

## ORNITHOLOGICAL LITERATURE

SPECIATION IN THE AVIAN GENUS JUNCO. By Alden H. Miller. University of California Publications in Zoölogy, 44, No. 3: 173-434, 33 text figures. May 24, 1941 [our copy received August 15]. \$3.00.

This study, based upon nearly twelve thousand museum specimens, is an analysis of the variations in size and color among populations of Juncos, in order to determine the degree of unity of each form and to trace the successive stages of differentiation from individual variants to the species. Although it is not primarily a taxonomic study, a revision of the genus was made in order that the subsequent conclusions might rest upon a sound base. Twenty-one forms of Juncos are recognized, of which no less than ten are considered full species. Under each form there are stated its characters, range, and in the appendices its synonymy and notes on the type specimen. No new forms are proposed, although Dwight's name *cismontanus* is applied to the Cassiar Junco on what appears to be rather weak nomenclatural grounds.

The variable characters of each form (size, intensity of pigmentation, and color pattern) are analyzed in minute detail, and in many cases the variations shown by different populations of the same form are compared. These are well illustrated by charts and graphs. A worthy and rather novel feature is the interpretation of the mode of inheritance of characters through the correspondence to Mendelian ratios of the numbers of individuals of various phenotypes found in samples of wild populations.

Intergradation, or "hybridization," between forms is studied. Spot maps of the critical areas helps to illustrate the situation. Twelve more or less distinct successive stages of segregation are recognized, ranging from complete differentiation to nearly complete inoculation. The ranges of all the Juncos are complementary, and intergradation or crossing invariably occurs wherever it is geographically possible. Thus of the fifteen forms of dark-eyed Juncos, which Miller places in five specific units, twelve are connected by intergrades or "hybrids" in a chain of races. Two others intergrade by individual variation, and the last form is an insular one. In the yellow-eyed group, four of the five members are considered full species. Intergradation occurs between only two forms. The other three occupy isolated mountains, so intergradation is physically impossible, but some of them at least are even less different than certain forms which are treated as races.

The distinction made between hybridization and intergradation and between species and race is not entirely clear, but it appears to have some historical connotations. For example, the *hyemalis* forms and the *oreganus* forms are considered separate species, although connected by an intergrading intermediate subspecies, because it is thought that their juncture has been secondary. If this distinction is made, is it logical to rank as subspecies the connecting forms of supposed hybrid origin, such as *J. hyemalis cismontanus* and *J. caniceps dorsalis*?

*Junco caniceps caniceps* is considered specifically distinct from *J. oreganus*, and the two are not even placed in the same "Artenkreis." Yet the intergradation between *caniceps* and its race *dorsalis* is said to be of the same type as, and is apparently no more frequent than, that between *caniceps* and *J. oreganus mearnsi* and between *caniceps* and *J. oreganus thurberi*.

Miller's species of Juncos are not of equal rank with most other avian species. Rather, they are divisions of a species, representing groups of races which have certain characters in common, in contrast to other groups of races with different common characters. The limits of our system of nomenclature are such that it is impossible to express every degree of relationship by a name of different rank, and it confuses rather than clarifies the case to attempt to express degrees of relationship by employing Rassenkreis terms when these are used with a much more restricted meaning than originally intended. As Miller himself says, most

of his "species" and "Artenkreise" would by many people be placed in a single Rassenkreis.

In the final portion of the paper the results of breeding experiments and the phylogenetic relationships of the various forms are discussed. The breeding experiments yielded only a single  $F_1$  offspring raised to maturity. A back cross was made between this bird and one of the parental types. The author suggests that the failures in attempted laboratory matings were due to faulty technique rather than to lack of fertility between forms.

No matter at what place the Juncos may have evolved originally, the southernmost member, *J. vulcani*, is considered to represent the most primitive stage in the genus. The yellow-eyed Juncos arose in Tertiary times, and in turn gave rise to the dark-eyed Juncos. The next stage was the splitting of the dark-eyed birds into three branches—a pale-headed *insularis*-like bird on the west coast, a *caniceps*-like bird in the interior, and a *hyemalis*-like bird in the east. These branches were isolated until the glacial periods, during which time there was a secondary juncture. Contemporaneously, a new group of dark-headed birds invaded the west.

The characters of some forms are directly correlated with climatic conditions. In other cases, while not correlated to the present environment, they possibly were to the environment of the not-distant past. Certain forms evolved independently, and others are the product of hybridization of two independently derived stocks. Under the right conditions of isolation, individual variants give rise to races, and these in turn form species.

While primarily of interest to ornithologists, Miller's paper should be studied by all students of variation and evolution. It is a very careful analysis of a difficult and plastic group, and the principles discovered in force will undoubtedly be found to apply in other special fields.—P. Brodtkorb.

TERRITORIAL AND MATING BEHAVIOR OF THE HOUSE WREN. By Charles Kendeigh. Illinois Biological Monographs, 18, No. 3, 1941. 1-120, 32 figures. (University of Illinois Press, Urbana, Ill.). \$1.50.

This account of territorial and pairing behavior of *Troglodytes aedon* is based on a 19-year study in northeastern Ohio on the estate of the late Dr. S. Prentiss Baldwin; 331 matings of 142 males and 147 females are involved. The first 58 pages cover: spring arrival of birds; establishment and defense of territories; characteristics of the territory; reproductive vigor; mating behavior; and termination of nesting. Chapter 8 gives a "History of Individual Territories" with 51 pages in small print discussing 215 territories illustrated with 32 maps. Finally five pages are devoted to histories of 98 birds that were present two or more years.

All adults and young are banded with aluminum bands, the adults being also given red or yellow celluloid bands to indicate their sex. The House Wren, dependent as he is on nest boxes, is much less insistent on returning to his former territory than the European Wren is on staying on his, nor the Song Sparrow on either staying on or returning to his. The House Wren is the most aggressive of all the wrens in that it seeks to remove possible hole-nesting competitors by destroying eggs or young of its own or other species, even in some cases of birds building open nests. In the 331 nestings eggs were destroyed in 13 instances and young in 5, i.e., 6 per cent. Miss Sherman and others believe that the House Wren has become unduly abundant because of man's providing a vast supply of protected nest-sites. Dr. Kendeigh writes, "Destruction by wrens of nestlings of other wrens, bluebirds, and house sparrows is especially prevalent under conditions of high population or perhaps over-population," (p. 33). In many places the House Wren is displacing the Bewick Wren. "The northward dispersal of this species appears to be hindered by the house wren, which in turn is probably limited in its southward distribution by the Bewick Wren." So far as I know *Thryomanes bewicki* does not destroy nests or young of any species.

Three types of song are distinguished—territory, mating, and nesting. “Territories are established and defended by singing, by taking possession of nest-sites, by assuming threatening postures sometimes accompanied with scolding, by chasing, and by physical combat. This order is one of increasing exertion and energy demand and may represent the reverse order of steps through which the territorial behavior has developed in the course of evolution” (p. 116).

Forty per cent of matings for the second brood were with the same individuals. “Remating of a pair the following year occurred in 42 per cent of the cases where both birds of the pair survived and returned to the locality” (p.118).

The histories of territories are difficult to read owing to the use of the long band numbers rather than some abbreviated system. If the birds had been individually marked with colored bands, much uncertainty in the records would have been obviated. One wishes that more comparisons had been made with the European Wren so admirably studied by Kluijver and his co-workers and also with other studies of banded populations—Laven’s Ringed Plovers, Erickson’s Wren-tits, Price’s Plain Titmice, Kluijver’s Starlings, Nice’s Song Sparrows.

Despite these minor criticisms, the paper is a well-organized and valuable contribution to our knowledge of territorialism and mating behavior.—M. M. Nice.

PAGEANT IN THE SKY. By Raymond S. Deck. Dodd, Mead & Co., New York, 1941: xiv + 268 pp. Illustrated. \$3.00.

Ornithologically inclined readers of *The Saturday Evening Post* and other popular periodicals will remember occasional articles dealing with bird migration, waterfowl shortages, and other natural history subjects by Raymond S. Deck. Now Mr. Deck has presented us with a volume of his essays, each an entity, but all uniting to form a harmonious whole. The volume is illustrated by an effective selection of the author’s bird photographs.

Mr. Deck’s approach to birds is a personal one. He asks the reader to accompany him first to a Martian point of vantage from which bird migration in all its hemispheric sweep may be seen and followed; then he brings us back to the familiar surroundings of our own back yards for more intimate glimpses of certain birds which hold (for many of us) peculiar interest, or for a discussion of problems and techniques which relate to bird study or bird conservation.

Many writers have been challenged by the epic qualities of bird migration; many have told of their joys in attracting and protecting the birds around their homes, but few authors (or so it seems to me) have had Mr. Deck’s success in portraying the esthetic and emotional appeal of bird life and movement without over-large doses of sentimentality or “fine writing,” and without serious lapses of scientific accuracy. From a background that includes experience on the staff of the Children’s Museum of Brooklyn, collecting for the American Museum of Natural History on the famous Mt. Duida expedition, and travel as a free-lance writer and photographer over a considerable part of the North American continent he draws his materials from an extensive field, yet he manages to impart a personal quality to each of the subjects which he discusses. One feels that his impressions, frankly set down, are genuine within him, not the *ersatz* emotions betrayed in some of the more gushing of recent bird books.

Mr. Deck has carried a gun, and knows the sportsman’s lift at the rise of a flock of ducks; yet he is not allied (in spirit or by checkbook) with that school of “conservationists” whose aim in life is the production of more birds for a finer slaughter. Neither is he closely joined to any of the crusading protectionist organizations. His approach to practical conservation is, therefore, one freed from the bias which (unconsciously perhaps) creeps into the writings of those whose chief joy is in the gun, or to whom wildfowling in the old sense is anathema. His “Sportsman’s Credo” (Chapter 13) seems to be an exceptionally sane and moving

statement of what a man may believe concerning the wild creatures which surround him. Many an ornithologist will find his own thoughts reflected (and wish that he might have expressed them so well) in the apology for bird study which comprises Chapter 10.

Being something of a "lone wolf" in bird study, Mr. Deck does not frequent the haunts at which ornithologists are accustomed to assemble (so far as I know, he is not a member of a single committee!); consequently he is not overly-well known to the brotherhood. Though his present volume is for the general reader rather than the technical student, and though it is not entirely free from "omissions and commissions," it nevertheless bespeaks a place for its author among those who have the gift of words, and the sense to use them with restraint and scientific accuracy.—Maurice Brooks.

**LUNDY ISLE OF PUFFINS.** By Richard Perry. With photographs by Alan Richardson. Lindsay Drummond, London, 1940: 5½ x 8½ in., 267 pp., 37 photos, map. \$4.40.

Lundy is a slender island three miles long in the mouth of Bristol Channel off the west coast of England. Its name comes from the word *Lunde* (= Island of Puffins) given it by the early Norsemen. The Island's owner and overlord is Martin Coles Harman, a person in whom the summer-residing Puffins have a staunch admirer. In fact, he admires them so greatly that he issued in 1929 and 1930 a series of commemorative "Puffin" stamps in denominations ranging from a "½ Puffin" and "1 Puffin" to "12 Puffin." These stamps are used on all mail passing to and from Lundy Island. Ornithologists interested in bird curios would do well to obtain a series from Mr. Harman.

In 1939 Richard Perry, author of "At the Turn of the Tide," spent five months studying the large number of resident sea birds on the island. The present book is a record of his observations. The main body of the book is divided into separate accounts of the Atlantic Puffin, Kittiwake, Razor-billed Auk, Atlantic Murre, "Bridled Guillemots" (birds with the *ringvia* plumage of the Atlantic Murre), and "Cormorants." Other sections deal with general remarks about the island and the birds of passage.

The book is decidedly not easy reading, being heavily descriptive with an abundance of sentences greatly involved and wordy. However, it is a book which must not be overlooked by ornithologists specializing in avian sociology and seabird life. While there are countless observations without significance, there are others which must be weighed carefully and in some cases seriously questioned insofar as their interpretations are concerned. Examples follow:

The peculiar "bill-rapping" habit of Puffins the author considers a courtship performance. He goes on to say (pp. 62-63) "Each bout of bill-rapping is succeeded by a slight, though perceptible, sipping of their scissor mandibles. It is probable, therefore, that, as in the case of so many other sea birds, a certain secretion is exuded during the rapping pleasurable to the participants." His explanation of the Puffin's ability to catch and hold a series of fish in the beak during one dive is not clear. He writes (p. 76): "Progressing thus, he [a Puffin] will first take a fish to the right of him and then one to the left, then right, then left, nipping each one with the hooked tip and working it down his bill very easily: for the elastic folds of skin at its base permit either mandible to be raised or lowered independently of the other." He noted Kittiwakes conducting communal nesting expeditions (p. 98), "excitedly plucking beakfuls of thrift, with violent stabs, from a single cushion at some special site on the cliffs." Kittiwakes (p. 93) "like many other sea birds, do not breed until their fourth year." Occasional Kittiwakes, he found (p. 106), "have an odd habit of hatching out one egg a week or more after the other . . ." The Razor-billed Auk (p. 124) "has a curious

though very necessary habit, considering the enormous size of her egg, of incubating it under one falling wing. . . ." This same species, he observed (p. 122), pecks material (i.e. "dust") over the egg on leaving it unattended.

The photographs by Alan Richardson are exceptionally fine; the map of Lundy Island appropriately detailed.—O. S. Pettingill, Jr.

THE BIRDS OF NORTH AND MIDDLE AMERICA. By Robert Ridgway, continued by Herbert Friedmann. Part IX. United States National Museum, Bulletin 50. 1941 [our copy received October 27]. ix + 254 pp., 16 text figures. \$4.00 (paper), of Superintendent of Documents, Washington, D.C.

The National Museum is to be congratulated on the appearance of the ninth part of *The Birds of North and Middle America*, after an interval of 22 years during which publication was halted. The present part contains only the *Grui-formes* and is therefore much smaller than originally intended.

The form of the earlier volumes of *The Birds of North and Middle America* is too well known to need description here. In the present case Ridgway's manuscript notes have been used as much as possible, but the author has felt himself responsible for the entire contents and not merely an editor of a posthumous work.

Friedmann has carried out the general plan of the earlier volumes with a few minor changes, most of which are distinct improvements. For instance, the arrangement of families, genera, and species within the order is reversed, to commence with the lowest instead of the most specialized forms. Subspecies are arranged according to relationships as far as possible, and the nominate form is not necessarily given first. Under the generic diagnoses, the paragraph on coloration is expanded to include plumage. The figures of generic details are given at their proper places in the text, rather than all together at the end of the volume, where they were hard to find and seldom used. There is a commendable conservatism in the recognition of genera. The section on range of a given form is broken down into separate paragraphs on breeding range, winter range, and casual records, a practice which makes for greater ease in finding the desired information. An additional heading, type locality, is also a useful innovation. It is almost impossible to prevent misspellings of place names in a work of this character; nevertheless, they appear to be decidedly fewer here than in the earlier volumes. Among the most instructive features of Ridgway's work were the frequent footnotes giving comparative average measurements of a bird over its geographic range. Friedmann expands these to include extreme as well as average measurements.

Certain features of the present volume are in our opinion debatable, and if we point them out it is not because of hypercritical captiousness but in the hope that the succeeding parts may be improved. Geographic range is not mentioned in the keys, although invariably included by Ridgway. A concise statement of range is often a time-saver in attempting to "run down" closely related forms. We are sorry to see the continued use of cumbersome Roman numerals in the bibliographies. In the index Ridgway distinguished by bold face numerals the page at which a species was treated in detail. It is too bad that this practice was not followed in the present volume, since in many cases the bird may be referred to on half a dozen or more pages.

Anyone who has done bibliographic compilation will appreciate the vast amount of labor which has been expended in preparing the synonymies. It appears that there has been an 80 per cent increase in the literature on this group since 1919, when the last volume written by Ridgway was published. Nevertheless, we wonder how thorough the search of the literature has been. A casual inspection shows the complete omission of six fairly important faunal papers, namely—Wood on birds of Alger County, Michigan; Wood, Smith, and Gates on Cheboygan County, Michigan; Stone on the birds of Honduras; Van Tyne on Peten birds; the same author's Michigan check-list; and Van Tyne and Sutton on the birds of Brewster

County, Texas. These papers contain valuable distributional data and some remarks on the systematic status of gruiform birds. Several other papers have been referred to only in part.

Since its inception in 1901, *The Birds of North and Middle America* has been a standard text, and the present volume proves that a fitting successor to the master Robert Ridgway has been found. We wish the author all speed in bringing the series to an early conclusion.—P. Brodtkorb.

SHORT PAPERS

- ADAMS, LOWELL. Aberrant Mating Activities of the California Woodpecker. *Condor*, 43, No. 6, Nov., 1941: 268-9.
- BARBOUR, ROGER W. A Preliminary List of the Summer Birds of the Summit of Big Black Mountain. *Kentucky Warbler*, 17, No. 4, 1941: 46-7. (Near Harlan, Ky.).
- BARDEN, ALBERT A., JR. Distribution of the Families of Birds. *Auk*, 58, No. 4, Oct., 1941: 543-557.
- BEHLE, WILLIAM H. Additional Data Concerning the Subspecific Status of the Cormorants of Great Salt Lake. *Condor*, 43, No. 6, Nov., 1941: 286-289. (Should be referred to *Phalacrocorax a. auritus*).
- BELL, GLENN W. The Least Flycatcher Breeding in Northeast Georgia. *Oriole*, 6, No. 3, Sept., 1941: 36-7, figs. 1-2. (The photographs and text indicate that the species observed was actually *Vireo solitarius alticola* rather than *Empidonax minimus*).
- BELLROSE, FRANK C., JR. Duck Food Plants of the Illinois River Valley. *Ill. Nat. Hist. Surv. Bull.*, 21, Art. 8, Aug., 1941: 235-280, frontisp. and 35 figs.
- BENE, FRANK. Experiments on the Color Preference of Black-chinned Hummingbirds. *Condor*, 43, No. 5, Sept., 1941: 237-242, figs. 64-68.
- BRAUND, FRANK W. and JOHN W. ALDRICH. Notes on the Breeding Birds of the Upper Peninsula of Michigan. *Oologist*, 58, No's 8 & 9, Aug., Sept., 1941: 86-93, 98-105, illus. (*Poocetes gramineus polius* subsp. nov. from 4 mi. N. of Newberry, Mich.).
- BRODKORB, P. The Pigmy Owl of the District of Soconusco, Chiapas. *Univ. Mich. Mus. Zool. Occ. Papers No. 450*, Oct. 9, 1941: 1-4. (*Glaucidium brasilianum saturatum* subsp. nov.).
- BROUN, MAURICE. Hawk Mountain Sanctuary. *Fauna*, 3, No. 3, Sept., 1941: 83-5, illus. (In eastern Pennsylvania.)
- BRUCKNER, J. H. Inheritance of White Plumage in *Phasianus*. *Auk*, 58, No. 4, Oct., 1941: 536-542, pl. 18.
- BRUNDRETT, H. M. New Bird-trapping Devices. *Bird Banding*, 12, No. 4, Oct., 1941: 164-168.
- COFFEY, BEN B. Summer Range of Mid-South Towhees. *Migrant*, 12, No. 3, Sept., 1941: 51-7, map.
- COOKE, M. T. Returns from Banded Birds: Recoveries of Some Banded Birds of Prey. *Bird Banding*, 12, No. 4, Oct. 1941: 151-160.
- CUSHING, JOHN E., JR. Non-genetic Mating Preference as a Factor in Evolution. *Condor*, 43, No. 5, Sept., 1941: 233-236.
- DAYTON, FRANCIS S. A New London (Wisconsin) Starling Roost. *Passenger Pigeon*, 3, No. 9, Sept., 1941: 81-2.
- DEUSING, MURL. Notes on the Nesting of the Florida Gallinule. *Passenger Pigeon*, 3, No. 9, Sept., 1941: 79-81, 1 fig. (At Lake Koshkonong, Wis.).
- EATON, JOHN W. Brief Notes on the Fish Crow. *Bull. Mass. Aud. Soc.*, 25, No. 6, Oct., 1941: 133-4.
- ELKINS, FRANCES and HERVEY. Waiting for the Hawks to Fly. *Bull. Mass. Aud. Soc.*, 25, No. 6, Oct., 1941: 123-6, 2 photos. (At Mt. Tom, Mass.).

- EMLÉN, JOHN T., JR. An Experimental Analysis of the Breeding Cycle of the Tricolored Red-wing. *Condor*, 43, No. 5, Sept., 1941: 209-219.
- ERRINGTON, PAUL L. Notes on Winter-killing of Central Iowa Bob-whites. *Iowa Bird Life*, 11, No. 3, Sept., 1941: 46-9.
- GOODPASTER, WOODROW. Birds of Southwestern Ohio. *Jour. Cinn. Soc. Nat. Hist.*, 22, No. 3, June, 1941: 6-40.
- GREY, JOHN H., JR. The Breeding Birds of Pea Island. *Chat*, 5, No. 4, Sept., 1941: 50-54. (North Carolina.)
- GROMME, O. J. Several Interesting Breeding Records Secured. *Passenger Pigeon*, 3, No. 8, Aug., 1941: 71-2. (Conn., Mourning, and Kentucky Warblers, and Red Crossbill in Wis.)
- HAMMOND, MERRILL C. Fall and Winter Mortality Among Hungarian Partridges in Bottineau and McHenry Counties, North Dakota. *Jour. Wildlife Management*, 5, No. 4, Oct., 1941: 375-382, pl. 24.
- HAND, R. L. Birds of the St. Joe National Forest, Idaho. *Condor*, 43, No. 5, Sept., 1941: 220-232, figs. 61-63.
- HAWKINS, ARTHUR S. A Wildlife History of Faville Grove, Wisconsin. *Trans. Wis. Acad. Sci., Arts and Letters*, 32, 1940: 29-65.
- HERMAN, CARLTON M. Third Progress Report on the Disease Study Project. *Bird Banding*, 12, No. 4, Oct., 1941: 147-150.
- JACKSON, H. H. T. Summer Birds of Northwestern Wisconsin (part). *Passenger Pigeon*, 3, No. 10, Oct., 1941: 87-90, map.
- KENDALL, J. B. Observations on Nesting Habits of the Bluebird. *Passenger Pigeon*, 3, No. 7, July, 1941: 63-5.
- LEOPOLD, ALDO. Spread of the Hungarian Partridge in Wisconsin. *Trans. Wis. Acad. Sci., Arts and Letters*, 32, 1940: 5-28.
- LOEFER, JOHN B. Some Unrecorded White-feathered Birds. *Kentucky Warbler*, 17, No. 4, 1941: 42-5.
- LOW, JESSOP B. Nesting of the Ruddy Duck in Iowa. *Auk*, 58, No. 4, Oct., 1941: 506-517, pl. 17.
- MCILHENNY, E. A. Some Interesting Records from Birds Banded at Avery Island, Retaken During the Winter of 1940-1941. *Bird Banding*, 12, No. 4, Oct., 1941: 168-174.
- MCILHENNY, E. A. The passing of the Ivory-billed Woodpecker. *Auk*, 58, No. 4, Oct., 1941: 582-4.
- MILLER, ALDEN H. Racial Determination of Bewick Wrens in the Western Great Basin Region. *Condor*, 43, No. 5, Sept., 1941: 250-251.
- MILLER, ALDEN H. A Review of Centers of Differentiation for Birds in the Western Great Basin Region. *Condor*, 43, No. 6, Nov., 1941: 257-267, figs. 74-76.
- MOFFITT, JAMES. Notes on the Food of the California Clapper Rail. *Condor*, 43, No. 6, Nov., 1941: 270-273.
- MOORE, GEORGE C. and ALLEN M. PEARSON. The Mourning Dove in Alabama. *Bulletin Alabama Cooperative Wildlife Research Unit*. (36 pp., illus.). Obtain from Ala. Dept. Conserv., Montgomery, Ala.
- MOORE, ROBERT T. and ARTHUR BARR. Habits of the White-tailed Kite. *Auk*, 58, No. 4, Oct., 1941: 453-462, pl. 16. (In "southern California").
- MOORE, ROBERT T. Three New Races in the Genus *Otus* from Central Mexico. *Proc. Biol. Soc. Wash.*, 54, No. 17, 1941: 151-160. (*Otus asio suttoni*, *O. a. sortilegus*, and *O. vinaceus seductus* from Hidalgo, Jalisco, and Michoacan respectively).
- MOORMAN, ROBERT and GEORGE O. HENDRICKSON. The 1940 Bob-white Season in Southeast Iowa. *Iowa Bird Life*, 11, No. 3, Sept., 1941: 42-6, 2 pls.
- MONSON, GALE. The Effect of Revegetation on the Small Bird Population in Arizona. *Jour. Wildlife Management*, 5, No. 4, Oct., 1941: 395-7, fig. 1.
- MUNRO, J. A. Studies of Waterfowl in British Columbia. Greater Scaup Duck, Lesser Scaup Duck. *Canadian Jour. Research*, 19, Apr., 1941: 113-138, pls. 1-3.

- MURIE, ADOLPH. Ecology of the Coyote in the Yellowstone. *Nat. Park Service, Conserv. Bull. No. 4*, 206 pp., 56 figs., map. (Contains much valuable data on their relation to birds. Bulletin may be secured for \$3.00 from Supt. Doc., Wash., D.C.).
- ODUM, EUGENE P. Variations in the Heart Rate of Birds: A Study in Physiological Ecology. *Ecological Monographs*, 3, July, 1941: 299-326.
- ODUM, EUGENE P. Technics in Life History Study. *Oriole*, 6, No. 3, Sept., 1941: 29-35. (Valuable suggestions and outline of study; somewhat marred by inaccuracies in the bibliography).
- ODUM, EUGENE P. Annual Cycle of the Black-capped Chickadee—2. *Auk*, 58, No. 4, Oct., 1941: 518-535.
- PETERSON, ROGER T. Billions of Birds. *Bull. Mass. Aud. Soc.*, 25, No. 7, Nov., 1941: 149-154, 1 photo. (Bird populations of North America).
- PITELKA, FRANK A. Presentation of Nesting Data. *Auk*, 58, No. 4, Oct., 1941: 608-612.
- PRICE, JOHN B. and C. H. DANFORTH. A Persistent Mutation in the California Quail. *Condor*, 43, No. 6, Nov., 1941: 253-6, figs. 71-73.
- ROLLO, MARIE. Photoperiodism and Migration. *Bird Banding*, 12, No. 4, Oct., 1941: 161-164.
- ROMANOFF, ALEXIS L. Development of Homeothermy in Birds. *Science*, 94, Aug. 29, 1941: 218-19.
- SAWYER, EDMUND J. On Drawing and Painting Birds. *Murrelet*, 22, No. 2, May-Aug., 1941: 27-9, frontisp.
- SLIPP, JOHN W. The California Shrike in the Northwest Coastal Belt. *Condor*, 43, No. 5, Sept., 1941: 243-5.
- SPERRY, CHARLES C. Food Habits of the Coyote. *Wildlife Research Bull.* 4, 1941: 1-70, 3 pls., 3 figs. (With much information on the relation to birds).
- STABLER, ROBERT M. Teaching a Falcon Its A B C's. *Fauna*, 3, No. 3, Sept., 1941: 75-81, illus. (Falconry).
- SUTTON, GEORGE M. The Juvenal Plumage and Postjuvenal Molt of the Vesper Sparrow. *Univ. Mich. Mus. Zool. Occ. Papers No. 445*, Aug. 6, 1941: 1-10, col. pl.
- SUTTON, GEORGE M. The Plumages and Molts of the Young Eastern Whippoorwill. *Univ. Mich. Mus. Zool. Occ. Papers No. 446*, Aug. 7, 1941: 1-6, col. pl.
- SUTTON, G. M. and J. B. SEMPLE. An egg of the Marbled Murrelet. *Auk*, 58, No. 4, Oct., 1941: 580-1, pl. 19.
- VAN ROSSEM, A. J. A Race of the Poorwill from Sonora. *Condor*, 43, No. 5, Sept., 1941: 247. (*Phalaenoptilus nuttallii adustus* subsp. nov. from Bates Wells, Pima Co., Ariz.).
- VAN ROSSEM, A. J. The Thick-billed Kingbird of Northern Sonora. *Condor*, 43, No. 5, Sept., 1941: 249-250. (*Tyrannus crassirostris sequestratus* subsp. nov. from Rancho La Arizona, Sonora).
- VAN ROSSEM, A. J. A Race of the Blue-hooded Euphonia from Sonora. *Univ. Mich. Mus. Zool. Occ. Papers No. 449*, Oct. 9, 1941: 1-2. (*Tanagra elegantissima viscivora* subsp. nov.)
- VAN ROSSEM, A. J. Further Notes on Some Southwestern Yellowthroats. *Condor*, 43, No. 6, Nov., 1941: 291-2. (*Geothlypis trichas riparia* subsp. nov. from Tesia, Mayo River, Sonora).
- WALKINSHAW, L. H. Lincoln's Sparrow in the Lower Peninsula of Michigan in Summer. *Jack Pine Warbler*, 19, No. 3, July, 1941: 69-71, fig. 1.
- WEHARTON, WILLIAM P. Twelve Years of Banding at Summerville, S. C. *Bird Banding*, 12, No. 4, Oct., 1941: 137-147.
- WILLIAMS, LAIDLAW. Roosting Habits of the Chestnut-backed Chickadee and the Bewick Wren. *Condor*, 43, No. 6, Nov., 1941: 274-285, figs. 77-81.
- WOODBURY, ANGUS M. Animal Migration—Periodic-Response Theory. *Auk*, 58, No. 4, Oct., 1941: 463-505.