

ORNITHOLOGICAL LITERATURE

THE CANVASBACK ON A PRAIRIE MARSH. By H. Albert Hochbaum. Illustrated by the author. Amer. Wildl. Inst., Wash., D.C., 1944: 6 × 8½ in., xii + 201 pp., 19 pls. (1 col.). \$3.00.

A notable book, characterized by careful observation, brilliant discoveries, and excellent writing. For the first time we now have an adequate account, based on both wild and captive birds, of territory in ducks.

"This report attempts to describe, in chronological sequence, what the Delta Station has learned since 1938 about the principal events of the duck summer. . . the Canvasback is used as a 'base-datum,' and the other nine ducks which breed at Delta are compared with it" (Leopold, Pirnie, and Rowan in the Introduction).

A vivid description is given of the flora and fauna of the Delta Marsh, 36,000 acres in size, just south of Lake Manitoba, "a naturalist's paradise," "the home of wildfowl from the first break of ice in spring until ice comes again in autumn." Although the Canvasback (*Nyroca valisineria*) is the central figure in the book, comparisons are continually made with the many other nesting ducks of the Marsh. Courtship in all the ducks breeding in the Delta region falls into three periods: pre-nuptial, when the drakes display to a hen, which "chooses" one, and a pair is formed; a period of non-display (corresponding to the cessation of song after pair-formation in many passerines); nuptial courtship, when the territory is selected. The first period is the most intense; the last serves as mutual stimulation and a challenge to intruders.

"At the time the pair is ready to nest it takes title to a small water area of the breeding marsh—a pothole, the corner of a slough, or a portion of bay edge. Day after day, as long as drake and hen remain together as a pair, they may be found on this water area. Here the pair obtains most or all of its food. Here the drake and hen loaf and preen together, and here the drake waits for his hen while she is occupied at the nest. Here the drake serves the hen. This water area occupied by the pair is the 'territory'" (p. 56). The female selects the territory, and the nest is usually located beyond its borders. The author believes that the "primary function of territorial defense behavior in ducks is to establish isolation from sexually active birds of the same species during the copulation link of the reproductive cycle." He continues: "Territory in ducks is defense behavior plus a special plot of marsh. It is these together by which a drake, through his dominance, establishes his isolation. On his own small portion of this world with which he is familiar, and to which he has become conditioned, a drake is 'king of the mountain.' Beyond his own domain he is no longer a dominant individual" (p. 87).

Much valuable information is given on the nesting of the various ducks. "Injury feigning" is most intense in the Pintail, Blue-winged Teal, and Lesser Scaup; the Pintail and Teal perform as vigorously when their young are full-grown as when they are newly hatched (p. 106), whereas Canvasbacks and Red-heads feign only with a newly hatched brood. Dogs and coyotes were observed to be lured away from the young by this protective behavior. When danger threatens Blue-winged Teal, the young dash to cover; under like circumstances, young of the diving ducks make for open water and dive.

Ducks recognize a species or an individual at great distances (as much as 300 yards) by sight, and also recognize their mates by voice. Adult captive ducks remembered each other for a month (pp. 36-38).

In the final chapter, on Management, one of the most interesting problems discussed is that of sex ratio. The excess of males in our waterfowl populations is most marked in the diving ducks, where the ratio averages 60:40 in most species—a very disturbing situation. All evidence points to a nearly balanced sex ratio at hatching, while the Delta bag tally showed "the kill of juveniles for all species was 1,502 males and 1,522 females, almost a perfect 50:50 sex ratio."

More adult females than males are shot on the breeding grounds, due to "their delayed wing molt which, under some conditions, makes the hen more vulnerable to gun pressure" (p. 151).

Three appendices are devoted to acknowledgements; scientific names of birds, plants, and mammals mentioned in the text; and a bibliography. A good index completes the volume. The numerous sketches by the author add to the value and charm of the publication. To the serious bird student, the "bird lover," the game manager, and the sportsman, the book will prove a mine of information on the biology and behavior of the prairie-nesting ducks.—Margaret M. Nice.

AMERICAN GAMEBIRDS: COLOR PLATES AND TEXT. By Louis Agassiz Fuertes. American Wildlife Institute, Investment Building, Washington 5, D.C., 1943: 14 x 12 in., 1 color pls., 5 pp. \$2.50.

These colored plates and the accompanying brief text by the artist, apparently first published as a game calendar about 1906, are now being given wider circulation in a more permanent form by the American Wildlife Institute. The species treated are: Ruffed Grouse, Willow Ptarmigan, Upland Plover, Wild Turkey, Canvasback, Wood Duck, Mallard, Sandhill Crane, Bob-white, King Rail, and Canada Goose. At least two of these, the Wood Duck and Bob-white, are already familiar to bird students because of their publication in well known books by Forbush and by Roberts.

The paintings are, of course, not equal to the best work of Fuertes' later years, but they still rank high among modern bird paintings. Probably the Turkey and the Sandhill Crane will meet with the most general approval. The text contains some interestingly "dated" statements. The artist held small hope of any comeback of the Upland Plover, and he recommended protection of the Wood Duck from spring shooting because of the "imminent danger" of its "complete extinction."—J. Van Tyne.

THE ILLUSTRATED ENCYCLOPEDIA OF AMERICAN BIRDS. By Leon Augustus Hausman. Garden City Publishing Co., N.Y., 1944: $5\frac{1}{2} \times 8\frac{1}{4}$ in., xix + 541 pp., 707 illustrations. \$1.98.

A more accurate title for this book would be "An Illustrated Dictionary of the Families and Species of North American Birds," for there are no articles on the various branches of ornithology such as would be necessarily included in any true encyclopedia. The publishers, rather than the author, are probably to be blamed for the quite unjustified claim that this book contains "everything you want to know about the birds of North America." However, by printing two columns of small type on each page a tremendous amount has been compressed into a moderate-sized book. For each bird in the A.O.U. Check-list the author gives a very brief description, a condensed statement of the range, and in most cases a short account of its habits. There is also a brief account of each of the 75 families of birds found in North America. Unfortunately, the condensation of many of the bird descriptions has been carried so far that they are quite useless for any purpose of identification.

The alphabetical system of arrangement is not without its drawbacks. Unless the beginner constantly refers to the systematic list at the back of the book, he is almost sure to acquire many wrong ideas and unfortunate mental associations. For example, he will find most of the Compothlypidae grouped together, though a few, such as the Redstart, are, of course missing from that section. On the other hand, he will find there members of the Sylviidae such as the Willow Warbler and Grasshopper Warbler.

Apparently the only bird included which is not North American is Archaeopteryx—entered, strangely enough, under the name "Lizard-tailed Bird."

The black and white illustrations by Jacob Bates Abbott are surprisingly successful. In spite of their small size—most of them are two inches square or less—a large proportion of them will be quite useful to beginners in identifying birds. (In the absence of the text, however, a number of the pictures would defy identification by the most expert ornithologist.)

Also, for a book that purports to be a reference source, the text contains a disturbing number of errors. Many of the mistakes are merely misspelled words, but an occasional whole passage, such as the paragraphs on the ranges of Harlan's Hawk and Kirtland's Warbler, are entirely incorrect. One also finds Kennicott's Willow Warbler described in the text as "in reality a Thrush. . . . Family *Turdidae*," though in the systematic list it appears correctly under the Sylviidae.

The volume concludes with a synonymy of common names, and a bibliography of 88 books "useful to the layman in the study of birds."

If the title and the publisher's claims do not mislead people too much, the book may prove to be a very useful reference volume for a considerable public not reached by any other bird book.—J. Van Tyne.

NATURAL PRINCIPLES OF LAND USE. By Edward H. Graham. Oxford University Press, New York, 1944: 5½ × 8¾ in., xiv + 274 pp., 32 pls., 8 figs. \$3.50.

Dr. Graham here introduces a new technician in the "land management biologist" and presents an up-to-date review of progress in conservation on the land. Through his experience and travel as an ecologist for Carnegie Museum and more recently as chief of the biology division of the United States Soil Conservation Service, Graham has seen the growing need of applying ecological principles to conservation. This experience has led him to conclude that "it is the particular responsibility of a new technician—the land management biologist—to look to the relation between the management of rural land, whether it be cropland, pasture, range, woodland, or wildlife land, and the complex of plants and animals which attend such management. . . . His task is (1) to increase populations of species that are esteemed for their economic, recreational, aesthetic or other values, (2) to decrease populations of those species that are harmful to useful plants and animals or otherwise injurious, and (3) to maintain a reasonable balance between communities of living things and land use practices."

The function of this new technician is illustrated by selected examples of actual land management problems which are being met and solved daily by the application of ecological principles. Among the tools of the land management biologist are: a knowledge of succession and of indicator species, knowledge of cycles, recognition of growth forms and habitat niches, land use classification, census methods, food chains, and predator control.

Ecological principles of land management as they apply to farms, forests, range, wildlife, waters, exotics, and control methods, are treated in separate chapters. Throughout these chapters and elsewhere in the text is evidence of the material advances made in conservation theory and practice in the United States. These advances are illustrated in the 32 full-page plates of photographs which show conditions before and after conservation principles were applied. The pictures and their accompanying legends alone tell a well knit story of conservation progress and applied ecology. The freshness of the material and the recentness of the progress is illustrated by the bibliography. Of the more than 200 titles, only 13 per cent appeared before 1920, 12 per cent between 1920 and 1930, 75 per cent during the last 14 years. A list of common names used, with their scientific equivalents, and an index complete the book.

The vocabulary is non-technical, the style direct. The book should appeal to a wide range of readers including biologists, foresters, professional land use planners, and land owners, but especially to ecologists and wildlife managers.—Charles A. Dambach.

THE SOCIAL BEHAVIOR OF THE LAUGHING GULL. By G. K. Noble and M. Wurm.
Annals N. Y. Acad. Sci., 45, art. 5, Dec., 1943:179-220. \$50.

This article is a well illustrated and relatively objective account of the social behavior of the Laughing Gull (*Larus atricilla*) as observed in the field at Muskeget Island, Massachusetts, and at Stone Harbor, New Jersey, as well as in a large flying-cage. A somewhat detailed description of the behavior of the Australian Silver Gull (*Larus novae-hollandiae*) as observed at the New York Zoological Park is included. Specific comparisons are made with the social behavior patterns of other species of gulls as recorded in the literature. Interpretation of the results of the study and preparation of the manuscript were carried out by the junior author following the death of Dr. Noble.

It is stated that "captive gulls exhibited the identical behavior pattern of free birds" (p. 208); this may be something of an overstatement, but it promises much for the validity of controlled studies made on birds under convenient laboratory conditions. Identification of sex of birds in the field was based mainly on behavior criteria. Aggressive-submissive behavior was found to play a very important role in sex recognition and pair formation and in territorial maintenance and defense. Numerical data are not presented on the relative frequency of various specific behavior patterns during different phases of the breeding cycle. Though the authors were able to mark a number of incubating individuals in the field, they were not able to establish conclusively the existence of a social hierarchy by which territorial relationships appeared to be modified. A more intensive and prolonged observation of fewer birds might settle this question.

One of the express motives in making this study was to determine the role of the nuptial dress of a black-headed species of gull. Unfortunately, birds whose head plumage the authors disturbed in the field were not seen again, and no extensive laboratory analysis of the problem seems to have been accomplished. With one possible exception, all of the displays which could be presumed to be emphasized by the black head (or vice versa) seem also to be found in white-headed species of gulls. The exception is the behavior described as "head flagging," which often accompanies erect posturing with smooth feathers in the Laughing Gull. But the exact significance of head flagging does not seem to be very clearly established, though it possibly helps to inhibit attack from other Laughing Gulls. The authors cite Kirkman's study (1937) of the Black-headed Gull (*Larus ridibundus*) and conclude that since the nuptial hood of this species is not employed by any special ceremony it is vestigial (p. 214). Nevertheless, the erect posturing of this species often involves "a sudden jerk of the beak to one side," an action which could be interpreted as a ceremony emphasized by the hood just as clearly (or unclearly) as the head flagging of the Laughing Gull could be interpreted as a ceremony emphasized by its black head. The omission of page numbers for references to Kirkman's and other books makes checking of comparisons a rather laborious task.

The authors conclude that communal display in Laughing Gulls serves "to provide the maximum number of contacts between many birds that are in an optimal physiological state for reproduction" (p. 217); they disagree with Darling's thesis (1938) that group display increases reproductive success in gulls by increasing general sexual activity and synchronization, on the grounds that "a variety of sexual behaviors . . . performed by one pair provoked aggression in neighboring birds" (p. 209). No data are presented on fecundity or reproductive success in relation to size of groups, and it would seem that although Darling's evidence in itself was inadequate he had more data in favor of his hypothesis than Noble and Wurm have presented against it.

On the whole, this paper does not measure up to the previous excellent work by these authors on the Black-crowned Night Heron (*Auk*, 1938, 1942), but it is nevertheless a very valuable study.—Nicholas E. Collias.

AVES. By W. L. Slater. Zoological Record, 79, Sect. 17, 1942. Zool. Soc. London, 1944. 6 s. (Obtainable from: Natural History Books, 6843 Hobart Avenue, Chicago 31, Ill. \$1.55.)

William L. Slater has again performed a great service to ornithologists by preparing the *Aves* section of the Zoological Record. For those unfamiliar with this invaluable index we should perhaps explain that it is an annual list of the ornithological titles—books, articles, and notes—published throughout the world. The list is fully cross-indexed taxonomically, geographically, and by 114 logically arranged subject headings.

The wartime retrenchment in printing and distribution of the results of scientific work is evident in the present list, which comprises only 1,076 titles—the smallest number for any peace-time year since 1925.—J. Van Tyne.

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