ORNITHOLOGICAL LITERATURE

SONGS OF WILD BIRDS. By Albert R. Brand. Published by Thomas Nelson & Sons, New York. 1934. Pp. 1-91. Price, $2.00.

The book contains one or two chapters on the subject of bird song in general, and about thirty-four pages are devoted to the descriptions of songs of particular birds—all interesting enough. The feature of the book, however, is the accompanying phonograph records of wild birds' songs, which are carried in a pocket on the cover. A year or two ago we learned indirectly that a young man at Cornell University was working on the reproduction of bird songs by modern mechanical methods. In the spring of this year Dr. A. A. Allen made a lecture tour through the middle west exhibiting the results of these efforts. Just a few weeks later Mr. Brand's book with the phonograph records was placed upon the market. The fact of the matter is that men have now recorded mechanically the songs of wild, free birds as they sang in their native haunts. Most of our readers may not care for a detailed explanation of the mechanical devices used in this work, even if we could present it (but we think a little more of a description in the book itself would have been acceptable). However, an enlarged microphone is set up as near as possible to the singing bird. The sound waves which fall upon the microphone are converted into electrical energy. The electrical waves are then amplified and transformed into light waves. These light waves are then photographed on the films. The film is developed and can be reproduced by the movie projector onto the light screen or reconverted into sound. Of course the making of a phonograph record is an additional process. It is to be noted, however, that the phonograph record reproduces the bird's own voice, which has never been accomplished before, we believe. Thirty-five wild bird songs are recorded on the two record disks which accompany this book. A few of the songs are rather weak, perhaps because of the distance of the birds; others are loud and clear. The Bobolink song is one of the best, and lacks none of the vivacity of the living song. The Whip-poor-will's song is reproduced with such fidelity that one might close his eyes and imagine himself in the haunts of the bird. Perhaps we should again assure the reader that the records are reproductions of the bird's voice, not of whistled imitations by some clever human. These records alone are worth the price of the book, and we can cheerfully recommend them.—T. C. S.

THE BIRDS OF DUTCHESS COUNTY, NEW YORK, FROM RECORDS COMPILED BY MAUNSELL S. CROSBY. By Ludlow Griscom. Trans. Linn. Soc., N. Y., III, 1933, pp. 1-184. Price, $2.00. (Address Sec. Linnaean Society, W. 77th and Central Park, N. Y.).

Mr. Griscom has done another very creditable piece of work in the compilation of this local list. An introduction covering sixty-seven pages, and divided into eight chapters, precedes the systematic list. Species of hypothetical occurrence are not assembled into a separate list, but are enclosed in brackets in the body of the list. Since the note-books of Mr. Maunsell S. Crosby furnished the material for this report it is fitting that a portrait of Mr. Crosby and a picture of his home, which we take to be a country estate, be included. Chapter X is a bibliography of Dutchess County ornithology which is, doubtless, intended to include all of Mr. Crosby's own writings; two titles in the WILSON BULLETIN for 1925 were overlooked.—T. C. S.

1. LEGPERIODEN EIERPRODUCTIE BIJ EENIGE WILDE VOGELSOORTEN, VERGELEKEN MET DIE BIJ HOENDERRASSEN. By D. Tollenaar. Mededeeling 23 van de Landbouw Hoogeschool. Wageningen. 46 pp. 1922.
2. VERSLAG VAN HET ORNITHOLOGISCH ONDERZOEK 1925. By G. Wolda. 24 pp., 1926 .
3. VERSLAG VAN DE ORNITHOLOGISCHE AFDEELING OVER HET JAAR 1928. By G. Wolda. 27 pp., 1929.
4. VERSLAG VAN DE ORNITHOLOGISCHE AFDEELING OVER HET JAAR 1929. By G. Wolda. 20 pp., 1930.
5. VERSLAG VAN DE ORNITHOLOGISCHE AFDEELING OVER HET JAAR 1932. By G. Wolda. 20 pp., 1933.

   Numbers 2-5 published by the Plantenziekenkundige Dienst, Wageningen.
6. BIJDRAGE TOT DE BIOLOGIE EN DE ECOLOGIE VAN DEN SPREEUW (*Sturnus vulgaris* L.) GEDURENDE ZIJN VOORTPLANTINGSTIJD. By H. N. Kluijver. 145 pp., 1933. Veenman & Zonen, Wageningen.
7. AKKLIMATISIERUNG UND DEKLIMATISIERUNG. RESULTATE ORNITHOLOGISCHE UNTERSUCHUNGEN IN DEN JAHREN 1907-1923. By G. Wolda. Genetica, V, pp. 497-526, 1923.
8. AKKLIMATISIERUNG UND DEKLIMATISIERUNG, II. By G. Wolda. Genetica, IX, pp. 157-216, 1927.
9. INTERPERIODIZITAT. By G. Wolda. Genetica, XI, pp. 453-464, 1929.
10. HET AKKLIMATISEEREN VAN VOGELS, MET DE RESULTATEN EENER VERGLELIJKENDE ANTHROPOLOGISCHE STUDIE. By G. Wolda. Natura, December, 1932, 19 pp.

For a number of years the Phytopathological Service at Wageningen, Holland, has been carrying on investigations on the nesting of birds, particularly of Titmice, in 1932 having some seventy-five coöperators and records of 3,854 broods for that year alone. Five species of Titmice were responsible for 2,623 of these sets, Starlings for 412, and Redstarts (*Phoenicurus phoenicurus*) for 252. These Titmice lay astonishingly large sets, the Great Tit (*Parus major*) for instance *averaging* 10-11 eggs in a set, while as high as 18 to 21 living young of the Blue Tit (*Parus coeruleus*) have been recorded (4, p. 5).

Many papers have been published on birds by this Station—twenty-five being listed in the latest report (5); of these seven have been sent to me (Nos. 1-6, 10). Three others of Wolda's papers (7, 8, 9) I have been able to consult in the library of the Ohio State University. Tolenaar's paper (with a three page summary in English) is based on records from 1913 to 1920. Kluivjer's admirable study on the biology of the Starling I have reviewed elsewhere (*Bird-Banding*, 1933, pp. 209-210); but several of his findings are of importance in comparison with these other papers. Wolda is the most voluminous writer, bringing out a yearly report on the results of the Station's investigations, besides writing at length of his "acclimatization" theory.*

The time of beginning to lay. Tolenaar, calculating from the temperature of "the decade comprising the commencing-day of the laying-period of the species" decided that there is no direct effect of temperature, but that in early springs "the 'laying-threshold' is sooner crossed owing to the earlier appearance of insects" (1, p. 43). Kluijver (6, pp. 42-46) and Wolda (10, pp. 2-3), taking the

*Heer Wolda writes me that "*Akklimatisierung und Deklimatisierung* is now being published in four volumes and is available at my address at the price of fl. 6.50 Dutch currency."

mean temperature of April, decide that the start of laying is definitely related to temperature.

There are a great many interesting data given by the latter in charts (especially in 2, figs. 2 and 4, and 3, pp. 9, 15-17): here we see warm waves bringing many birds into laying five to seven days later, and cold waves causing breaks in activity after approximately the same length of time. In a few cases where the set had been started, severe cold stopped laying for one or more days; in some cases a number of the eggs were infertile, and in still others the birds deserted (2, p. 6).

Length of the nesting season. All three authors agree that an early beginning is correlated with a late ending, since many of these titmice raise two broods when the spring is early, but only one when it is late. Starlings ordinarily raise but one brood in Holland, but "an early beginning of the first brood (due to high temperature in April) is followed by a relatively large number of second broods" (6, p. 47).

How general this is among birds I do not know. It certainly has not been true with the Song Sparrow (*Melospiza melodia*)—normally a three-to-four-brooded bird.

Size of sets. As a rule the first set is the largest, but with the Coal Titmouse (*Parus ater*) that regularly lays three sets, the middle one is usually the largest (2, p. 11). Wolda states this is a fact for all three-brooded birds (5, p. 17), but this does not agree with my experience. The Blackbird (*Turdus merula*), Song Thrush (*Turdus philomelos*), Mistle Thrush (*Turdus viscivorus*), and Sky Lark (*Alauda arvensis*) reach a maximum in May, the March and April sets being smaller (1, p. 45). Tolenaar considers this a reflection of scarcity and abundance of food.

According to this writer, sets are largest during favorable years (1, p. 23) because of food conditions. Wolda (9, p. 455) says sets are larger in *unfavorable* years, because most of the birds lay but once; however in very unfavorable years the largest sets are absent.

It is evident that this problem is far from settled. Does the size of sets depend on the amount of food available, or on a direct influence of temperature during the laying period, on the age of the birds in the population, or on what? These Dutch experimenters are well situated to undertake a thorough-going study of this matter.

The effect of environment. This subject is worked out rather elaborately by Wolda (3, pp. 18-25) with *Parus major* in regions of coniferous and deciduous woods. In the lormer locality the birds started nesting slightly earlier and ended decidedly later, because more second broods were attempted; the average size of the first set was 10.1 eggs, of the second, 8.7 eggs; 83 per cent of the young that were hatched were raised, i. e., 64 per cent of the eggs laid. In the other district the average size of the first set was 10.6 eggs, of the second, 7.7; 89 per cent of the young that hatched reached maturity—67 per cent of all the eggs laid.

Tolenaar (1, p. 37) gives a chart showing the early start and late ending of the Blue Tit's nesting season in a region where its abundance reflects optimum conditions, and the late start and early ending in another region where it is uncommon. The Great Tit on the other hand is common in both places and started and ended nesting at the same time in the two localities.

Success of nesting. A number of other figures are given for the success of nestings, especially in the report for 1928. In Bilderberg in forty nest boxes fifty-one sets of 401 eggs were laid by five different species; of these 288 hatched (71 5 per cent) and 260 were fledged (64.8 per cent). During the previous year, of 351 eggs laid 240 young were raised—67.5 per cent (3, p. 8).

At Driebergen the number of sets laid by twelve species of hole-nesting birds ranged from thirty-nine in 1922 to 162 in 1928. The number of successful broods varied between 61 and 76 per cent (3, p. 9, 10).

At Hooge Veluwe bij Hoenderlo layings of fourteen species rose from 248 in 1921 to 523 in 1928; the lowest number of eggs laid was 850 in 1922 and the highest 2600 in 1925. From 23 to 39 per cent of sets were wholly unsuccessful—the other six years yielding 34 or 35 per cent loss of broods. Many desertions (10-12 per cent) are due to the examination of the boxes.

Frater J. Verschueren at Stein reported 609 young raised from 1103 eggs laid in his boxes in 1929—55.2 per cent of success; considerable trouble was experienced with sparrows, both House and Tree Sparrows, I suppose.

Acclimatization and declimatization. This is an elaborate theory which Wolda applies both to birds and man. He believes that a bird with a long breeding season with sets of equal size is becoming acclimatized, while one with a short season laying typically a single clutch of many eggs with occasionally a much smaller second set is becoming "declimatized" and will disappear. The former are usually large birds, strong singers, with marked sexual dimorphism and dark eggs (7, p. 517).

The author makes many categorical statements on subjects that are still far from settled. For instance:

In very favorable years (meteorologically) the number of broods that perish is large, in unfavorable years small, for under the former circumstances eggs are laid that lack the necessary vitality for successful development (9, p. 455). However, in another place he says that in unfavorable years the sets are large and food is scarce, so that a high mortality results (10, p. 7). Earliest and latest layings tend to abnormality and replacement broods are inferior, for these do not correspond with the regular periodicity of the organisms (9, p. 455). Small layings have more chance of success than large ones, hence species that make several small layings are most abundant (10, p. 5).

My own experience does not support any of these assertions; as for the last sentence, how about Starlings and Crows both here and in Europe? I must confess that I have not carefully studied all the tables and graphs of human birth rates and death rates, but to judge from these sample statements on the breeding behavior of birds, the theory does not appear to me a promising path to follow in the solving of biological problems.

These ornithologists have the great advantage of a large population of birds that come readily to nesting boxes, and they are in a position to investigate many vital problems in the breeding biology of birds, especially if banding is generally adopted. They are doing important work, which unfortunately is almost unknown outside of Holland. It would be a splendid thing if a report on the results of the twenty-four years of study should be published in English or German, letting the facts speak for themselves and not trying to fit them into any preconceived theory.—Margaret M. Nice.

A Malaria-like Disease of Ducks Caused by Leucocytozoon anatis Wickware. By Earl C. O'Roke. Bull. No. 4, Univ. Mich. School Forestry and Conservation, Ann Arbor, Mich., 1934. Pp. 1-44, pls. I-V. Price, 25 cents.

Dr. O'Roke investigated a disease among wild and domestic ducks in northern Michigan. He found that a protozoan *Leucocytozoon anatis* Wickware was responsible. He also found that the disease was transmitted by the black fly (*Simulium venustum*). In some areas the ducks were 100 per cent parasitized, in other areas no evidence of the parasites was found. The presence or absence of the black fly determined whether the area was parasitized or not. Young parasatized ducklings found in a marsh where the black fly does not occur would be evidence that the birds had not been bred locally, but were migrants. Young ducks which have been infected, with subsequent recovery, are likely to be stunted and weak. Many recovered ducks act as carriers to infect the black flies in the next season, the latter to spread the infection during the summer season. Dr. O'Roke has made some studies also on the control of this disease. No great success was obtained in the medicinal treatment of the disease. The drugs used were plasmoquin, quinine dihydrochloride, and quinine sulphate. However, control through management was found to be practical in domesticated ducks. No suggestion was made for control in wild ducks.—L. W. Wing.

[Editor's Note. With reference to Dr. O'Roke's work we might suggest experimentation with Atabrine (Winthrop) in addition to the other drugs used. Atabrine has been found to have a remarkable effect in destroying the malaria parasite in the human body (see a report by Appelbaum and Gelfand in Amer. Med. Journ., May 19, 1934, p. 1664), and might have a similar effect on other protozoan parasites].

Birds of Nunivak Island, Alaska. By Harry S. Swarth. Pacific Coast Avifauna, No. 22, March, 1934, pp. 1-64, 4 figs. Price, $2.00 (Address W. Lee Chambers, Bus. Mgr. Cooper Ornith. Club, 2068 Escarpa Drive, Eagle Rock, Los Angeles Co., Calif.).

This report is based chiefly upon material collected in 1927 by the late Cyril Guy Harrold on Nunivak Island, in the Bering Sea. This region is Nearctic, but is so close to the Palaearctic region that species from the latter would be expected, and several were found. The paper is a contribution to distributional ornithology.—T. C. S.

Report on the Food of Five of Our Most Important Game Ducks. By W. F. Kubichek. Ia. State Coll. Jr. Sci., VIII, No. 1, 1933, pp. 107-126.

The five ducks here reported upon are the Redhead, Canvas-back, Ring-necked Duck, Greater and Lesser Scaup Ducks. The ducks were collected from most parts of their breeding range. The study is based on the stomach contents of 3,127 birds. The animal food consisted of mollusks and insects. The amount of insects taken was quite small, but the season in which the specimens were collected may partially account for this. The two scaup ducks consumed relatively large quantities of mollusks (mostly snails, but some bivalves). The suggestion is made that mollusks may have been taken for grit in lieu of gravel and sand, but the percentages and numbers of shells in some of the cases was quite convincing evidence that they were taken for food.

The most important plant groups found in the stomachs were: wild celery and its allies, pond weeds, grasses, including wild rice, algae, including *Chara*, sedges, arrowhead (Wapato), and water lily. The results of this study indicate

that the wild celery, or eel grass (*Vallisneria*) is not as important a duck food as generally supposed. A useful tabulation of percentage data is given, showing at a glance the relative quantities of various foods in this examination of the five species.—T. C. S.

HISTORY AND LIST OF BIRDS OF MIDDLESEX COUNTY, ONTARIO. By W. E. Saunders and E. M. S. Dale. Trans. Royal Canad. Inst., XIX, Pt. 2, 1933, pp. 161-248+index.

This list includes 267 species with five additional species considered to be of hypothetical occurrence. The species are well annotated, giving one a fairly definite conception of their status in this locality. Plenty of work has been done in this region, but only two or three lists have been heretofore published. Trinomials are freely used and, no doubt, specimens were at hand to substantiate all such enumerations. An index without folio numbers is provided.—T. C. S.

A SYSTEMATIC CLASSIFICATION FOR THE BIRDS OF THE WORLD, REVISED AND AMENDED. By Alexander Wetmore. Smithson. Misc. Coll., Vol. 89, No. 13, 11 pp.

Early in 1930 Dr. Wetmore published a similar classification in the Proceedings of the U. S. National Museum (Vol. 76, Art. 24). This scheme is now superseded by the present one.—T. C. S.

A REVISED LIST OF THE BIRDS OF SOUTHWESTERN CALIFORNIA. By George Willett. Pacific Coast Avifauna, No. 21, 1933, pp. 1-204. Price, $4.00 (Address W. Lee Chambers, 2068 Escarpa Drive, Eagle Rock, Los Angeles Co., Calif.).

After a period of twenty years the region named in the title is presented with a revised bird list by the author of the earlier one. The revision was needed because of advances in ornithological knowledge, encroachment of civilization, and changes in nomenclature. It is not often that an author is thus permitted to revise his own list after such a length of time. The revised list includes 446 species and subspecies, which are distributed by families and by orders, as shown on page 8. The annotations under each form deal with the status only, with liberal references to the literature. Twenty-nine forms are placed in a separate list.—T. C. S.

It is announced that the regular edition of Dr. Thos. S. Roberts' two-volume "The Birds of Minnesota" is exhausted (except in the deluxe binding at $25). But an abridged edition is now offered which contains the ninety-five beautiful colored plates and a brief description of each of the two hundred and ninety-five birds shown on the plates. This book of 206 pages and plates may be obtained for $2.50; or the plates alone may be had in a portfolio for $1.50, from the University of Minnesota Press. The plates, it will be remembered, are reproduced from paintings by five of the leading American bird artists; and one plate is by the late L. A. Fuertes.

The *Florida Naturalist* for April contains a list of 140 birds for Merritt's Island in 1932 and 1933. A Magpie is reported for Palm Beach. A full statement of the business of the Florida Audubon Society completes this number. This magazine is edited by R. J. Longstreet, Daytona Beach, Fla.

The *Migrant* for December, 1933, has an article by Mr. B. Coffey on the Painted Bunting, and another on the nesting of the Duck Hawk by F. M. Jones. The volume index shows that four numbers were issued during 1933, aggregating fifty-two pages. The editor is Mr. George B. Woodring, 1414 Stratton Ave., Nashville, Tenn.

The *Chickadee* is published four times a year by the Forbush Bird Club at $2.00 (address the editor at 12 State St., Worcester, Mass.). The December number gives an interesting report on the destruction of birds by a newly erected beacon light on the summit of Mount Greylock. The beacon was erected as a war memorial, but its utility is not explained. During the last fall migration large numbers of warblers flew against the light and were killed. It is reassuring to find that the same news item was able to report that soon after the destruction was observed the light was shut off during the period of danger to the birds.

The *Raven* seems to arrive more regularly and frequently than any of the other local bird periodicals. It is edited and published by Dr. J. J. Murray, Lynchburg, Va. The March number contains a report of the fourth annual meeting of the Virginia Society of Ornithology, at Alexandria. Several distinguished guests from Washington were on the program. The old officers were re-elected for another year.

A new mimeographed monthly periodical is announced under the title, "The Night Heron", and is edited by John O. Felker, 8 Fair Oaks, St. Louis County, Mo. The subscription rate is 50 cents a year. The first three numbers, which we have seen, contain many interesting local items.

In the "Bulletin to the Schools of the University of the State of New York" for March 15, 1934, Dr. A. A. Allen reports a new bird for North America, the Trinidad Petrel (*Pterodroma arminjoniana*). The specimen was captured alive a few miles from Ithaca, N. Y. When the bird died it was prepared and submitted to Dr. R. C. Murphy, who made the identification. This issue of the magazine was devoted entirely to bird material.

The Yellowstone National Park Nature Notes for November-December, 1933, (Vol. X, Nos. 11-12) is devoted to the wild fowl of the Park. The status in the Park or the swans and ducks during recent winters is presented.

The *Flicker* is a mimeographed quarterly of the Minnesota Bird Club, and published in February, May, October, and December. The annual dues are $1 00, and may be sent to the Secretary-Treasurer, Mr. Kenneth Carlander, 4227 Harriet Ave., Minneapolis, Minn. The editor is Mr. Ralph Woolsey, 23 South Terrace, Fargo, N. D. The issue for December, 1933, contains a biographical sketch of Donald Fischer with a full page half-tone portrait; and also a paper on the field marks of Minnesota shore birds. The February, 1934, number presents a biographical sketch and half-tone portrait of Stanley Stein. Numerous notes of local interest appear in each issue.

The *St. Louis Bird Club Bulletin* is edited by Mr. N. R. Barger, 801 DeMun Ave., St. Louis. It is issued monthly except in July, August, and September, and is $1.00 per year. The issue for December, 1933, has a brief discussion of the problems of the relation of muskrats to birds in the sanctuaries controlled by the Audubon Association along the Gulf Coast. The February number includes a list of birds known to have a flight song. Fourteen American species are mentioned, viz., Bobolink, Purple Martin, Lapland Longspur, Sprague's Pipit, Lark Bunting, Vesper Sparrow, Purpls Finch, Goldfinch, Ovenbird, Louisiana Water-

Thrush, Maryland Yellow-throat, House Wren, Grey-cheeked Thrush, and Yellow-breasted Chat. Readers are invited to add to the list. In the March number three more were added, viz., Woodcock, Pectoral Sandpiper, and White-throated Sparrow. The Upland Plover and perhaps a number of other shore birds might also be added. This number also has an article on plants that are attractive to birds.

Volume III, Number 1 (which is apparently the April number for 1934, though not dated) is devoted to the memory of Mr. Otto Widmann. This number is printed, and carries a large halftone portrait of Mr. Widmann and two full pages of his remarkable hand-writing, the latter being a letter on the European Tree Sparrow in the vicinity of St. Louis. Many comments have been made about Mr. Widmann's writing. The letter which is reproduced was written when Mr. Widmann was 89 years old, and shows scarcely less precision than his penmanship of earlier years. There are also many appreciations, and some very interesting incidents are related. A page is given to the enumeration of Mr. Widmann's published writings, probably not complete. Copies of this Memorial Number may be had for 25 cents by addressing Miss Elizabeth Golterman, Educational Museum, 3325 Bell Ave., St. Louis. All students of ornithological biography will find it a treasured document. Mr. Widmann was a thorough and appreciative student of our native bird life, but above that he was a warm and sympathetic friend of people.

The *Snowy Egret* is issued occasionally by H. A. and R. E. Olsen, at 172 Manchester St., Battle Creek, Mich. Two numbers were issued in 1932 and apparently the same number in 1933. The winter number for 1933 (Vol. VIII, No. 2, and the last one we have seen) contains the following statement: "In the future it will be the policy of this paper to refer only to species, unless the sub-species has been specifically determined by measurements. That is, instead of printing eastern robin, we will only print robin, unless it has actually been determined that the bird is an eastern robin. We feel that the identification of sub-species by locality alone is inaccurate." This is a courageous and sensible step. Other ornithological magazines will be slow to follow suit because they are more firmly bound up with tradition and authority, from which it is very difficult to break away.

News from the Bird-Banders is issued quarterly by the Western Bird-Banding Association, at Berkeley, Calif. This periodical is not only well mimeographed, but usually contains one or more articles of general interest. The volume for 1934 is the ninth, and the January number contains several excellent reviews of recent work. The April number calls attention to the fact that there has arisen in England some criticism of the general inclusiveness of the territory doctrine. There is also a statistical report showing the number of each species banded in each state in 1933 within the area of the W. B. B. A.—a total of 37,174. Prof. O. A. Stevens reports that he has banded a total of 3,015 Harris's Sparrows at Fargo, N. D.

Inland Bird Banding News for December, 1933, and March, 1934, have been received. In the December number Mr. M. J. Magee presents some thoughts on the effect of environment on the color intensity in the plumage of the Purple Finch. The March number contains a biographical sketch of Norman Criddle and numerous other brief notes. This mimeographed quarterly is issued by the Inland Bird Banding Association, Edward R. Ford, Secretary, 2013 Greenleaf Ave., Chicago, Ill.