The further history of discoveries with accounts of habits, is given in full, bringing the subject down to the close of the nineteenth century, when already it had become evident that the bird was approaching the verge of extinction. This important paper is a splendid con-

¹ Harris, Harry. 'The annals of *Gymnogyps* to 1900'. Condor, 43: 3-55, 22 figs., Jan. 15, 1941.

tribution to the literary history of this great condor and well summarizes our limited knowledge of its past. A reproduction in color of the spirited painting of the bird by Fuertes forms a fitting frontispiece.—G. M. ALLEN.

PERIODICAL LITERATURE

- ABBOTT, ROY L. This Robin of mine. Nat. History (New York), **47**: 227-230, Apl. 1941.—Habits of a Robin with white feathers in its tail, that returned for five years to the writer's yard in Iowa.
- ALCORN, J. R. New and additional Nevada bird records. Condor, **43**: 118-119, Mar. 15, 1941.
- ALEXANDER, W. B. The index of heron population, 1940. British Birds, **34**: 189-194, Feb. 1, 1941.—The populations show a considerable decrease in comparison with the previous year in the British Isles, as a result probably of the very hard winter of 1939-40.
- ANDERSON, HARRY G. Spring arrivals in February and March for Dane County and vicinity [Wisconsin]. Passenger Pigeon (Madison, Wisc.), **3**: 16-17, Feb. 1941.
- ANDERSON, HARRY G., JR. Permanent and winter bird residents of Dane County and vicinity [Wisconsin]. Passenger Pigeon (Madison, Wisc.), **3**: 6-7, 1941.
- ANDERSON, HARRY G., JR. Spring arrivals in April and May for Dane County and vicinity [Wisconsin]. Passenger Pigeon (Madison, Wisc.), **3**: 24-26, Mar. 1941.
- ANON. Prospecto biologico del Lago de Patzcuaro [Mexico]. Anales del Inst. de Biol., Univ. Nac. de Mexico, **11**: 487-491, 1940.—Nominal list.
- ARVEY, M. DALE. A new race of bush-tit from southeastern California. Condor, **43**: 74-75, Jan. 15, 1941.—Describes *Psaltriparus minimus providentialis*, from Providence Mts.
- BANTA, A. M. Another avivorous angler or goosefish. Science, **93**: 158, Feb. 14, 1941.—Herring Gull found in the stomach of a goosefish thrown up on the beach near mouth of Narragansett Bay, Rhode Island.
- BARGER, N. R. December field notes [from Wisconsin]. Passenger Pigeon (Madison, Wisc.), **3**: 5-6, Jan. 1941.
- BARGER, N. R., ED. Christmas bird census 1940 [in Wisconsin]. Passenger Pigeon (Madison, Wisc.), **3**: 7-10, Jan. 1941.—Listing 75 species.
- BARGER, N. R. January field notes. Passenger Pigeon (Madison, Wisc.), **3**: 18-20, Feb. 1941.
- BARGER, N. R. February field notes. Passenger Pigeon (Madison, Wisc.), **3**: 28-29, Mar. 1941.—In Wisconsin, a Snow Goose in late February with wintering Canada Geese; Glaucous Gull in Milwaukee; in La Crosse, no less than fifty Cardinals were banded in February; Purple Finches wintered plentifully.
- BARNES, V., JR., AND PHELPS, WM. H. Las aves de la peninsula de Paraguana. Bol. Soc. Venezolana de Ciencias Nat., no. 46, 33 pp., map, 1940.—With a list of ninety species known from this peninsula.
- BARTELS, M., JR. Nogmaals: "De Avifauna van Batavia en omstreken." Ardea, **29**: 147-151, July 1940.—Additional notes to the list.
- BEAL, CLARENCE M. A bird sanctuary. Bull. to Schools, Univ. State of New York, **27**: 235-237, 4 figs., Mar. 1941.—The Kellogg Bird Sanctuary, Michigan.
- BELL, C. C. Unusual bird records for Kent County, Ontario. Canadian Field-nat., **55**: 13, Feb. 8, 1941.
- BENSON, C. W. Further notes on Nyasaland birds (with particular reference to those of the Northern Province).—Part IV. Ibis, (14) **5**: 1-55, Jan. 1941.

- BERGMAN, GORAN, FABRICIUS, ERIC AND VON HAARTMAN, LARS. Eine vorläufige Untersuchung über die Nahrungsbiologie von *Larus f. fuscus* L. und *Larus a. argentatus* Pontopp., mit besonderer Berücksichtigung ihrer Bedeutung für die Pflege der jagdbaren Seevögel. *Ornis Fennica*, **17**: 33-41, Nov. 1940.—Effect of gulls in destroying young of ducks does not justify killing them.
- BERNDT, RUDOLF. Vögel warnen vor fliegenden Fledermäusen. *Ornith. Monatsber.*, **48**: 192-193, Dec. 14, 1940.—On two occasions, when a bat was startled from its hiding-place in a bird box, the small birds in the vicinity expressed alarm at the unusual sight.
- BIRCKHEAD, HUGH. On keeping oil-polluted ducks in captivity. *Avic. Mag.*, (5) **5**: 24-27, Jan. 1941.—Good results obtained by placing the birds in a pen or hen-house, give them food in plenty to restore vitality, and provide pans of warm water. If the birds learn to eat the food provided, they will eventually succeed in cleaning off the oil by themselves.
- BIRD, C. G., AND BIRD, E. G. The birds of North-east Greenland. *Ibis*, (14) **5**: 118-161, pls. 1-3, fig., Jan. 1941.—An important paper. First records of Starling (referred to the Shetland race) and Northern Willow Warbler; Snowy Owl abundant during the lemming years 1936, 1937; but in 1938 when lemmings were nearly absent not a Snowy Owl was seen. These owls also occasionally kill hares and rarely Rock Ptarmigan.
- BLAIR, R. H. Nest-sanitation. With additions from published sources by B. W. Tucker. *British Birds*, **34**: 206-215, Mar. 1, 1941.
- BLAKE, EMMET R. Two new birds from British Guiana. *Zool. Ser. Field Mus. Nat. Hist.*, **24**: 227-232, Mar. 15, 1941.—New races are: *Aulacorhynchus derbianus osgoodi* and *Piculus rubiginosus nigriceps*, both from Acary Mts.
- BOND, JAMES. On some birds from Grand Manan, New Brunswick. *Canadian Field-nat.*, **55**: 34-35, Mar. 1941.—With additions to Pettingill's list of 1939.
- BOOSEY, EDWARD. Some war-time breeding results at Keston. *Avic. Mag.*, (5) **5**: 301-305, Dec. 1941.—Avicultural notes on parrots.
- BRELSFORD, V. Field-notes on some Northern Rhodesian birds. *Ibis*, (14) **5**: 161-172, Jan. 1941.
- BRIGHAM, EDWARD M., JR. Some sight records of the Blue Grosbeak in Michigan. *Jack-pine Warbler*, **19**: 19-20, Mar. 1941.
- BRIMLEY, C. S. Prairie Horned Lark extends breeding range. *The Chat* (Raleigh, N. C.), **5**: 22, Mar. 1941.—Two instances of nesting in Iredell County, North Carolina, in June 1940, and other recent sight records prove the extension of the breeding range now to this State.
- BRIMLEY, H. H. Wildfowl. *The Chat* (Raleigh, N. C.), **5**: 5-7, Jan. 1941.
- BRINKMAN, WILHELM. Vom Zug- und Brutleben des Goldregenpfeifers im Emslande. *Ornith. Monatsber.*, **49**: 12-15, Jan. 31, 1941.
- BROLEY, MYRTLE J. Banding eagles in Florida. *Amer. Forests*, **47**: 70-72, 4 figs., Feb. 1941.—Of nestlings banded in Florida, two were subsequently shot in Virginia and one at Columbiaville, 100 miles north of New York City.
- BURLEIGH, THOMAS D. Occurrence of the Western Grasshopper Sparrow in Georgia. *The Oriole* (Atlanta, Ga.), **6**: 11-12, Mar. 1941.—One taken at Newton, Jan. 27, 1936.
- BURLEIGH, THOMAS D. Further notes on the birds of Athens, Clarke County, Georgia. *The Oriole* (Atlanta, Ga.), **6**: 5-7, Mar. 1941.
- BURK, WALTER L. Screech Owls bathing. *Iowa Bird Life*, **11**: 12, Mar. 1941.—Two adult Screech Owls both in the red plumage raised four young of which two

- were red and two gray. All came frequently at dusk to drink and bathe at a bird bath.
- CALDWELL, JOHN C. Ruffed Grouse in Tennessee. *The Migrant* (Nashville, Tenn.), **12**: 12-13, Mar. 1941.—Status of the bird in Tennessee; most common in the Cumberlands.
- CANADA, DEPT. MINES AND RESOURCES. Notes on Canadian bird-life. *Nature Notes* (Peoria, Ill.), **8**: 39-42, Feb. 1941.—Ivory Gull on exhibition in the Quebec Zoological Garden.
- CARTWRIGHT, B. W. Solved—the mystery of Ross's Goose. *American Forests*, **47**: 158-159, 204-205, 4 figs., Apl. 1941.—A further account of the discovery of the nesting grounds.
- CHANCE, EDGAR P. *The Cuckoo (Cuculus canorus)*. Privately printed, Surrey, Engl., 12 pp., Jan. 1939.
- CLARKE, C. H. D. Mourning Dove at Reliance, N. W. T. *Canadian Field-nat.*, **55**: 12, Feb. 8, 1941.—A bird stayed from Sept. 13-Oct. 15 at this place, east end of Great Slave Lake.
- COLE, MINA P. Bird visitors at Red Deer, Alberta. *Canadian Field-nat.*, **55**: 5, Feb. 8, 1941.
- COLE, R. K. *Listeria (Listerella)* infection in the fowl. *Poultry Science*, **20**: 28-32, 2 figs., Jan. 1941.
- COOK, SALLY M. A rare visitor comes to our house. *Bull. Massachusetts Audubon Soc.*, **25**: 48-49, Mar. 1941.—Northern Shrike in captivity.
- CREUTZ, GERHARD. Vom Zug des Grauen Fliegenschnäppers, *Muscicapa striata striata* (Pallas). *Der Vogelzug*, **12**: 1-14, Jan. 1941.—Migration routes.
- CRUTENDEN, JOHN R. A collecting trip to Churchill, Manitoba. *Oölogist*, **58**: 2-6, fig., Jan. 1941.
- CUSHING, JOHN E., JR. Winter behavior of Ravens at Tomales Bay, California. *Condor*, **43**: 103-107, text-fig. 28, Mar. 15, 1941.—A colony of some 200 birds dispersed over the surrounding forty miles of country but returned to a common roost at night.
- DAANJE, A. Heimfindeversuche und Erdmagnetismus. *Der Vogelzug*, **12**: 15-17, Jan. 1941.—Review of Schein's work. Nearly fledged young Starlings were reared in a cage and the following year began to breed. After laying of first egg they were sent away but not one returned.
- DALE, E. M. S. Bird notes from London, Ontario. *Canadian Field-nat.*, **55**: 1-4, Feb. 8, 1941.—First record of Snowy Egret for Ontario; a Scarlet Ibis at Point Pelee Sept. 13, perhaps to be correlated with one reported from Connecticut, week earlier; an Arkansas Flycatcher, Oct. 1, 1939.
- DAVIS, DAVID E. Notes on Cuban birds. *Wilson Bull.*, **53**: 37-40, Mar. 1941.
- DEVITT, O. E. The Olive-sided Flycatcher nesting in the Toronto region. *Canadian Field-nat.*, **55**: 46, Mar. 1941.
- DORRIEN-SMITH, ARTHUR A. Scarce birds in Scilly Isles. *British Birds*, **34**: 181, Jan. 1, 1941.—Includes a record of Yellow-billed Cuckoo picked up dead at Tresco, November 6, 1940, another November instance.
- EDGE, ROSALIE, AND LUMLEY, ELLSWORTH D. Common hawks of North America. Introduction by Ira N. Gabrielson. Emergency Conservation Comm., publ. no. 81, 26 pp., figs., 1940.—A popular account, intended to spread information on the value of these birds to the public.
- ELLIOTT, CHARLES N. Is the Passenger Pigeon still alive? *Amer. Forests*, **47**: 106-107, fig., Mar. 1941.—Reports of small numbers of these birds lately seen in Georgia are hardly to be taken seriously.

- EYLES, DON E. Status of the Gray Kingbird in Georgia. The Oriole (Atlanta, Ga.), 6: 1-5, fig., Mar. 1941.—“Rare, perhaps casual, summer resident.”
- FELL, H. BARRACLOUGH. Animal behavior during air-raids. Science, 93: 61-62, Jan. 17, 1941.—Black-headed Gulls “displayed something akin to mass hysteria” when an anti-aircraft battery opened fire.
- FISHER, JAMES. The future of the Kite in Britain. Journ. Soc. Preservation Fauna of Empire, new ser., pt. 41: 13-16, Dec. 1940.—Believes the dwindling population due to inbreeding, and urges introduction of new stock from the continent of Europe.
- FORD, EDWARD R. Notable discoveries of birds' eggs. Chicago Naturalist, 4: 15-17, Mar. 1941.
- FOX, ADRIAN C. Winter feeding for game birds. State Game and Fish Dept., Bismark, No. Dakota, 16 pp., 1941.
- GABRIELSON, IRA N. America's greatest bird concentrations. Part II. Audubon Mag., 43: 15-23, figs., Jan.-Feb. 1941.—Seabird colonies in the Aleutian Islands.
- GAINER, ALBERT F. Through the seasons with the Cardinal. The Migrant (Nashville, Tenn.), 12: 1-4, Mar. 1941.—Habits and nesting in Tennessee.
- GARRISON, DAVID L. Massachusetts bird observers have record year. Bull. Massachusetts Audubon Soc., 43: 27-44, March 1941.—Review of 1940 Audubon check-lists.
- GLADKOW, N. A. Beitrag zum Studium der Vögel der Timan-Tundra. Journ. f. Ornith., 89: 124-156, 10 figs., Jan. 1941.—Many notes on birds found in summer between the Kanin Peninsula and the Petschora.
- GLENNY, FRED H. The main arteries in the region of the heart of three species of doves. Bull. Fan Mem. Inst. Biol., Peiping, zool. ser., 10: 271-278, Dec. 25, 1940.—In *Zenaidura* and two species of *Streptopelia*, “significant differences in the arrangement of the arteries” were recorded.
- GORMAN, F. The Cobalt Parrot (*Pionus cobaltinus*). Avic. Mag., (5) 5: 298-300, Dec. 1941.—With a supplementary note by E. Hopkinson.—A pair in captivity are in the Duke of Bedford's collection. Status probably subspecific.
- GRANT, C. H. B., AND MACKWORTH-PRAED, C. W. Notes on eastern African birds. Bull. British Ornith. Club, 61: 16-22, Dec. 20, 1940.—On resident races of Stonechat (*Saxicola torquata*); races of *Erythropygia leucophrys*; races of *Pogonocichla stellata* and of the Black Redstart.
- GREY, JOHN, JR., ED. The Christmas census [in North Carolina]. The Chat, 5: 8-12, Jan. 1941.
- GRISCOM, LUDLOW. The recovery of birds from disaster. Audubon Mag., 43: 191-196, Apl. 1941.—A brief review of recent instances of the decimation of certain species and their subsequent rapid recovery in numbers.
- GRISCOM, LUDLOW. The changing seasons. Audubon Mag., 43: 215-216, fig., Apl. 1941.—Autumn and winter birds in the East.
- GRISCOM, LUDLOW. Migration routes of New England birds. Bull. Massachusetts Audubon Soc., 25: 53-62, Apl. 1941.—A survey of migration routes and special deviations in this area.
- GRISCOM, LUDLOW, AND OTHERS. The season. CXXXVI. October 15, 1940, to February 1, 1941. Audubon Mag., 43: 222-236, Apl. 1941.—Reports from various sections of the United States on local bird life.
- GROSS, MARGARET. Maine's coastal and oceanic birds. Jack-pine Warbler, 19: 14-17, Mar. 1941.
- HACHISUKA, THE MARQUESS. The Black Kalij Pheasant (*Gennaesus moffitti* Hachisuka). Avic. Mag., (5) 6: 1-3, col. pl., Jan. 1941.

- HARRISON, JAMES M. Continental Robin and Ravens in Worcestershire. *British Birds*, **34**: 178-179, Jan. 1, 1941.
- HAYWARD, C. LYNN. Notes on the nesting habits of some mountain dwelling birds of Utah. *Great Basin Naturalist* (Provo, Utah), **2**: 1-8, pl. 1, Feb. 20, 1941.
- HENNESSY, T. S. Black-crowned Night Heron colony. *Canadian Field-nat.*, **55**: 12, Feb. 8, 1941.—On an island in North River, Quebec.
- HILL, EDWARD A. The snow geese come to Parramore. *Audubon Mag.*, **43**: 47-48, fig., Jan.-Feb. 1941.
- HILL, HAROLD M. Waterfowl breeding records from San Bernardino and Riverside Counties, California. *Condor*, **43**: 71-72, Jan. 1941.
- HOLMES, J. S. Birds that hunt and are hunted. *The Chat* (Raleigh, N. C.), **5**: 1-4, Jan. 1941.—Value of predatory animals.
- HOPKINSON, E. Breeding records to date. *Avic. Mag.*, (5) **5**: 9-15, Jan. 1941.—Parrots bred in captivity.
- HOWELL, JOSEPH C. Bald Eagle killed by lightning while incubating its eggs. *Wilson Bull.*, **53**: 42-43, fig., Mar. 1941.
- HUFF, R. English Sparrow nests. *The Flicker* (Minneapolis), **13**: 11, Mar. 1941.—Notes on material used in construction.
- HULBERT, L. CLAIRE. Winter bird visitors from northern regions. *Jack-pine Warbler*, **19**: 9-10, Mar. 1941.—Rough-legged Hawks and Snow Buntings.
- HUNTER, J. S., AND FRY, DONALD H., JR. Trends in California's game kill. *California Fish and Game*, **27**: 13-28, Jan. 1941.
- JAQUES, FLORENCE PAGE. Blue Geese in April. *Nat. History* (New York), **47**: 186-192, Apl. 1941.—With illustrations by Francis Lee Jaques. Field experiences.
- JONES, DAVID SMITH. Further studies on the origin of sympathetic ganglia in the chick embryo. *Anat. Record*, **79**: 7-11, 2 pls., Jan. 25, 1941.—Cells which differentiate into sympathetic ganglia are derived from the ventral portion of the neural tube.
- KADNER, CARL G. Pigeon malaria in California. *Science*, **93**: 281, Mar. 21, 1941.—This disease is for the first time reported positively from California. It is caused by a blood parasite, *Haemoproteus columbae*, and can be transmitted from bird to bird only by a blood-sucking bird-fly, *Pseudolynchia canariensis*. This fly was introduced into the United States about 1896 and is now found throughout the southern part of the country. Vigorous control measures are necessary.
- KALELA, OLAVI. Zur Frage der neuzeitlichen Anreicherung der Brutvogelfauna in Fennoskandien mit besonderer Berücksichtigung der Austrocknung in den früheren Wohngebieten der Arten. *Ornis Fennica*, **17**: 41-59, Nov. 1940.—Relation of distribution to drought.
- KENDALL, J. B. The Whistling Swans on Green Bay [Wisconsin]. *Passenger Pigeon* (Madison, Wisc.), **3**: 11-13, Mar. 1941.—In migration, swans "have always stopped in the vicinity of the southern end of Green Bay in varying numbers."
- KLEINSCHMIDT, O. Bemerkungen über *Emberiza aureola*. *Journ. f. Ornith.*, **89**: 157-158, Jan. 1941.
- KOOIMAN, J. G. Mededeelingen over het voorkomen in Oost-Java van enkele voor dit gewest nog niet in de literatuur genoemde vogels. *Ardea*, **29**: 98-108, July 1908.—Notes on birds of eastern Java.
- KRAAK, W. K., RINKEL, G. L., AND HOOGHERHEIDE, J. Oecologische bewirking van de Europese ringgeevens van de Kievit (*Vanellus vanellus* (L.)). *Ardea*, **29**: 151-175, July 1940.—A study of banding results shows that Ireland and the Spanish peninsula are the chief wintering grounds of the Lapwing. First-year

- birds may occasionally breed. Annual mortality is 40 per cent. At the beginning of the breeding season the population consists of 40 per cent of first-year birds, 24 per cent of two-year birds, 14 per cent of three-year birds, etc. (multiplying the number for each year by 9.6).
- LACK, DAVID. Notes on territory, fighting and display in the Chaffinch. *British Birds*, **34**: 216-219, Mar. 1, 1941.
- LAMOREUX, W. F. Spermatozoal antibodies and infertility in the fowl. *Journ. Exper. Zool.*, **85**: 419-430, Dec. 1940.
- LA RIVERS, IRA. The Mormon cricket as food for birds. *Condor*, **43**: 65-69, Jan. 15, 1941.
- LATHAM, ROY. Herring Gulls as vegetable eaters on Long Island, N. Y. *Oölogist*, **58**: 12, Jan. 1941.
- LAZELLE, JOHN H. Banded Starling record for Tyvan, Saskatchewan. *Canadian Field-nat.*, **55**: 46, Mar. 1941.—Banded in North Dakota.
- LEACH, E. P. Recovery of marked birds. *British Birds*, **34**: 172-177, Jan. 1, 1941.—List of recent recoveries in British Isles. A swift, *Apus apus*, recovered after seven years, was banded as a nestling; several cases of Sandwich Tern banded in British Isles recovered following April in Angola and Senegal.
- LEIVO, OLAVI. Beobachtungen über den Teichrohrsänger in der Gegend von Helsinki in den Sommern 1938-39. *Ornis Fennica*, **17**: 66-70, Nov. 1940.—*Acrocephalus scirpaceus* habits.
- LENDON, ALAN. The Australian grass-parakeets (genus *Neophema*). *Avic. Mag.*, (5) **5**: 294-298, Dec. 1940.
- LEWIS, HARRISON F. Occurrence of the American Egret at St. Charles de Bellechasse, Quebec. *Canadian Field-nat.*, **55**: 12, Feb. 8, 1941.
- LEWIS, HARRISON F. Ring-billed Gulls of the Atlantic coast. *Wilson Bull.*, **53**: 22-30, fig., Mar. 1931.—Six nesting groups are known, all north of the St. Lawrence.
- LEWIS, MARY F. W. Accent on May. *Audubon Mag.*, **43**: 169-178, figs., Apl. 1941.—Migration of birds.
- LOCKLEY, R. M. The sea bird as an individual. Results of ringing experiments. *Smithsonian Rept. for 1939*, pp. 341-353, 1940.—A reprint of studies made at Skokholm.
- LORD, MRS. WILLIAM A. Red-breasted Nuthatches observed. *Bull. Massachusetts Audubon Soc.*, **25**: 14, Feb. 1941.—Notes from New Hampshire.
- MANWELL, REGINALD D. Homing instinct of the Red-winged Blackbird. *Bull. to Schools, Univ. State of New York*, **27**: 232-234, Mar. 1941.
- MARTIN, H. C. A double nest of the "Hornero", South American Oven-bird. *Avic. Mag.*, (5) **5**: 16-20, pl., Jan. 1941.
- MASON, EDWIN A. Wildlife needs food strips. *Bull. Massachusetts Audubon Soc.*, **25**: 67-70, Apr. 1941.—Suggestions for plantings.
- McILHENNY, E. A. Unusual plumage of domestic Mallard Ducks. *Journ. Heredity*, **32**: 19-21, fig. 8, Jan. 1941.—White, melanistic and normal down pattern are shown.
- McKENNY, MARGARET. Invitation to the feast. *Bull. to Schools, Univ. State of New York*, **27**: 222-224, 2 figs., Mar. 1941.—On "building up an environment" to attract birds.
- McMILLAN, NEIL T. Birds and the wind. *Smithsonian Rept. for 1939*, pp. 355-363, 3 pls., 1940.—Deductions based on airplane experience.
- McWILLIAM, J. M. On the relation of the Short-eared Owl to the common vole. *British Birds*, **34**: 203-204, Feb. 1, 1941.—Suggests a dependence of the owl upon

- Microtus*, resulting in large sets of owl's eggs in years of plenty and a reduced breeding potential in years of scarcity. The lack of authentic breeding records for this owl in Ireland may be correlated with the absence of voles there.
- MEADE, GORDON M. Are birds the doctors' helpers? Bull. to Schools, Univ. State of New York, **27**: 246-247, Mar. 1941.—Use of birds as materia medica and in study or prevention of disease.
- MEINERTZHAGEN, R. August in Shetland. Ibis, (14) **5**: 105-117, fig., Jan. 1941.
- MEYER, W. Kreuzung zwischen Ringeltaube und Hohltaube. Ornith. Monatsber., **49**: 17-19, Jan. 31, 1941.
- MILLER, ALDEN H. The buccal food-carrying pouches of the Rosy Finch. Condor, **43**: 72-73, fig., Jan. 15, 1941.—An adaptation for gathering food in larger amounts at a distance from nest.
- MILLER, ALDEN H. The significance of the molt centers among the secondary remiges in the Falconiformes. Condor, **43**: 113-115, text-fig. 29, Mar. 15, 1941.—In the secondaries two molt centers, an inner and an outer, are demonstrated, which meet at the diastataxic break.
- MILLER, ALDEN H., AND PEABODY, FRANK E. An additional Pleistocene occurrence of the Murre, *Uria aalge*. Condor, **43**: 78, Jan. 15, 1941.—At northwestern San Mateo Co., California.
- MILLER, EDWIN V. Behavior of the Bewick Wren. Condor, **43**: 81-99, text-figs. 25-27, Mar. 15, 1941.
- MILLER, RICHARD F. Pennsylvania and New Jersey [nesting] dates for 1940. Oölogist, **58**: 6-8, Jan. 1941.
- MOFFITT, JAMES. Tenth annual Black Brant census in California. California Fish and Game, **26**: 381-389, Oct. 1940.—A total of over 75,000 birds is the second largest of nine consecutive annual counts; the largest count is at Humboldt Bay.
- MONSON, GALE, AND PHILLIPS, ALLAN R. Bird records from southern and western Arizona. Condor, **43**: 108-112, Mar. 15, 1941.
- MOORE, A. W. Wild animal damage to seed and seedlings on cut-over Douglas fir lands of Oregon and Washington. Tech. Bull., U. S. Dept. Agric., no. 706, 28 pp., June 1940.—The small amount of seed eaten by certain finches is probably negligible.
- MOORE, ROBERT T. New races of flycatcher, warbler and wrens from Mexico. Proc. Biol. Soc. Washington, **54**: 35-42, Mar. 21, 1941.—The following are here named: *Megarhynchus pitangua tardiusculus* from near Rosario, Sinaloa; *Vermivora superciliosa sodalis* from southwestern Chihuahua; *Cistothorus platensis tinnulus* from western Michoacan; *Salpinctes obsoletus sollicitus* from Chiapas.
- MOREAU, R. E. "Duetting" in birds. Ibis, (14) **5**: 176-177, Jan. 1941.—In various African bush-shrikes, in *Heterotrogon* and in *Bradypterus*.
- MUNN, P. W. Further notes on the birds of the Balearic Islands. Ibis, (14) **5**: 174-175, Jan. 1941.
- NEFF, JOHNSON A. Arboreal nests of the Gambel Quail in Arizona. Condor, **43**: 117-118, text-figs. 31-32, Mar. 15, 1941.
- NICE, MARGARET MORSE. Observations on the behavior of a young Cedar Wax-wing. Condor, **43**: 58-64, Jan. 15, 1941.—The rapid and incomplete digestion of fruit indicates its importance as a fruit-seed disseminator.
- NORD, W. H., AND BRECKENRIDGE, W. J. Record flight of Sandhill Cranes. The Flicker (Minneapolis), **13**: 2-4, March 1941.—Some 300 birds at Moorhead, Minnesota.
- ORR, ROBERT T. Some observations on autumnal behavior of the California Pine Grosbeak. Condor, **43**: 56-57, Jan. 15, 1941.

- PALMGREN, PONTUS. Oekologische Probleme der Ornithologie. Journ. f. Ornith., **89**: 103-123, Jan. 1941.
- PATTERSON, BRYAN. Museum restores giant fossil bird that terrorized larger mammals. Field Museum News, **12** (no. 3): 1-2, 2 figs., Mar. 1941.—A restoration of *Mesembriornis*, a carnivorous Pliocene bird found in Catamarca, Argentina. Standing five feet high, it was related to the living *Cariama*, and was "one of the most spectacular of all birds either living or extinct."
- PEITZMEIER, J. Ueber Winterplatztreue und Winterortstreue der Waldohreule (*Asio o. otus* L.). Der Vogelzug, **12**: 17-19, Jan. 1941.—From mid-November to end of March a group of 20 to 25 of these owls stayed daily in the same wood and a similar group did the same in the following year.
- PETERS, HAROLD S. Adventuring with waterfowl along the Atlantic flyway. Bull. Massachusetts Audubon Soc., **25**: 3-6, 2 figs., Feb. 1941.—An interesting increase in breeding ducks in eastern Canada is reported.
- PETERSON, ROGER T. Bird migration. Part II. Audubon Mag., **43**: 49-58, figs., Jan.-Feb. 1941.
- PETERSON, ROGER T. How many birds are there? Audubon Mag., **43**: 179-187, figs., Apl. 1941.—Based on 'sample-plot' methods, the number of breeding birds in the United States is estimated at "not less than" five billion.
- PHELPS, WILLIAM H., AND GILLIARD, E. THOMAS. Six new birds from the Perijá Mountains of Venezuela. Amer. Mus. Novitates, no. 1100, 8 pp., map, Dec. 31, 1940.—New races are: *Penelope argyrota albicauda*, *Grallaria ruficapilla perijana*, *Dendrocolaptes certhia puncti-pectus*, *Sittasomus griseicapillus perijanus*, *Atlapetes torquatus perijanus*, *A. rufinucha nigrifrons*.
- PHILLIPS, W. W. A. Ornithological observations. Loris, a Journ. of Ceylon Wild Life, **2**: 169-177, 3 figs., Dec. 1940.—Bird notes in Ceylon.
- PICKENS, A. L. A red figwort as the ideal nearctic bird-flower. Condor, **43**: 100-102, Mar. 15, 1941.—List of flowers attractive to various birds.
- PIERCE, FRED J. A Night Heron colony in Buchanan County [Iowa]. Iowa Bird Life, **11**: 12, Mar. 1941.
- PITELKA, FRANK A. Distribution of birds in relation to major biotic communities. Amer. Midland Nat., **25**: 113-137, 11 text-figs., Jan. 1941.
- PORTER, SYDNEY. Breeding the Chinese Azure-winged Magpie (*Cyanopica cyana swinhoei*). Avic. Mag., (5) **5**: 3-8, Jan. 1941.
- POUGH, RICHARD H. The Caspian Tern. With illustrations by Melvin T. Johansen. Nat. Hist. (New York), **47**: 82-85, Feb. 1941.—Remarkable photographs of nesting Caspian Terns in California. Incubation period given as twenty days.
- PULVER, HARRIET. Bird feeding ideas. Nature Notes (Peoria, Ill.), **8**: 7-8, fig., Jan. 1941.
- RAND, A. L. Results of the Archbold Expeditions. No. 32. New and interesting birds from New Guinea. Amer. Mus. Novitates, no. 1102, 15 pp., Feb. 17, 1941.—Twenty new subspecies are described, with notes on other forms.
- RAYFIELD, P. A. Notes on breeding of Black Redstarts in Kent. British Birds, **34**: 186-188, Feb. 1, 1941.
- RINKEL, G. L. Waarnemingen over het gedrag van de Kievit (*Vanellus vanellus* (L.)) gedurende de broedtijd. Ardea, **29**: 108-147, pls. 6, 7, 11 text-figs., July 1940.—A study of the courtship, territorial relations and breeding of the Lapwing. "As a male displays a copulation flight for nearly every female visiting his territory, the possibility of bigamy is created; bigamy is of common occurrence and even a case of trigamy has been observed by me."

- RIPLEY, S. DILLON. Notes on a collection of birds from Celebes. Occas. Papers Boston Soc. Nat. Hist., 8: 343-358, Mar. 2, 1941.—A list of 87 species or races, with brief notes. New races described are: *Leucotreron subgularis restrictus* and *Macropygia amboinensis atrata*.
- ROBIEN, PAUL. Brutstudien an pommerschen Vögeln. Ornith. Monatsber., 48: 185-187, Dec. 14, 1940.
- ROSENE, WALTER. Filming the elusive Bell's Vireo. Iowa Bird Life, 11: 2-5, fig., Mar. 1941.—Breeding in central Iowa.
- RYSGAARD, G. N. Observations of Canada Geese at the Kellogg Sanctuary. Jack-pine Warbler, 19: 11-12, Mar. 1941.
- SAUNDERS, W. E. Kirtland's Warbler (*Dendroica kirtlandi*). Canadian Field-nat., 55: 16, Feb. 1941.—A visit to its haunts in northern Michigan.
- SHAW, TSEN-HWANG. Note on fossil birds found in Locality 18. Palaeontologia Sinica (Geol. Surv. China), new ser. C, no. 9, p. 92, 1940.—Fragments of eight species representing genera or species still living are reported from pleistocene deposits near Peiping.
- SHORTT, T. M. Some additions to the bird-list from Lake St. Martin, Manitoba. Canadian Field-nat., 55: 12-13, Feb. 8, 1941.
- SIVONEN, LAURI. Die Wacholderdrossel (*Turdus pilaris* L.) als Gartenbeerschädling. Ornis Fennica, 17: 24-32, Nov. 1940.—Résumé of longer article in Finnish.
- SIMPSON, GEORGE GAYLORD. Introducing the story of animal art through the ages. Natural History, 47: 86-96, Feb. 1941.—With reproduction of various early figures of birds and mammals.
- SKUTCH, ALEXANDER F. Some aspects of Central American bird-life. Scient. Monthly, 51: 409-418, 500-511, 1940.—With many interesting generalizations.
- SMITH, STUART. Some notes on the Scottish Crested Tit. British Birds, 34: 166-171, 3 figs., Jan. 1, 1941.—Display and nesting of *Parus c. scoticus*.
- SNYDER, L. L. The birds of Prince Edward County, Ontario. Univ. of Toronto Studies, biol. ser., no. 48: 25-92, 1941.—An annotated list of species found in the county.
- STANFORD, J. K. The Vernay-Cutting Expedition to northern Burma.—Part II. With notes on the collection by Dr. Ernst Mayr. Ibis, (14) 5: 56-105, Jan. 1941.—Six new races are named.
- STANLEY, ALLAN J. Sexual dimorphism in the Cowbird, *Molothrus ater*. Wilson Bull., 53: 33-36, Mar. 1941.—Males 25 per cent heavier than females. Differences in the sexually dimorphic feather tracts are not under the control of hormones hence are "determined genetically."
- STIRRETT, GEORGE M. The Scarlet Ibis and other waders at Point Pelee National Park. Canadian Field-nat., 55: 13, Feb. 8, 1941.—For comment, see P. A. Taverner's note.
- STONER, DAYTON. American Egrets observed from a Hudson River steamer. Wilson Bull., 53: 41-42, Mar. 1941.
- STONER, DAYTON. Bird casualties on the highways. Bull. to Schools, Univ. State of New York, 27: 229-232, fig., Mar. 1941.
- STORER, JOHN H. White wings over Florida. Audubon Mag., 43: 40-46, figs., Jan.-Feb. 1941.—Egrets, Wood Ibises and other species.
- STRESEMANN, ERWIN. Die Vögel von Celebes. Teil III. Systematik und Biologie. Journ. f. Ornith., 89: 1-102, Jan. 1941.—With biological notes by Gerd Heinrich. Conclusion of this series of reports. Four genera are migrants from Australia.
- [STRESEMANN, ERWIN]. *Colymbus adamsii* und *Cygnus bewickii* als Brutvögel bei Petsamo (Finnish Lappland). Ornith. Monatsber., 48: 188-189, Dec. 14, 1940.

- STRESEMANN, ERWIN. Die Erscheinungsdaten von J. L. Frisch's "Vorstellung der Vögel in Teutschland" (1733-1763). *Ornith. Monatsber.*, **49**: 1-8, Jan. 31, 1941.—With a table showing dates of publication and extent of the parts.
- STRUTHERS, JAMES A. Pigeon Hawk recovered. *The Flicker* (Minneapolis), **13**: 10, Mar. 1941.—Bird banded in the nest on Canadian side of Lake Saganaga, July 10, 1939, kept captive till its escape in August, and recovered at Houma, Louisiana, later in the autumn.
- SUTTON, GEORGE MIKSCH. Crousty, the story of a Redbird. *Audubon Mag.*, **43**: 161-168, figs., Apl. 1941.—Development of nestlings.
- SUTTON, GEORGE MIKSCH, AND BURLEIGH, THOMAS D. Birds recorded in the State of Hidalgo, Mexico, by the Semple Expedition of 1939. *Annals Carnegie Mus.*, **28**: 169-186, Jan. 10, 1941.—Describe as a new race, *Arremonops rufivirgatus ridgwayi* from La Placita near Jacala.
- TANNER, DEAN. A submarginal population of Ruffed Grouse. *The Flicker* (Minneapolis), **13**: 7-9, Mar. 1941.—In northern Minnesota, with notes on food.
- TANNER, JAMES TAYLOR. Three years with the Ivory-billed Woodpecker, America's rarest bird. *Audubon Mag.*, **43**: 4-14, figs., Jan.-Feb. 1941.—General account of habits and habitat.
- T[AVERNER], P. A. The Scarlet Ibis and other puzzling records. *Canadian Field-nat.*, **55**: 13-14, Feb. 8, 1941.
- TAVERNER, P. A. The nesting of Ross's Goose, *Chen rossii*. *Canadian Field-nat.*, **54**: 127-130, Jan. 29, 1941.—A further account of the recent discovery of the nesting grounds of this and the Blue Goose in the Perry River region, with measurements of the eggs.
- THRONE, ALVIN L. A nesting study of the Eastern Hermit Thrush. *Passenger Pigeon* (Madison, Wisc.), **3**: 13-16, Feb. 1941.—Incubation period twelve days; brooding up to the fifth day was by the female alone.
- THURBER, WALTER, AND BOWERS, R. E. Food of owls. *Bull. to Schools, Univ. State of New York*, **27**: 243-245, 3 figs., Mar. 1941.—Pellet analysis of Great Horned Owl near Ithaca, New York.
- TICEHURST, CLAUD B. Systematic notes on Indian birds.—IX. Ibis, (14) **5**: 177-182, Jan. 1941.
- TINBERGEN, L. Beobachtungen über die Arbeitsteilung des Turmfalken (*Falco tinnunculus* L.) während der Fortpflanzungszeit. *Ardea*, **29**: 63-98, 18 text-figs., July 1940.—A detailed account of the breeding habits of the Kestrel, especially with reference to division of labor. The male feeds the female nearly up to the time the young fly.
- TÖRNE, HANS VON. Sandregenpfeifer trägt seine jungen fort. *Ornith. Monatsber.*, **49**: 15-16, Jan. 31, 1941.—Transport of young *Charadrius hiaticula* by parent.
- TOMKINS, IVAN R. A Georgia specimen of the Iceland Gull. *The Migrant* (Atlanta, Ga.), **6**: 11, Mar. 1941.—One taken near Savannah, Feb. 13, 1941.
- TRAYLOR, MELVIN A., JR. Birds from the Yucatan peninsula. *Zool. Ser. Field Mus. Nat. Hist.*, **24**: 195-225, Feb. 28, 1941.—Seventeen forms are recorded from the peninsula for the first time, and a new form of tinamu, *Crypturellus cinnamomeus intermedius* is described from Pacaitun, Campeche.
- TRUMP, RICHARD F. Nesting of the Turkey Vulture in Van Buren County [Iowa]. *Iowa Bird Life*, **11**: 15, Mar. 1941.
- TUCKER, B. W. American Pectoral Sandpiper in Northamptonshire. *British Birds*, **34**: 182-183, Jan. 1, 1941.—In early September 1940, a good sight record.
- TUFTS, R. W. Some studies in bill measurements and body weights of American Woodcock (*Philohela minor*). *Canadian Field-nat.*, **54**: 132-134, Jan. 29, 1941.—

- Females average longer-billed and heavier; body weight in both sexes increases during the open season Oct. 1 to Nov. 15.
- TUFTS, R. W., AND OTHERS. Christmas bird censuses, 1940. *Canadian Field-nat.*, **55**: 27-30, Feb. 1941.—Lists of birds seen in Nova Scotia, Quebec, Ontario, British Columbia.
- VÖLKER, OTTO. Zur Frage der Verbreitung der gelben Feder-Fluoreszenzen. *Ornith. Monatsber.*, **48**: 182-185, Dec. 14, 1940.—Fluorescence of feathers of certain parrots and galliform birds.
- WALKER, LEWIS AND MARIAN. Marsh Hawks: their trials and tribulations. *Audubon Mag.*, **43**: 35-39, figs., Jan.-Feb. 1941.—With excellent photographs of adults.
- WALKINSHAW, LAWRENCE H. The Prothonotary Warbler, a comparison of nesting conditions in Tennessee and Michigan. *Wilson Bull.*, **53**: 3-21, 2 figs. Mar. 1941.—With a longer breeding season the species is typically double-brooded in Tennessee but single-brooded in Michigan. Fledging success is about 25 per cent.
- WALLACE, GEORGE J. Winter studies of color-banded chickadees. *Bird-banding*, **12**: 49-67, Apl. 1941.
- WARNKE, GERHARD. Vom Schwalben-Frühjahrszug an der sizilianischen Küste. *Der Vogelzug*, **12**: 20-23, Jan. 1941.—Swallows pass in migration from Tunis to Sicily and Italy, with a reverse movement in fall.
- WARREN, D. C. A new type of polydactyly in the Fowl. *Journ. Heredity*, **32**: 3-5, pl., text-fig., Jan. 1941.—A type of duplication of toes in Leghorn Fowl, that "behaves genetically as an autosomal dominant."
- WHARRAM, S. V. Birds along the shore of Lake Erie. *Oölogist*, **58**: 11-12, Jan. 1941.
- WHISTLER, HUGH. East Himalayan Laughing-thrushes. *Ibis*, (14), **5**: 172-173, Jan. 1941.
- WHISTLER, HUGH. Differences of moult in closely allied forms. *Ibis*, (14) **5**: 173-174, Jan. 1941.
- WHITE, W. WALMESLEY. Bird of first brood of Swallow assisting to feed second brood. *British Birds*, **34**: 179, Jan. 1, 1941.
- WILLIAMSON, KENNETH. First brood of swallow assisting to feed second brood. *British Birds*, **34**: 221-222, Mar. 1, 1941.—In the case of *Hirundo rustica*.
- WITHERBY, H. F. Caspian Tern ringed in U. S. A. found in Yorkshire. *British Birds*, **34**: 184, Jan. 1, 1941.—Calls attention to the record by Lincoln in 'The Auk' for October 1940, and reiterates his conviction that the American and Palae-arctic birds are not racially distinct.
- WOOD, A. A., STIRRETT, GEORGE M., AND ARNOTT, D. A. Observations on some interesting birds in Kent County, Ontario. *Canadian Field-nat.*, **55**: 15, Feb. 1941.
- WOOD, HAROLD B. Fractures [of bones] among birds. *Bird-banding*, **12**: 68-72, fig., Apl. 1941.
- YEALLAND, JOHN. Two interesting sea-birds. *Avic. Mag.*, (5) **6**: 20-22, Jan. 1941.—Sooty Tern and Guillemot in captivity.
- YEALLAND, JOHN. Some parrot-like birds at Sterrebeek. *Avic. Mag.*, (5) **5**: 288-293, Dec. 1940.—Notes on captive birds.
- YEALLAND, JOHN. The Blue Lories. *Avic. Mag.*, (5) **5**: 308-313, Dec. 1940.—Aviary notes on breeding and feeding.
- YEN, K. Y. Mitteilungen zur Avifauna von Yünnan. *Ornith. Monatsber.*, **49**: 9-11, Jan. 31, 1941.
- YOUNG, HOWARD, STOLLBERG, BRUCE, AND DEUSING, MURL. The spread of the Cardinal through Wisconsin. *Passenger Pigeon (Madison, Wisc.)*, **3**: 1-4, Jan. 1941.—Prior to 1900, *Richmondia cardinalis* was a rare straggler in Wisconsin.

Since then there have been at least five definite invasions, with nesting records for 25 counties.

ZIMMERMANN, RUD. Die Zwergmöwe, *Larus minutus* Pall., im Neusiedlersee-Gebiet. Ornith. Monatsber., **48**: 173-178, Dec. 14, 1940.

ZIMMERMANN, RUD. Zum Vorkommen des Seggenrohrsängers, *Acrocephalus paludicola* (Vieill.), am Neusiedler See. Ornith. Monatsber., **48**: 178-181, Dec. 14, 1940.