

## RECENT LITERATURE

**The Birds of the Belgian Congo, Part. 4.**—James P. Chapin. Bull. Amer. Mus. Nat. Hist., 75B: 1-846, 27 pls., 46 text figs. July, 1954.—The appearance of the fourth volume of Chapin's great work on the birds of the Belgian Congo brings to a conclusion one of the greatest faunal works produced by any living ornithologist, and what is certainly the most important treatise on Old World birds to stem from an American investigator. The present volume deals with the drongos (*Dicruridae*), shrikes (*Laniidae*), helmet-shrikes (*Prionopidae*), tits (*Paridae*), creepers (*Certhiidae*), orioles (*Oriolidae*), crows (*Corvidae*), starlings (*Sturnidae*), white-eyes (*Zosteropidae*), sunbirds (*Nectariniidae*), weaverbirds (*Ploceidae*), and finches (*Fringillidae*). At the end of these accounts is a chapter devoted to additional species recorded from, or deemed of probable occurrence in, the Belgian Congo, not listed previously, as well as new data on a few birds already treated in earlier volumes. Notable among these last are the Lyre-tailed Honey-guide (*Melichneutes robustus*), a bird that Chapin has long been urging residents in tropical Africa to watch for and observe, and the Congo Peacock (*Afropavo congensis*), a bird that will always be associated with Chapin's name.

As in the previous volumes of this work, many of the species accounts contain hitherto unpublished facts on the habits of the birds, and in some cases these data constitute most of what is known of them. No one studying either the habits or the systematics of African birds can afford to overlook this work.

A feature that will prove of great usefulness to a circle wider than the ornithological one alone is the hundred pages devoted to a gazeteer of all African localities mentioned in all four volumes. Inasmuch as many of the older localities were names of native villages no longer in existence and all but impossible to trace at this late date, the information here brought together at the expense of much painstaking searching over many years will be invaluable to workers in all fields that involve African sites. It is understood that this section may be issued separately from the rest of the volume and become available to investigators whose interests lie elsewhere than in ornithology. An extensive bibliography (70 pages) covers all the literature for all four of Chapin's volumes. This, too, will be a most useful index to African ornithological literature far beyond the geographic limits of the great Belgian colony.

In almost a peculiar sense this work represents the activity of a working lifetime. Since 1909 when the author went out to the Congo, until the present (when he is again there), the ornithology of that area has been Chapin's preoccupation. It is true that he has done other things and made trips elsewhere, but the birdlife of central Africa has been his main continuing and ever present study. The four stout volumes that he has produced are therefore, more than merely the results of a long and devoted period of conscientious effort; they are the results, as well, of a way of living. The many problems, big and little, that arose and had to be solved have brought the author into closer contact with the museums of Europe and with a host of travelers, local government officials, planters, missionaries, and schoolteachers than has fallen to the lot of most of us. His personal correspondence has been enormous, and most of it was devoted to stimulating observers on the scene, to encouraging others, and to guiding and assisting investigators in the African field. While, to the reader of these volumes much of the material presented may be largely matter-of-fact, to the author it must be evocative enough, of beautiful places it caused him to visit, of interesting personalities it brought him to know, and of events and discoveries of which he thereby became a participant.

As a record of a life of scholarship well spent, Chapin's four volumes should become a symbol, as well as a most useful and important literary tool to his colleagues. The American Museum of Natural History may take a well merited pride in having given the author the opportunity and the necessary support to achieve the splendid results which the present volume brings to completion.—HERBERT FRIEDMANN.

**Avian Physiology.**—PAUL D. STURKIE. Ithaca: Comstock Publishing Associates. xx + 423 pp., 77 figs. in text. 1954. Price: \$6.00. A need has long existed for a comprehensive synthesis of information on the physiology of birds. Books on comparative physiology (e. g., Prosser *et al.* "Comparative animal physiology." Phila.: Saunders, 1950) were not designed to meet this need, and until now there has been no book solely devoted to the physiology of birds. In view of this situation, Professor Sturkie's work constitutes an important step toward the achievement of such a synthesis.

The title of this book is somewhat misleading, for only work on "the chicken," "the pigeon," and "the duck" is considered in detail. Professor Sturkie indicates in the preface that the book is so restricted "because most of the research has been conducted on these species and they represent species of economic importance to man." This is true. However, since the book is presented as an account of avian physiology, I do not believe it justifies the wholesale omission of information on the physiology of wild birds.

The text comprises 21 chapters, which deal with the general topics of circulation, respiration, temperature regulation, energy metabolism, digestion, sense organs, reproduction, and the endocrine system. A list of references cited is presented at the end of each chapter. This is "extensive but not exhaustive. An attempt was made to select the most important and most recent references, with minor consideration being given to priority." The complete title of each reference is given, a practice often neglected in physiological publications.

The 77 text figures include a large number of graphs reproduced from the articles in which they appeared originally. Drawings and photographs showing apparatus or details of anatomy and histology are also numerous. The quality of these illustrations is generally good. Evaluation of statements made in the text is facilitated by many tables. There are several typographical errors in this book, but no more than might be expected in the first printing of a work its size.

The chapters dealing with circulation constitute almost a quarter of the text. Professor Sturkie seems partial to this subject; certainly he has carried out a good deal of research on it. Considerable detail is devoted not only to the results of various investigators, but also to techniques used by them. A chapter on electrocardiography is included.

The avian respiratory system is treated extensively. Information is presented on anatomy as well as on physiology. A table (17) which summarizes data on respiratory rates of several species is limited in usefulness by the omission of the air temperatures at which the determinations were made. The author fails to utilize the important work of Zeuthen (Det Kgl. Danske Videnskabernes Selskab, Biologiske Meddelelser, 17: 1-51, 1942) in his discussion of the air sacs. The very brief account he does give of this work (taken from Krogh, "The comparative physiology of respiratory mechanisms." Phila.: U. Penna. Press, 1941) is marred by his persistent misspelling of Zeuthen's name. Following the chapter on respiration is a summary of information on the transport of blood gases, which includes a comparison of the oxygen dissociation curves of birds and mammals.

The chapter on body temperature pertains almost entirely to work on the chicken.

Only brief mention is made of the work of Baldwin and Kendeigh (Sci. Publ. Cleveland Mus. Nat. Hist., 3: 1-196, 1932). The omission of data on the diurnal temperature cycles, critical temperatures, and lethal body temperatures of wild birds is regrettable, since considerable information does exist on them. The latter part of this chapter deals with hypothermia, effects of high air temperatures on chickens, and mechanisms associated with the regulation of body temperature. A graph showing the effect of air temperature on evaporative water loss in some species would have been a useful addition to this section. Naturally occurring torpidity in certain birds is not discussed, even though information has been available on it for several years.

In the chapter on energy metabolism, the author points out that basal metabolic rate varies with the 0.73 power of body weight in birds and mammals as a group, and in Rhode Island Red Chickens. He fails to point out that basal metabolism varies with the 0.64 power of weight when birds alone are considered and that the relationship for the chickens pertains only when both the normal and bantam varieties are included. Within the normal variety of Rhode Island Red Chicken, basal metabolic rate varies with the 0.54 power or less of body weight (Brody, "Bioenergetics and growth." N. Y.: Reinhold Publ. Corp., 1945).

The discussion of the effects of temperature on energy metabolism deals only with the chicken. Professor Sturkie does not mention the important work of Scholander *et al.* (Biol. Bull., 99: 237-258, 1950) on heat regulation of arctic and tropical birds and mammals, nor does he utilize any of the French and German literature on avian metabolism. The usefulness of this chapter is further limited by the failure to consider the metabolic responses to temperature of young altricial birds.

The discussion of digestion is informative. It includes anatomical as well as physiological information. The chapter on carbohydrate metabolism seems to summarize effectively what is known of this topic in birds. Of particular interest is the section on endocrine control of carbohydrate metabolism.

A most useful discussion is presented of the anatomy and physiology of the avian kidney and associated structures. This includes information on filtration pressures and on the clearances of various substances, including uric acid. Available information on excretory products is summarized, and the evidence that the cloaca does not function importantly in water conservation is presented.

The chapter on sense organs includes discussions of vision, hearing, taste, and smell. No mention is made of how the eyes of certain aquatic birds accommodate under water. Interesting data on the range of frequencies which various birds can hear is presented, and the old controversy as to whether or not vultures find their food by smell is briefly considered.

The excellent account of reproduction in the female includes information on anatomy and histology, as well as on physiology. Ovulation and the formation of the various components of the avian egg are considered in a comprehensive manner, and there is a summary of those aspects of calcium metabolism which are associated with formation of the shell. The bibliography for this chapter is extensive. Consideration of reproduction in the male is briefer but equally useful.

The last four chapters of this book deal specifically with the endocrine system. They constitute a useful guide to the extensive literature on the endocrinology of chickens, pigeons, and ducks. The discussions of the various components of this system are in some cases prefaced with an account of anatomy and histology. The chapters deal respectively with the hypophysis; gonadal hormones; thyroids; and the parathyroids, thymus, and pancreas. No endocrine function has been demonstrated for the thymus.

These four chapters are generally good. It is regrettable that the discussion of photoperiodism is virtually confined to the duck. (This is also true for the one presented in the chapter on reproduction in the male.) The work of the past three decades on this phenomenon certainly merits more attention than it is given in this book. Another deficiency of this section is the failure to consider the hormonal control of the incubation patch. A discussion of the effects of hormones on such activities as aggressive behavior and broodiness would have been of value to ornithologists.

For some reason, the author does not consider the physiology of skeletal muscle in this book. Furthermore, he does not discuss the occurrence of pre-migratory fat deposition in certain species of birds.

In spite of the inadequate treatment of work on the physiology of wild birds, Professor Sturkie has accomplished a majority of the goals which he set for himself. This book will undoubtedly be useful in courses on poultry science and veterinary medicine. Furthermore, it will probably stimulate interest in the former discipline. Perhaps its most important function for ornithologists will be as a guide to an important part of the vast literature on poultry, which at present is all too infrequently used by them.—WILLIAM R. DAWSON.

**A Species Index to *The Emu*. Volumes 1 to 50, 1901-1951.**—COMPILED BY ARNOLD R. MCGILL. Melbourne: Royal Australasian Ornithologists Union. vi + 183 pp. 1953. Price: one pound, one shilling, plus postage (9d. to British Empire countries, 1/5 foreign).—This useful work consists of two sections, a species index and a contributors' section. It is prefaced by an account of the methods followed in preparing it. The compiler wisely listed all references to a given species in one place, under the scientific name currently used in 'The Emu.' The names are arranged alphabetically by genera, and alphabetically by species and subspecies within the genera. Specific and subspecific names are also indexed separately with cross references to the genera under which the references are listed. Synonyms which have appeared in 'The Emu' are also indexed with a cross reference to the currently accepted name. Vernaculars are given with each accepted scientific name, but are nowhere listed alphabetically.

This work will be indispensable to students of Australian birds, and a copy should be in every library which has a file of 'The Emu.' Mr. McGill and the Royal Australasian Ornithologists Union are to be congratulated and thanked for bringing out this valuable index.—ROBERT W. STORER.

**The Biology of Birds.**—HARRY W. HANN. Ann Arbor. Edwards Brothers, Inc. 153 pp., 10 pls. 1953. \$2.50.—This book summarizes the phases of ornithology which can best be taught to college students beginning the study of ornithology. It is offset printed with illustrations which are of good quality. Most of the illustrations are line drawings, five of which are original; there are two plates of photographs by the author. The bibliography provides a good introduction to the literature of ornithology. There is an adequate index. The use of underlining emphasizes important points and headings.

The outstanding features of the anatomy and physiology of the organ systems are presented clearly and with few omissions, although sometimes with almost outline-like brevity. Bird flight, migration, the breeding cycle, anting, longevity, bird banding, distribution, conservation, wildlife refuges, economic importance, and attracting birds all are discussed. Thus the content of the book is greater in scope than the title indicates.—JOSEPH C. HOWELL.

**The Lives of Wild Birds.**—ARETAS A. SAUNDERS. Garden City, N. Y. Doubleday and Co., Inc. 256 pp., 21 pls. (pen sketches). 1954. \$3.50.—It is apparent that Mr. Saunders has spent a great deal of time out-of-doors in the careful study of birds. In this book he approaches all subjects from the viewpoint of the field ornithologist with the objectives of interesting the layman in birds and of providing him with the fundamental facts and concepts necessary for an intelligent pursuit of bird study. In dealing with numerous subjects the author uses his own field studies to provide fresh examples. The need for additional field observations is brought to the attention of the reader at appropriate points in the text.

An early chapter on the identification of birds in the field discusses how to use the characteristics of color, marking, size, shape, habit, posture, songs, and calls. The role of birds' habitats in identification also is commented on briefly. The importance of keeping notes and how best to record them are emphasized. In a section devoted to watching migration, attention is directed to the types of areas which best permit observation and to the best seasons, hours of the day and night, and weather conditions. Included in the chapter dealing with nesting activities are accounts of the territory theory, courtship, nest building, egg laying, incubation, care of young, and second nestings. Bird behavior is considered principally as it relates to feeding habits and predators. Plumages and their relations to molts, feather wear, age, season, and the environment are discussed. In addition to pointing out the biological significance of bird songs and calls, the author briefly describes their variety, relation to weather, time of day, and season, and a graphic method of recording them. The food and feeding habits of birds are outlined. The dependence of birds upon particular environments is noted, and further the relationship between the extent of the environment and the size of the bird population. As regards conservation, the author believes that the emphasis should be shifted away from the economic importance of birds to their esthetic value to an ever-increasing group of people who enjoy observing living things in their natural environment.—JOSEPH C. HOWELL.

**An Album of Southern Birds.**—PHOTOGRAPHS BY SAMUEL A. GRIMES, TEXT BY ALEXANDER SPRUNT, JR. Austin: University of Texas Press. 103 pp., 103 pls. (4 in color). Price: \$8.75.—S. A. Grimes' handsome photographs have been appearing in books and magazines for years, and it is a pleasure to have a book devoted to his work. The pictures are generally excellent, and many photographs of rare or shy species such as the Black Rail, the Black-whiskered Vireo, Swainson's Warbler, and the Seaside Sparrow are included. On the other hand, the pictures of several birds (e.g. the Black Vulture, the Barred Owl, and the Snowy Egret), although excellent, have been published so many times before that it is difficult to justify republishing them again. Certainly Mr. Grimes must have many more unpublished photographs which could have been substituted for them and which would have contributed more to our knowledge and appreciation of birds.

Mr. Grimes is an engraver by profession, and his company made the cuts for the black and white illustrations. The excellence of this work should prove a fine advertisement for the company. However, the colored plates, which were made by another firm, are rather poor; the Canada Warbler, for instance, is shown with a bright blue back, an error which has probably caused the photographer no little embarrassment.

Of particular interest to other photographers will be the data for each picture—make of camera, kind of lens, exposure, and kind of film. This information is to be found in the table of contents where presumably it will not offend the esthetic eye.

Sprunt's text includes an appreciation of Grimes and legends for the photographs. Its style can best be shown by two samples. "What was that slipping through the grass—a mouse, or a swiftly moving shadow? No, a bird, tiny, silent and mysterious, known only to those who seek diligently in marsh and oatfield." (Black Rail, page 44.) "Remnant of the Age of Reptiles, the Snakebird is almost a modern ichtyornis [*sic*]. A strange, silent dweller in cypress gloom and willow swamp—remote, fantastic, unearthly." (Water Turkey, page 26.)

Approximately eighty per cent of the photographs show adult birds either at the nest or with young, an example of the trend which bird photography has followed since its beginnings. This is undoubtedly because birds are most easily photographed at the nest and because young birds have great popular appeal. However, the potentialities of bird photography as a scientific tool are only now being realized. As our knowledge of bird behavior increases, the need for good illustrations of displays and postures becomes more evident. Furthermore, photographs of birds walking, swimming, or flying constitute a valuable tool in the interpretation of anatomical studies. The esthetic and utilitarian aspects of bird photography need not be divorced; pictures of birds displaying or in flight can be even more pleasing to the eye than those of birds at the nest.—ROBERT W. STORER.

**Biographies of Members of the American Ornithologists' Union.**—T. S. PALMER AND OTHERS. Reprinted from 'The Auk,' 1884–1954. Baltimore: Lord Baltimore Press. 630 pp.—Dr. Palmer, former secretary and long-time member of the Committee on Biography of the A.O.U., has collected all the short biographies of members (and of 66 non-members) which were published in 'The Auk' from 1884 into 1954. Approximately 70 hitherto unpublished biographies are also included, bringing the total to about 1,200. Deceased fellows for whom memorials have been published are not listed nor is reference made to where to find these memorials. Despite this gap, the book will prove of considerable value as a reference work.

Dr. Palmer has kindly donated a supply of copies of his book to the Union. They have been priced at \$5.00 and may be purchased from the treasurer.—ROBERT W. STORER.

ABBOTT, W. G. 1954. Leaf bathing of the Mockingbird. *Condor*, **56**: 163–164.

ALDRICH, J. W., *et al.* 1954. Investigations of Woodcock, Snipe, and Rails in 1953. U. S. Dept. Interior, Fish and Wildlife Service Special Scientific Report—Wildlife No. 24, ii + 68 pp. (mimeographed).—Twelve short papers, mostly on censuses of Woodcock and Wilson's Snipe, with a summary by Aldrich.

AMADON, D. 1953. Remarks on the Asiatic Hawk-eagles of the genus *Spizaëtus*. *Ibis*, **95**: 492–500.—*S. nanus stresemanni*, Nias Is., new subspecies.

AMADON, D. 1954. A bird new to Palawan. *Philippine Journ. Sci.*, **81** (2): 139.—*Milvus migrans lineatus* taken in winter.

ARMSTRONG, E. A. 1954. The behaviour of birds in continuous daylight. *Ibis*, **96**: 1–30.—A survey of observations relating to factors that influence daily activity of birds at high latitudes. The length of the quiescent period is examined for some members of the Falconiformes, Charadriiformes, Strigiformes, and Passeriformes; light is postulated as the dominant extrinsic factor. The length of the nesting period seems to be shorter at higher latitudes for some passerines. The adaptive value of coloration of some birds is related to the degree of their activity in dim light.

AXELL, H. E. 1954. The Wheatear at Dungeness. *Bird Notes*, **26**: 38–41.

- BARTHOLOMEW, G. A., JR., and W. R. DAWSON. 1954. Body temperature and water requirements in the Mourning Dove, *Zenaidura macroura marginella*. Ecol. Monogr., **35**: 181-187.—Nighttime temperature averaged 2° C. lower than daytime temperature of 41.5° C. When kept at 39° C. air temperature, body temperature rose, more markedly when the birds were deprived of water. Birds drank four times as much water at 39° C. than at 23° C. air temperatures. Twenty-four hours at 39° C. without water resulted in a loss of 15 per cent of body weight, but normal weight was recovered within a few minutes when the bird was again given water. The species is well adapted to desert conditions.
- BEBBE, W. 1954. Discovered—the nest and egg of the Black-winged Bellbird. Animal Kingdom, **57**: 115-119.—*Procnias averano carnobarba* in Trinidad.
- BRECHER, W. J. 1954. On Coriolis force and bird navigation. Scientific Monthly, **79** (1): 27-31.—A reconsideration of the theory that birds may be able to use the Coriolis effect in night migration. An earlier statement of this theory (1951 and 1952) is changed in at least one particular.
- BERGER, A. J. 1954. Association and seasonal succession in the use of nest sites. Condor, **56**: 164-165.—*Empidonax traillii*, *Dendroica petechia*, and *Spinus tristis* built nests in the same type of vegetation but generally nested at different times during a given season. The seasonal succession would seem to provide a means whereby competition for nest sites is reduced.—D. W. Johnston.
- BERGER, A. J. 1954. The myology of the pectoral appendage of three genera of American cuckoos. Misc. Publ. Mus. Zool., Univ. Mich., **85**: 35 pp., 4 figs.—A comparison of the pectoral muscles of *Coccyzus erythrophthalmus*, *C. americanus*, *Crotophaga sulcirostris*, and *Geococcyx californianus*. "Differences in flight pattern in the three genera may best be explained in terms of a progressive reduction in relative wing area and a progressive increase in body size from *Coccyzus* to *Geococcyx*." The musculature of *Crotophaga* is illustrated.
- BERGER, A. J. 1954. Injury-feigning by the Catbird [*Dumetella carolinensis*]. Wilson Bull., **66**: 61.
- BLANCOU, J. 1953. Première capture de *Calandrella cinerea* en Afrique française. L'Oiseau, **23**: 304-305.—First record for French West Africa.
- BLASZYK, P., and G. STEINBACHER. 1954. Zur Vogelfauna der ukrainischen Krautsteppe. Bonner Zool. Beitr., **5**: 49-67.
- BLAU, M., E. S. DEEVEY, JR., and M. S. GROSS. 1953. Yale natural radiocarbon measurements, I. Pyramid Valley, New Zealand and its problems. Science, **118** (3053): 1-6.—Age of Moa crop contents given as 670 years.
- BLYTH, J. S. S., and R. W. HALE. 1953. Unilateral defective feathering in a purebred pullet. Journ. Heredity, **44** (5): 181-183.
- BORRERO H., J. I. 1953. Notas preliminares sobre hábitos alimenticios de palomas silvestres Colombianas. Caldasia **4**: 75-80.—Food of *Zenaida auriculata*, *Columba fasciata*, and *C. cayennensis* in Colombia.
- BORROR, D. J., and C. R. REESE. 1953. The analysis of bird songs by means of a vibralyzer. Wilson Bull., **65**: 271-276, 7 figs., 1 table.—The loudness, rhythm, and frequencies of bird songs can be determined by an electronic frequency analyzer recording frequency and intensity on a time scale. The instrument is described and some general conclusions made about several bird songs.
- BOURLIÈRE, F. 1953. Sur le comportement de *Gracupica nigricollis*. L'Oiseau, **23**: 261-264, figs. 1-2.
- BRENNEMAN, W. R. 1954. The growth of thyroids and adrenals in the chick. Endocrin., **55**: 54-64, 3 figs., 3 tables.

- BRODY, G. 1953. Use of the thymus gland in chicks to elucidate interrelationships between pteroylglutamic acid and biologically related substances. *Science*, **118** (3076): 720-721.
- BURGER, G. V. 1954. The status of introduced wild turkeys in California. *Calif. Fish and Game*, **40**: 123-145.
- BUXTON, E. J. M. 1953. Migration of birds observed in N. W. Germany 1942. *Ibis*, **95**: 235-241.
- CAIN, A. J. 1954. Affinities of the fruit-pigeon *Phalacrocorax perousii* Peale. *Ibis*, **96**: 104-110.
- CARRICK, R., and G. M. DUNNET. 1954. Breeding of the Fulmar *Fulmarus glacialis*. *Ibis*, **96**: 356-370.—296 banded Fulmars were studied on Eynhallow, Orkney Islands. Both sexes can breed in successive years. Adults apparently do not change either their mate or their nest site over the years. The timing of the breeding season varies from year to year, suggesting that the Fulmars are not independent of environmental variation, as has occasionally been maintained.
- ČERNÝ, W. 1953. O hnízdění zrzohlavky (*Netta rufina* PALLAS) v Čechách. *Sylvia*, **14**: 28-35.—The breeding of the Red-crested Pochard in Bohemia. In Czech with German summary.
- ČERNÝ, W. 1953. Hnízdění kulíka písečného (*Charadrius hiaticula*) na Inářských rybnících. *Sylvia*, **14**: 74-81.—The arrival of the Ringed Plover as a breeding bird in Bohemia. In Czech with a German summary.
- CHITTY, D. 1954. Tuberculosis among wild voles: with a discussion of other pathological conditions among certain mammals and birds. *Ecol. Monogr.*, **35**: 227-237.—Mammals and game birds are less resistant to infectious diseases at some population densities than others owing to changes in physiological condition.
- CLANCEY, P. A. 1954. Comments on geographical variation in the Tit-babbler *Parisoma subcaeruleum* (Vieillot) and the description of a new race from the high interior of Natal, South Africa. *Bull. Brit. Ornith. Club*, **74** (3): 30-33.—*Parisoma subcaeruleum orpheanum*, new subspecies.
- CONDON, H. T., and D. AMADON. 1954. Taxonomic notes on Australian Hawks. *Rec. S. Australian Mus.*, **11** (2): 189-246.—The following genera are discussed: *Elanus*, *Aviceda*, *Milvus*, *Lophoictinia*, *Hamirostra*, *Haliastur*, *Accipiter*, *Erythrotriorchis*, *Hieraaetus*, *Aquila*, *Haliaeetus*, *Circus*, and *Falco*. *Aviceda subcristata njikena* (Fitzroy River, West Australia), *Haliastur indus flavirostris* (Bougainville Is., Solomons), and *Aquila audax fleayi* (Great Lakes, Tasmania), new subspecies.
- CONNER, M. H., and C. S. SHAFFNER. 1953. An arched-neck character in chickens. *Journ. Heredity*, **44** (6): 223-224.
- CONNER, M. H., and C. S. SHAFFNER. 1954. Effect of altered thyroidal and gonadal activity on size of endocrine glands and resistance to stress in the chick. *Endocrin.*, **55**: 45-53. 1 fig., 3 tables.
- CORR, H. B. 1953-1954. The exploitation of wild birds for their eggs. *Ibis*, **95**: 409-449, 673-675; **96**: 129-149.—An important record, complete to July, 1951, of the history of the exploitation, primarily for food, of various bird populations by men and the probable best methods for conservation of this resource at the present and in the future. It is difficult to believe that a more complete account could have been compiled.
- CULLEN, J. M. 1954. The diurnal rhythm of birds in the Arctic summer. *Ibis*, **96**: 31-46.—*Fulmarus glacialis*, *Rissa tridactyla*, and *Uria lomvia* were studied with regard to flight, sleeping, and preening rhythms.



- DATER, E. E. 1953. Casting of a Pileated Woodpecker. *Wilson Bull.*, **65**: 280.—Of *Dryocopus pileatus*, containing many fragments of carpenter ants.
- DAVIS, J. 1954. Seasonal changes in bill length of certain passerine birds. *Condor*, **56**: 142-149.—This important study demonstrates an increase in bill length of certain passerine species during the summer months at which time there is less wear on the bill. In the winter when these species are largely vegetarian there is more wear on the bill tips so that the length of the bill is significantly shorter than for the same species during the summer. These findings should caution the taxonomist when analysing the bill lengths of species in which the diet varies seasonally. D. W. Johnston.
- DAVIS, T. A. W. 1953. An outline of the ecology and breeding seasons of birds in the lowland forest region of British Guiana. *Ibis*, **95**: 450-467.—The topography, climate, and natural vegetation are described. The principal bird breeding season comes at the close of the short dry season. There occurs also a second, general, but very weak, peak of nesting in September.
- DAVIS, T. A. W. 1954. Notes on northern migrants observed inland in British Guiana. *Ibis*, **96**: 441-448.—Observations on 22 species, 19 of which are known migrants from North America.
- DEEVEY, E. S., JR. 1954. The end of the Moas. *Scientific American*, **190** (2): 84-90.
- DIXON, K. L. 1954. Some ecological relations of chickadees and titmice in central California. *Condor*, **56**: 113-124.—This excellent report summarizes many interspecific relations between "invading" *Parus rufescens* and already-present *P. inornatus*. The two species differ not only in foraging habits but also in size of food items, thus strengthening Lack's contention concerning food habits of sympatric closely-related species. Even though the preferred habitats are not always entirely different, *rufescens* and *inornatus* have mutually exclusive breeding territories. The "invading" *rufescens* has had to adjust to coöccupancy with *inornatus* by using vacated or suboptimal nesting territories.—D. W. Johnston.
- DUGAN, W. D. 1953. Unintentional live-trap for American Mergansers. *Wilson Bull.*, **65**: 279.—Females of *Mergus merganser* enter chimneys and are trapped.
- ELDER, W. H. 1954. The oil gland of birds. *Wilson Bull.*, **66**: 6-31, 4 figs., 1 table.—This documented review of the literature on the uropygial gland and report on some recent experiments concludes that the secretion of the gland is necessary for plumage maintenance, at least in waterfowl, and that it may help in supplying vitamin D.—J. T. Tanner.
- ELLIOTT, H. F. I. 1954. On two new races and an undescribed variety from the Tristan da Cunha Group. *Bull. Brit. Ornith. Club*, **74** (2): 21-24.—*Nesocichla eremita procax*, Nightingale Island; *Pelecanoides urinatrix elizabethae*, Gough Island, new subspecies.
- FARNER, D. S., J. R. MEWALDT, and S. D. IRVING. 1953. The roles of darkness and light in the activation of avian gonads. *Science*, **118** (3065): 351-352, 2 tables.—It has been shown that a given photoperiod produces a greater gonad-stimulating effect if given with one or more interruptions than if given without an interruption. The writers suggest that the effects of the light begin to operate shortly after the initial exposure and that there is a carry-over period after the close of the period of light. The interruption of the photoperiod then provided one or more additional carry-over periods.
- FARSKÝ, O. 1953. Ještěrky v potravě krahujce. *Sylvia*, **14**: 91-93.—Lizards (*Lacerta*) eaten by *Accipiter nisus*. In Czech with a German summary.

- FERIANC, O. 1953. Rozšírenie d'atla sýrskeho severozápadného *Dendrocopos syriacus balcanicus* GENGL. ET STRES. na Slovensku. *Sylvia*, **14**: 17-22.—The distribution of the Syrian Woodpecker in Slovakia. In Czech with German summary.
- FRIEDMANN, H. 1954. A revision of the classification of the honey-guides, *Indicatoridae*. *Ann. Mus. Congo Tervuren*, in-4°, *Zool.*, **1** (*Miscellanea Zool.*, H. Schouteden): 21-27.—Four genera, 11 species, and a total of 32 forms recognized.
- FRINGS, H., and J. JUMBER. 1954. Use of a specific sound to repel starlings from objectionable roosts. *Science*, **119** (3088): 318-319.—Recordings of distress calls were broadcast from sound trucks into roosts. Starlings were repelled within a few days and did not return prior to their fall migration.
- GANIER, A. F., and F. W. BUCHANAN. 1953. Nesting of the White-throated Sparrow in West Virginia. *Wilson Bull.*, **65**: 277-279, 1 fig.—Discovery of 2 nests of *Zonotrichia albicollis*, the first known in W. Va.
- GOIN, C. J., and O. B. GOIN. 1954. Nest-building behavior of the Carolina Wren [*Thryothorus ludovicianus*]. *Wilson Bull.*, **66**: 59.
- GOODWIN, D. 1953. Interspecific differences in the anting movements of some corvine birds. *Ibis*, **95**: 147-149.—Observations made at the London Zoo.
- GOODWIN, D. 1953. Observations on voice and behavior of the Red-legged Partridge *Alectoris rufa*. *Ibis*, **95**: 581-614.—Observations made on both captive and wild birds in England. Call-notes, display, several aspects of breeding behavior, actions of newly-hatched chicks, dusting, preening, and escape behavior are among the subjects discussed.
- GOVIER, W. M., and A. J. GIBBONS. 1954. Pentobarbital inhibition of sulfanilamide acetylation in pigeon liver extracts. *Science*, **119** (3084): 185-186.
- GRABER, R. R. 1954. The Lineated Woodpecker. *Wilson Bull.*, **66**: 5, 1 plate by George M. Sutton.—A brief description of *Dryocopus lineatus* of Mexico and El Salvador.
- GRABER, R. R., and J. W. GRABER. 1954. Yellow-headed Vulture in Tamaulipas, México. *Condor*, **56**: 165-166.—A male of *Cathartes burrovianus* was taken on July 21, 1953, at Tampico. The species has not been recorded previously from Tamaulipas.
- GRANT, C. H. B., and C. W. MACKWORTH-PRAED. 1952. On the species and races of the Yellow Wagtails from Western Europe to Western North America. *Bull. Brit. Mus. (Nat. Hist.)*, **1**: 255-268, pls. 33-35.—Seven species recognized.
- GRANT, C. H. B., and C. W. MACKWORTH-PRAED. 1954. On *Caprimulgus pectoralis*, *C. fervidus*, *C. fraenatus*, and *C. rufigena quansae*. *Bull. Brit. Ornith. Club*, **74** (3): 33-34.—*C. fervidus* is believed to be conspecific with *C. pectoralis* and *C. fraenatus* to be a separate species; the validity of *C. rufigena quansae* is confirmed.
- GREENE, E. R. 1954. Scott Oriole wintering at Palm Springs. *Condor*, **56**: 163.—A sight record of *Icterus parisorum* on December 30, 1953.
- GRIFFIN, D. R. 1954. Bird sonar. *Scientific American*, **190** (3): 78-83.—Reports the Oil Bird (*Steatornis caripensis*) uses click of one or two thousandths of a second to locate objects unseen in the darkness about it. Its echo-locating system is like that of bats.
- HACHISUKA, M., and T. UDAGAWA. 1953. Contribution to the ornithology of the Ryukyu Islands. *Quart. Journ. Taiwan Mus.*, **6**: 141-279.—Annotated list of 286 species and subspecies. A biographical sketch of Hachisuka by N. Kuroda is appended.

- HAGEN, Y. 1952. Birds of Tristan da Cunha. Results of the Norwegian Scientific Expedition to Tristan da Cunha, 1937-1938, No. 20: 248 pp., 4 pls.—A thorough and interesting account of the birds of one of the most isolated island groups in the world. Includes information on habits, food, breeding cycle, development of the young, and descriptions of molts and plumages of the birds, as well as measurements and other data of taxonomic importance. Illustrated with photographs of many of the birds in life, including the endemic rail (*Ailantasia*), thrush (*Nesocichla*), and bunting (*Nesospiza*). *Catharacta skua hamiltoni* and *Nesospiza wilkinsi dunnei*, new subspecies.
- HALE, J. B. 1954. Robins [*Turdus migratorius*] eating minnows. *Wilson Bull.*, 66: 70.
- HANSON, H. C. 1953. Muskeg as Sharp-tailed Grouse habitat. *Wilson Bull.*, 65: 235-241, 4 figs.—The habitat of *Pedioecetes phasianellus* in muskeg areas around Hudson and James bays is described, with the use of sedge tussocks for the male display.
- HANZÁK, J. 1953. Hnízdění a systematické postavení čerčetek, *Carduelis flammea* L. v. Československu. *Sylvia*, 14: 5-16.—The breeding and systematic position of the Redpoll in Czechoslovakia. *C. f. cabaret* is the form present. In Czech with German summary.
- HARTLEY, P. H. T. 1954. Back garden ornithology. *Bird Study*, 1: 18-27.—A stimulating article on the possibilities for serious study in one's own garden. The specific suggestions on experimental techniques should prove especially valuable.
- HAVERSCHMIDT, F. 1954. The nesting of the Ridgway Tyrannulet in Surinam. *Condor*, 56: 139-141.—For *Camptostoma obsoletum* several nests and their contents are described. Some life history notes on nest building, incubation and fledging are also given.
- HAVERSCHMIDT, F. 1953. Notes on the life history of the Black-crested Ant Shrike in Surinam. *Wilson Bull.*, 65: 242-251, 1 fig., 3 tables.—Describing the song, display, breeding season, and nesting habits of *Sakesphorus canadensis*.
- HAVERSCHMIDT, F. 1954. Notes on the nesting of the Cayenne Swift [*Panyptila cayennensis*]. *Wilson Bull.*, 66: 67-69. 2 figs.
- HELMUTH, W. T., III. 1954. The hurricane of 1938,—in retrospect. *Birds Long Island*, No. 8: 225-241.—A summary of the destruction of birds during this storm. A biographical sketch of Helmuth by J. T. Nichols is appended.
- HOFSLUND, P. B. 1954. Incubation period of the Mourning Warbler. *Wilson Bull.*, 66: 71.—12 days for *Oporornis philadelphia*.
- HUDSON, G. E., and C. F. YOCOM. 1954. A distributional list of the birds of southeastern Washington. *Research Studies State College, Wash.*, 22 (1): 1-56, 8 pls.
- HUE, F. 1953. Notes sur le Coucou-geai, *Clamator glandarius* dans le midi de la France. *L'Oiseau*, 23: 297-299, 1 fig.
- HUNTINGTON, C. E. 1952. Hybridization in the Purple Grackle, *Quiscalus quiscula*. *Systematic Zool.*, 1: 149-170.—A study based on a large series of skins, many banding data, and studies of breeding colonies. Factors in the evolutionary history of the species are discussed.
- JEFFREY, F. P., T. W. FOX, and J. R. SMYTH, JR. 1953. Observations on double-yolked eggs from the domestic fowl. *Journ. Heredity*, 44 (5): 213-216.—Reports on hatching of two chicks, male and female, from a double-yolked egg.
- JEWETT, S. G. 1954. The White-winged Crossbill in the Cascade Mountains of Oregon. *Condor*, 56: 165.—Three specimens of *Loxia leucoptera* were collected on September 19, 1953.

- JIRSIK, J. 1953. Husa polní islandská, sokol stěhovavý tundrový, káně lesní rezavá a linduška rudokrká v Čechách. *Sylvia*, **14**: 23-27.—*Anser fabalis brachyrhynchus*, *Falco peregrinus leucogenys*, *Buteo buteo vulpinus*, and *Anthus cervinus* in Bohemia. In Czech with German summary.
- JOLLIE, M. 1953. Are the Falconiformes a monophyletic group? *Ibis*, **95**: 369-371.—The author believes the order is composed of "four undoubtedly unrelated groups," Cathartidae, *Sagittarius*, Accipitridae-Pandionidae, and Falconidae.
- JOUANIN, C. 1953. A propos de la nidification du Pétrel minute, *Halocyptena microsoma* Coues. *L'Oiseau*, **23**: 300-302.
- JOUANIN, C., and J. PREVOST. 1953. Captures de manchots inattendus en Terre Adélie et considérations systématiques sur *Eudyptes chrysolophus schlegeli* Finsch. *L'Oiseau*, **23**: 279-287, 1 fig.
- KENDEIGH, S. C. 1954. History and evaluation of various concepts of plant and animal communities in North America. *Ecol. Mongr.*, **35**: 152-171.—Presents maps showing the subdivisions of North America proposed by Schoun 1823, Agassiz 1854, Leconte 1859, Cooper 1859, Drude 1887, Merriam 1890, Allen 1892, and in the new concept of biociations. There is an evaluation of modern concepts of communities based on floristics, vegetation, life-zones, biotic provinces, faunal groups, plant associations, and formations and biomes.
- KILHAM, L. 1954. Courtship behavior of the Pied-billed Grebe [*Podilymbus podiceps*]. *Wilson Bull.*, **66**: 65.
- KING, J. R. 1954. Victims of the Brown-headed Cowbird in Whitman County, Washington. *Condor*, **56**: 150-154.—349 nests of 44 passerine species were examined in a 200-square-mile area in 1952 and 1953. 4.9 per cent of these nests contained cowbird eggs. Ten species were parasitized, of which the Lazuli Bunting and Song Sparrow were the most common hosts.—D. W. Johnston.
- LABITTE, A. 1953. Quelques notes sur la biologie et la reproduction de la Pie bavarde, *Pica p. galliae*. *L'Oiseau*, **23**: 247-260, fig. 1.—Observations on nesting, size of clutch and incubation.
- LACK, D. 1954. Two Robin populations. *Bird Study*, **1**: 14-17.—Population studies of *Erithacus rubecula*.
- LACK, D. 1954. Call-notes, *Erithacus* and convergence. *Ibis*, **96**: 312-314.—An argument for the maintenance of *Erithacus* as monotypic.
- LACK, D., and E. LACK. 1953. Visible migration through the Pyrenees: an autumn reconnaissance. *Ibis*, **95**: 271-309.
- LACK, D., and E. LACK. 1954. The home life of the swift. *Scientific American*, **191** (1): 60.—A popular account of this group of birds.
- LASKEY, A. R. 1954. Blue Jays [*Cyanocitta cristata*] feed tent caterpillar pupae to nestlings. *Wilson Bull.*, **66**: 65-66.
- LÖHRL, H. 1954. Gefiedermerkmale bei einer Population des Halsbandschnäppers (*Muscicapa albicollis*). *Bonner Zool. Beitr.*, **5**: 33-48.—A study of variation in plumage of the European Collared Flycatcher based on a population of banded birds. Measurements and descriptions of the plumage of the same birds in different years provide quantitative data on differences between first-year birds and older ones.
- MACK, G. 1953. Birds from Cape York Peninsula, Queensland. *Mem. Queensland Mus.*, **13** (1): 1-39, pl. 1.—Annotated list of material collected.
- MACDONALD, J. D. 1954. Note on the Double-banded Sandgrouse, *Pterocles bicinctus*. *Bull. Brit. Ornith. Club*, **74** (1): 6-8.—Three races recognized, one of them new, *P. b. elizabethae*, Spitzkopje, South West Africa.

- MACDONALD, J. D., and C. H. B. GRANT. 1953. Early descriptions on new bird species by Andrew Smith. *Ann. Transvaal Mus.*, **22**: 197-203.—Reprinted from *The South African Commercial Advertiser*, 1828-1829, with comments on the disposition of these names.
- MACMULLAN, R. A. 1954. The life and times of Michigan pheasants. Lansing, Mich. Dept. Conservation. 63 pp.—A pamphlet designed to present to the hunter the essential information about the biology and management of pheasants. Clever illustrations by Oscar Warbach help greatly to bring home the ideas to the reader. A very useful piece of work.
- MARTIN, P. S., C. R. ROBINS, and W. B. HEED. 1954. Birds and biogeography of the Sierra de Tamaulipas, an isolated pine-oak habitat. *Wilson Bull.*, **66**: 38-57, 2 figs., 1 map, 1 table.—The habitat of this area in eastern Mexico is described and the species of birds, mammals, amphibians, and reptiles are listed. 72 species of birds are listed with notes. About 20 of these species are restricted to pine-oak habitat and are also found in the extensive forests of this type in the Sierra Madre Oriental. Almost none of the other groups of vertebrates had a similar distribution.—J. T. Tanner.
- MATTHEWS, G. V. T. 1954. Some aspects of incubation in the Manx Shearwater, *Procellaria puffinus*, with particular reference to chilling resistance in the embryo. *Ibis*, **96**: 432-440.—Average time for incubation is 53 days. Temporarily deserted eggs were rarely found, but some of those that were contained viable embryos after the parent had not incubated for seven days. Survival was demonstrated in the laboratory for at least 13 days; length of time of chilling (62-76° F.) and stage of development at which it occurred had no relation to the proportion of embryos that survived.
- MAYR, E., and E. T. GILLIARD. 1954. Birds of Central New Guinea. Results of the American Museum of Natural History Expeditions to New Guinea in 1950 and 1952. *Bull. Amer. Mus. Nat. Hist.*, **103**: 315-374, pls. 13-34.—*Elanus caeruleus wahgiensis*, *Cnemophilus macgregorii kuboriensis*, *Paramythia montium brevicauda*, and *Oreostruthus fuliginosus hagenensis*, new subspecies. This paper contains new information on the displays and display perches of several species of birds of paradise and some remarkable photographs of New Guinea birds.
- MONK, J. F. 1954. The breeding biology of the Greenfinch. *Bird Study (The Journal of the British Trust for Ornithology)*, **1**: 2-14.—Breeding season, clutch size, incubation period, and hatching, nestling, and breeding success in *Chloris chloris*. A compilation of data collected by the B. T. O. on over 1000 nests.
- MORAN, P. A. P. 1954. The statistical analysis of game-bird records. II. *Journ. Animal Ecol.*, **23**: 35-37.—The annual kill of grouse, ptarmigan, capercaillie, and blackgame show significant correlations, and the annual kill of capercaillie is correlated with minimum winter temperature, May temperature, and mean rainfall for August, September, and October.
- MOREAU, R. E. 1953. Migration in the Mediterranean area. *Ibis*, **95**: 329-364.—There is concentrated use by a few species of the shortest routes across the Mediterranean Sea, but mainly broad-front movement seems to be the rule. Thus, there is movement also across the widest part of the sea, which may be from 430 to 800 miles in distance. Included is an annotated list of the major publications pertaining to migration in countries of the Mediterranean area.
- MOREAU, R. E. 1954. The main vicissitudes of the European avifauna since the Pliocene. *Ibis*, **96**: 411-431.—Ecologic change in the Pleistocene is summarized in the light of recent knowledge. The avian fossil record of Europe is rejected as inadequate for detailing changes in bird distribution in that epoch. The

- main conclusion concerning the restriction of bird populations during a glacial maximum is that, for coniferous forest and deciduous woodland, numbers shrank to one-third and one-tenth, respectively, of their interglacial extent. The relationship of these changes to bird migration is discussed.
- MORENO, A. 1953. Considerations about the systematic value of *Laterallus jamaicensis jamaicensis* (Gmelin) and *Laterallus jamaicensis pygmaeus* (Blackwell). Torreia, Pub. Ocas. Mus. Poey, Univ. Habana, Cuba, **20**, 8pp.—Black Rails from Jamaica, Cuba, and the United States are considered by Moreno to belong to the same subspecies.
- MORENO, A., and R. FERNANDEZ. 1953. Notas ornitologicas No. 6., a). Un nuevo record para las Antillas [*Muscivora forficata*]. b.). Un nuevo record para Cuba [*Sula dactylatra dactylatra*]. c.). El nido y huevos del Ruiseñor [*Myadestes elisabeth elisabeth*]. Mem. Soc. Cubana Hist. Nat. "Felipe Poey," **21**: 247-249.
- MUMFORD, R. E. 1954. Brewer's Blackbird [*Euphagus cyanocephalus*] nesting in Indiana. Wilson Bull., **66**: 61-62, 1 fig.
- MYRES, M. T. 1953. Some observations on the autumn migration of hirundines through the Austrian Alps. Ibis, **95**: 310-315.
- NEWCOMER, E. H., and J. W. A. BRANT. 1954. Spermatogenesis in the Domestic Fowl. Journ. Heredity, **45** (2): 79-87.
- NEWTON, R. 1954. American land-birds and other species seen in the North Atlantic. Ibis, **96**: 484.
- OGLESBY, C. V., and F. A. GLOVER. 1954. Body temperatures of botulistic Pintails. Condor, **56**: 162-163.—The mean body temperature for pintails before treatment for botulism was 101.8° F., and after recovery it was 106.6.
- OWEN, D. F. 1954. The winter weights of titmice. Ibis, **96**: 299-309.—1500 weights of trapped and banded titmice, mainly *Parus caeruleus*, *P. major*, and *P. ater*, were obtained at Oxford, England, in the winter of 1951-1952, and in November and December, 1952.
- PARKES, K. C. 1954. Notes on some birds of the Adirondack and Catskill mountains, New York. Ann. Carnegie Mus., **33**: 149-178.—*Regulus calendula* and *Hesperiphona vespertina* found nesting in the Adirondacks. *Surnia ulula* and *Perisoreus canadensis* recorded from the Catskills in winter. The author believes that the proposed merging of *Dendrocopos* and *Picoides* and of *Passerella* and *Melospiza* should be rejected and that the subspecies, *Parula americana pusilla*, *Dendroica striata lurida*, and *Geothlypis trichas brachidactyla*, should not be recognized.
- PARKES, K. C. 1954. A revision of the neotropical finch *Ailapetes brunnei-nucha*. Condor, **56**: 129-138.—In revising this species four new subspecies are described: *suttoni*, *macrourus*, *alleni* and *elsae*. The species *apertus* is considered to be a subspecies of *brunnei-nucha*, and characters and distribution are defined for other subspecies: *brunnei-nucha*, *frontalis* (= *xanthogenys*), *inornatus*, and *allinornatus*.—D. W. Johnston.
- PARTRIDGE, W. H. 1953. Observaciones sobre aves de las provincias de Córdoba y San Luis. El Hornero, **10**: 23-73.—Annotated list of species from two provinces of Argentina.
- PARTRIDGE, W. H. 1953. Notas breves sobre aves del Paraguay. El Hornero, **10**: 86-88.—*Accipiter poliogaster*, *Elaenia albiceps chilensis*, and *Amaurospiza moesta*.
- PARTRIDGE, W. H. 1953. Nuevos hallazgos de la garza pico cuchara en la Argentina. El Hornero, **10**: 88-89.—Records of *Cochlearius* in the Argentine.
- PATERSON, M. 1954. The identity of *Cinnyris afer whytei* Benson. Bull. Brit. Ornith. Club, **74** (3): 35-36.—Believed to be a race of *C. chalybea*.

- PHILLIPS, A. R. 1954. The cause of partial albinism in a Great-tailed Grackle. *Wilson Bull.*, **66**: 66.—In *Cassidix mexicanus*, a fibrous cyst was present surrounding a sliver below the albino area.
- POTTER, N. S., III. 1953. The birds of Calicoan, Philippine Islands. *Wilson Bull.*, **65**: 252-270.—Notes on 51 species.
- PUTNAM, L. S., and C. E. KNOTER. 1953. Five nestings of a pair of captive Mourning Doves. *Wilson Bull.*, **65**: 280.—A pair of captive *Zenaidura macroura* nested 5 times, 4 times successfully, between early April and mid-August.
- RICHDALE, L. E. 1954. Breeding efficiency in Yellow-eyed Penguin. *Ibis*, **96**: 207-224.—Hatching success in *Megadyptes antipodes* with relation to age of birds was known for 733 nests in 17 seasons on the Otago Peninsula, New Zealand. These birds acquire adult plumage during the age 14 to 18 months, but are not then sexually mature. 48 per cent of two-year-old females breed, and most of the remainder the following year. Fertility in two-year-old females was 18 per cent; in three-year-olds, 82 per cent; in four-year-olds, 95 per cent; in birds 5 to 15 years, 93.7 per cent; in older birds, 91.7 per cent. Survival of chicks is apparently unrelated to the age of the parents.
- Two-year-old males almost never breed; in those that do fertility is markedly low. Three-year-old males are probably not as fertile as three-year-old females. Thus, there is apparent in these penguins a tendency toward adolescent sterility. This phenomenon strongly resembles that described for certain mammals.
- ROBINSON, T. S. 1954. Cannibalism by a Burrowing Owl [*Speotyto cunicularia*]. *Wilson Bull.*, **66**: 72.
- ROSCHÉ, R. C. 1954. Notes on some birds of Yellowstone National Park. *Wilson Bull.*, **66**: 60.
- SAGE, B. L. 1954. Symmetrical albinism in birds' wings. *Bull. Brit. Ornith. Club*, **74** (1): 9-10.
- SANDNES, G. C. 1954. A new technique for the study of avian chromosomes. *Science*, **119** (3094): 508-509.
- SCHOLES, R. T., and K. T. SCHOLES. 1954. Notes from Panamá and the Canal Zone. *Condor*, **56**: 166-167.—Seven species of importance are mentioned.
- SICK, H. 1950. Contribuição ao conhecimento da ecologia de "*Chordeiles rupestris*" (Spix) (Caprimulgidae, Aves). *Rev. Brasil. Biol.*, **10**: 295-306.—On the ecology of *Chordeiles rupestris*. In Portuguese with summary in English.
- SICK, H. 1953. Anotações sobre cucos Brasileiros (Cuculidae, Aves). *Rev. Brasil. Biol.*, **13**: 154-168.—Notes on *Tapera naevia*, *Dromococcyx phasianellus*, *D. pavoninus* and *Neomorphus geoffroyi*. In Portuguese.
- SIMMONS, K. E. L. 1953. Some aspects of the aggressive behaviour of three closely related plovers (*Charadrius*). *Ibis*, **95**: 115-127.—*C. dubius*, *C. alexandrinus*, and *C. hiaticula* are generally compared.
- SKEAD, C. J. 1954. A study of the Cape Wagtail, *Motacilla capensis*. *Ibis*, **96**: 91-103.—General life history, with specific data from a recognizable, partly albino female, at Grahamstown, South Africa. The breeding season is usually August to November, clutch size about 3.3 eggs, incubation period about 13.5 to 14.5 days, and nestling period 14 to 18 days.
- SKUTCH, A. F. 1953. How the male bird discovers the nestlings. *Ibis*, **95**: 1-37; 505-542.—A detailed, occasionally anthropomorphic, account of how males of 14 species of mainly Costa Rican birds came to discover their newly-hatched young and began to feed them. The males have to discover the nestlings by themselves, since female birds apparently do not communicate the news of hatching to them.

- SNOW, D. W. 1953. Visible migration in the British Isles: a review. *Ibis*, **95**: 242-270.
- SNOW, D. W. 1954. Trends in geographical variation in Palaearctic members of the genus *Parus*. *Evolution*, **8**: 19-28, 5 figs., 2 tables.—In *Parus* geographical variation is closely related to climate. Size increased as the mean winter temperature decreased. The wing length was found to be a satisfactory indication of general size. Mean size is greater (in populations inhabiting areas with similar mean winter temperatures) at low latitudes than at high. The relative lengths of beak and tarsus were found to decrease in the colder parts of the range of a species up to a certain point, beyond that colder temperatures did not result in further shortness. It is shown that similarity of color may exist in widely separated parts of the range of a species as the result of selection due to similar climates rather than close phlogenetic relationship.
- SNYDER, D. E. 1954. A nesting study of Red Crossbills. *Wilson Bull.*, **66**: 32-37.—Observations on a nest of *Loxia curvirostra* in eastern Massachusetts.
- SOUTHERN, H. N. 1954. Tawny Owls and their prey. *Ibis*, **96**: 384-410.—An excellent report, mainly by means of analysis of cast pellets in conjunction with a population study, of the diet over eight years of 20 pairs of *Strix aluco* in a woodland near Oxford, England. Small rodents predominate in the diets in winter and spring and larger mammals in the summer and autumn; birds and shrews are taken at a constant rate throughout the year. The owls take only prey species found closely around them. The author suggests that these owls can survive only if they hold a territory and are intimately familiar with it.
- STAEBLER, A. E. 1954. Two Mallard ducks [*Anas platyrhynchos*] caring for the same brood. *Wilson Bull.*, **66**: 69-70.
- STANFORD, J. K. 1953. Some impressions of spring migration in Cyrenaica March-May 1952. *Ibis*, **95**: 316-328.
- STANFORD, W. P. 1953. Winter distribution of the Grey Phalarope *Phalaropus fulicarius*. *Ibis*, **95**: 483-491.—Heaviest concentrations off NW Africa occur in seas with dense plankton populations. There is postulated a parallel situation in Cape waters, analogous to that off South America.
- STEINBACHER, J. 1954. Die Typen der Vogelsammlung von F. H. von Kittlitz. *Senckenbergiana*, **34**: 301-305.
- STEINBACHER, J. 1954. Über die Sperlings-Formen von Sardinien und Sizilien. *Senckenbergiana*, **34**: 307-310.
- SUMMERS-SMITH, D. 1954. The communal display of the House Sparrow, *Passer domesticus*. *Ibis*, **96**: 116-128.—Communal display, involving one female and two to ten male House Sparrows, apparently arises as a result of a male attempting to mount a female not ready for copulation. In the ensuing chase other males are attracted. The author believes communal display in this species is a true sexual display, serving to bring not only pairs but all members of a flock into breeding condition synchronously.
- SVÄRDSON, G. 1953. Visible migration within Fenno-Scandia. *Ibis*, **95**: 181-211.
- TAYLOR, J. 1953. A possible moult-migration of Pink-footed Geese. *Ibis*, **95**: 638-641.
- THOMPSON, A. L. 1953. The study of the visible migration of birds: an introductory review. *Ibis*, **95**: 165-180.
- THORPE, W. H. 1954. The process of song learning in the chaffinch as studied by means of the sound spectroscope. *Nature*, **173** (4402): 465-469, 5 figs.—This is an important paper that describes the use of modern techniques on an old problem. From a study of hand-reared birds it is concluded that the normal



- 3-phased song of the chaffinch has an inborn basis amounting to little more than the ability to produce a song of normal length and a crescendo series concluded by a single note of high pitch. All further refinements have to be learned although the innate basis is sufficiently selective to ensure that notes or songs of other species are not acquired. Some learning takes place during the first weeks of life, especially the first part, but details of phase three are not acquired. The latter is learned later when singing in competition with other chaffinches. This results in formation of a community "pattern" and explains local variations of the song in the wild.
- TIMMERMANN, G. 1954. The present status of Icelandic ornithology. Bull. Brit. Ornith. Club, **74** (1): 1-5.—An interesting analysis of the composition of the Icelandic avifauna.
- TINBERGEN, N. 1953. The evolution of mating behavior patterns. *Evolution*, **7**: 391.—Author's comments center on Spieth's (1952) study of *Drosophila* mating behavior with brief mention of Anatidae and *Larus*.
- TODD, W. E. C. 1954. A new gallinule from Bolivia. Proc. Biol. Soc. Wash., **67**: 85-86.—*Gallinula chloropus hypomelaena* (Vacas, Dept. Cochabamba), new subspecies.
- VALVERDE, J. A. 1953. Contributions à la biologie du Coucou-geai, *Clamator glandarius*. L'Oiseau, **23**: 288-296, figs. 1-2.—Notes on the food and breeding in Spain.
- VAN DOBBEN, W. H. 1953. Bird migration in the Netherlands. *Ibis*, **95**: 212-234.
- VAN NESS, G. A. 1953. Weather influence in blue comb in chickens. *Science*, **118** (3072): 601-602.
- VAN OORDT, G. J., and J. P. KRUIJT. 1953. On the pelagic distribution of some Procellariiformes in the Atlantic and Southern oceans. *Ibis*, **95**: 615-637.—Dealing with eleven species, this paper covers the distribution in winter of certain species of the North Atlantic and in summer of certain species of the Antarctic, as well as migratory movements in the Southern Ocean.
- VAN TIENHOVEN, A., A. V. NALBANDOV, and H. W. NORTON. 1954. Effect of Dibenamine on progesterone-induced and "spontaneous" ovulation in the hen. *Endocrin.*, **54**: 605-611, 2 tables.
- VESELOVSKÝ, Z. 1953. Postembryonální vývoj našich divokých kachen. *Sylvia*, **14**: 36-73.—The postembryonic development of *Aythya fuligula*, *A. ferina*, *A. nyroca*, *Anas platyrhynchos*, *A. crecca*, and *Spatula clypeata*. In Czech with German summary.
- VESELOVSKÝ, Z. 1953. Příspěvek k poznání postembryonálního vývoje nandu (*Rhea americana*). *Sylvia*, **14**: 82-90.—The postembryonic development of the Nandu. In Czech with a German summary.
- WALLMO, O. C. 1954. Nesting of Mearns Quail in southeastern Arizona. *Condor*, **56**: 125-128.—For *Cyrtonyx montezumae mearnsi*, descriptions are given for several nests and their contents and habitat requirements.
- WEBSTER, J. D., and R. T. ORR. 1954. Summering birds of Zacatecas, México, with a description of a new race of Worthen Sparrow. *Condor*, **56**: 155-160.—Thirty-two species are mentioned, most of which were heretofore unrecorded from the state. *Spizella wortheni browni* is described as a new subspecies.
- WETMORE, A., and G. M. SUTTON. 1953. The Carolina Chickadee in Kansas. *Wilson Bull.*, **65**: 277.—Correcting an erroneous locality record results in a change in the stated northern limit of *Parus carolinensis atricapilloides* in Kansas.
- WHITE, C. M. N. 1954. Racial variation in *Eupodotis melanogaster* (Ruppell).

- Bull. Brit. Ornith. Club, **74** (1): 5.—It is suggested that no subspecies should be recognized.
- WIGGINS, I. L. 1954. The Gray-cheeked Thrush at Point Barrow, Alaska. *Condor*, **56**: 163.
- WILLIAMS, G. R. 1953. The dispersal from New Zealand and Australia of some introduced European passerines. *Ibis*, **95**: 676-692.—13 species have, mostly unaided by man, established themselves variously on 9 islands lying 200 to 550 miles offshore from New Zealand and Australia. Strong winds are suspected of carrying the birds, mainly from New Zealand.
- WILLIAMS, G. R. 1954. Population fluctuations in some Northern Hemisphere game birds (Tetraonidae). *Journ. Animal Ecol.*, **23**: 1-34.—One synchronized 9 to 10 year cycle covers most of Canada, but the cycle in the Maritime Provinces is advanced 3 years and that in Alaska is retarded 3 years compared with the main one. This cycle is correlated with that of the snowshoe rabbits and is possibly controlled by weather factors. The cycle in Britain is 5 years, in Finland and Scandinavia, it is 3 to 4 years and correlated with that of the lemmings.
- WILLIAMS, J. G. 1953. Revision of *Cinnyris sovimanga*: with description of a new race. *Ibis*, **95**: 501-504.—*C. s. buchenorum*, Aldabra Arch., Indian Ocean, new subspecies.
- WOLFE, L. R. 1954. Nesting of the Laughing Falcon. *Condor*, **56**: 161-162.—Several nests, their sites and contents are described for *Herpetotheres cachinnans* in Mexico.
- WOLFSON, A. 1954. Notes on the cloacal protuberance, seminal vesicles, and a possible copulatory organ in male passerine birds. *Bull. Chicago Acad. Sci.*, **10**: 1-23.
- WOLFSON, A. 1954. Production of repeated gonadal, fat, and molt cycles within one year in the junco and White-crowned Sparrow by manipulation of day length. *Jour. Exp. Zool.*, **125**: 353-376.—The conclusions of this study are based primarily upon findings from three birds. By exposing the experimentals to alternate periods of 9 and 20 hours of daylight, they were brought into a breeding condition several times in a one-year period. When they were given only 9 hours of daylight, these same birds lost their fat, the cloaca regressed in size, and the birds began to molt.—D. W. Johnston.
- WOODIN, A. M. 1954. Soluble feather keratin. *Nature*, **173** (4409): 823-24.—A chemical study of soluble keratin from chicken feathers.