

RECENT LITERATURE

'The Handbook of British Birds,' Vol. 3.—The third volume¹ of this splendid work follows promptly on the issue of the second (previously noticed in 'The Auk'). It comprises the British Falconiformes, Ciconiiformes and Anseriformes, of which at least the first and the last are groups of especial interest to sportsmen and ornithologists alike. In all, some ninety forms are included as entitled to unquestioned place on the British list, and of these thirty-seven or less than half are species confined to the Old World, while no less than forty-four are represented in North America either by the same forms or by closely related races. The remaining nine are North American species that occur as stragglers in the British Isles.

As in the two preceding volumes, the technical characters are given for the different orders, families and genera, while the subject matter following under each species is compactly arranged under the heads of habitat, field-characters and general habits, voice, display and posturing, breeding, food, distribution in British Isles, and abroad; then follows a precise and detailed description of the various plumages with emphasis on critical points, concluded by a paragraph on characters and allied forms. In presenting these accounts the authors have drawn freely on published sources covering the habits and distribution in both Europe and America, so as to give as nearly as possible a complete outline of the biology and characters of each species.

The well-executed plates in color form a special feature since not only is the series of smaller figures (four pictures to a plate) continued, but all the British species of geese are shown in color (two pictures to a plate) from paintings specially prepared for this work by Peter Scott, with an additional double plate in black and white by J. C. Harrison, showing the male and female of nineteen species of ducks in flight to illustrate their field marks. Another unique feature consists in four plates from photographs showing samples of typical down feathers from nests of geese and ducks, as an aid in the identification of nests. Other plates and numerous text-figures illustrate various details of distinction between allied forms. Separate indexes are given for English and Latin names.

A new point in nomenclature is that the Pink-footed Goose, which breeds in East Greenland, is now made a subspecies, *Anser fabalis brachyrhynchus*, of the Bean Goose. The Osprey is placed in a family by itself, after critical discussion of its peculiar characters. Further, in a note following the Introduction, it is shown that *Martula*, used in the second volume for the House Martin, must after all be considered a synonym of *Riparia*, and give place to *Delichon*.

In no other single volume is such a wealth of authentic and up to date information to be found concerning the habits and characters of the species treated. It should prove a standard work for frequent consultation by ornithologists on both sides of the Atlantic.—G. M. ALLEN.

Lockley's 'I Know an Island.'—What is it about an island that so strongly appeals to those of our race? Is it perhaps a desire for a bit of solitude where birds are more than people? Or may it be that the limits of the known world become reduced to a size that we can compass, 'since our hearts are small'? In this attractive volume² the author has given us a vivid glimpse of some of the islands of the Welsh

¹ The Handbook [of] British Birds [Vol. III (Hawks to Ducks). By H. F. Witherby, Rev. F. C. R. Jourdain, Norman F. Ticehurst and Bernard W. Tucker. 8vo. x + 387 pp., 39 pls., 46 text-figs., 7 maps, June 1939; H. F. & G. Witherby Ltd., 326 High Holborn, London W. C. 1. Price 25 shillings.

² Lockley, R. M. I Know an Island. 8vo, 300 pp., illustr., map, 1939; D. Appleton-Century Co., New York and London. \$3.00.

and Irish coasts, takes us on a visit to Heligoland, and leads us still farther on to the Orkneys, the Shetlands, the Faeroes, and even to the Westmann Islands off the south of Iceland. Inspired by a love for the rugged beauty of these outlying rocks and especially for their multitudes of seabirds, he selected the island of Skokholm off the coast of Wales as an abiding place where, surrounded by these wild inhabitants, he might form their closer acquaintance and gradually extend his journeys to neighboring havens. As an ornithologist the author is already well known for his work at Skokholm, where in 1934 he and his wife were hosts to the International Ornithological Congress. In this book, however, the emphasis is more on the general aspects of life on the contrasting islands, their individuality, their few and sturdy inhabitants, the swarming rabbits, the myriads of puffins, gulls, and shearwaters, the fishing and the seals. Yet there is much of incidental value on the birds. It appears that the Black-backed Gulls regularly attack and devour such large birds as puffins. The gannetry on the neighboring Grassholm is described. On some of the isles, the Manx Shearwaters compete with the rabbits for nesting burrows. On the island of North Ronaldshay the local small breed of sheep prefer seaweed to clover and the lambs when first born in May are often carried off alive by the Black-backed Gulls. Fulmars are developing interesting relations with their competitors and in the Faeroes have so increased of late years that they have driven out from some of the nesting cliffs the more edible and therefore more valuable guillemots and razorbills. For the islanders, who depend much on the seabirds for food, reckon the Fulmar as not worth eating except under necessity, for its flesh is as dry and tasteless as paper.

Here is a sympathetic and entertainingly told account of these islands that to most of us are merely names, yet teem with life and breed a race of simple, hardy people who prefer to live in freedom and wrest a bare existence from the sea and the land. The many illustrations enhance the description and give one a new interest in these isles of the North Atlantic. The lack of an index, however, at times makes it difficult for the reader to find the many interesting notes on birds that occur in the accounts of the various localities.—G. M. ALLEN.

Robinson and Chasen's 'Birds of the Malay Peninsula.'—The fourth volume of this series, begun in 1927 by the late H. C. Robinson, now appears under the authorship of his collaborator, Mr. Chasen, and fully sustains the excellence of the three previous volumes of the series. It was Robinson's plan to prepare a bird manual for the use of amateurs in Malaya, rather than for museum workers abroad, in the hope of arousing a greater interest in birds throughout that country. To this end he projected five volumes, each of which should cover the birds of a particular type of country so that a resident in a given area might more easily become acquainted with the avifauna of his special neighborhood. The first volume, issued in 1927, therefore treated of 'The Common Birds'; the second (1928) included 'The Birds of the Hill Stations'; the third (1936) treated of 'Sporting Birds, Birds of the Shore and Estuaries'; while the fourth¹ here noticed covers 'Birds of the Low-country Jungle and Scrub.' The author, whose experience in charge of the splendid bird collection at the Raffles Museum, has given him unrivalled opportunities for studying and collecting Malayan birds, has carried on the work in accord with Robinson's original plan, and while admitting that this method of treatment is open

¹ Chasen, Frederick N. The Birds of the Malay Peninsula | a general account of the birds | inhabiting the region from the | Isthmus of Kra to Singapore with | the adjacent islands | Volume IV: The birds of the low-country | jungle and scrub | (with a notice of all species occurring in the lowlands) | large 8vo, xxvi + 487 pp., 25 col. pls., map, May 1939; H. F. & G. Witherby Ltd., 326 High Holborn, London W. C. 1. Price 35 shillings.

to some criticism and may involve occasional repetition or the inclusion of the same species in different volumes, nevertheless is convinced that the original choice has proved a practical one, for as a result of the interest aroused locally by the first volume, more has been added to the knowledge of life histories in the succeeding decade than in the previous fifty years.

The opening chapter is an abridged account of the geography of the Malay peninsula based on that by Robinson in the first volume, and is accompanied by a useful map. The following 419 pages take up in systematic sequence the jungle birds, which except for a finfoot and a grebe, birds of prey and hornbills, comprise a host of smaller species, barbets, broadbills, pittas, cuckoo-shrikes, bulbuls, babblers, thrushes, white-eyes and many others. The special method of treatment brings vividly before one the wealth and variety of birds of the denser growth in the eastern tropics, some of dull, others of strikingly brilliant and variegated plumage, making this in many ways the most interesting of the four volumes. For each species the author provides, in addition to the Latin name, a formal English one, a helpful feature for the amateur as well as the professional naturalist. A diagnosis and a description of plumage then follow, with a brief statement of range in the region and outside of it, and finally a short paragraph on nesting and one on characteristic habits. Keys are provided with each of the major groups, while in an appendix are a key and summary descriptions of the waterbirds included in the preceding volume. The twenty-five beautiful colored plates by Grönvold depict nearly twice that number of species and add greatly to one's appreciation of the variety and significance of color in birds of this habitat.

Among many interesting notes are occasional longer digressions, such as those on the plumage changes of sunbirds, some of which, the author points out, show in the male a post-nuptial dress like that of the female, to be followed in 'spring' by a complete molt to the characteristic brilliant breeding dress. There are also some valuable comparative notes on the relation of the feeding habits of these nectar-sippers to the types of flowers on which they feed.

These splendid volumes should prove a useful and stimulating preliminary to a series of later volumes planned to deal more especially with the life histories of the birds of Malaya, and will prove helpful to a far wider circle of ornithologists than those for whom they were specially written.—G. M. ALLEN.

Taverner's 'Birds of Canada' has been prepared with the object of providing in a single volume¹ a handbook covering the entire avifauna of Canada for the purpose of stimulating an interest both aesthetic and practical in the study of Canadian birds. The author's own familiarity with northern birds insures a thorough treatment and his wide experience in the field has given him an appreciation of the sort of facts that the less expert will find helpful. The introductory chapter explains the scope and method of the book, with sections on classification and geographic distribution, migration and protection. Following a chapter giving a list of important reference books and of papers covering special regions, is an illustrated key to the obvious characters whereby any Canadian bird may be identified. A strictly dichotomous key might have been easier to follow, with alternative choices. For example, under birds with "Feet fully webbed; A, toes four," we find as further subdivisions, "a, tarsus flattened" leading to loons, while under the alternatives "b" and "c," nothing further is said of the tarsus, but "b" gives characters of wing and tail,

¹ Taverner, P. A. *Birds of Canada*. 8vo, 445 pp., 173 plates in color, 488 black and white illustrations, 1938; Musson Book Co., Toronto, Canada; and David McKay Co., 804 South Washington Square, Philadelphia, Pennsylvania. \$4.00.

while "c" is concerned with the webbing of the feet. However, a little familiarity with the method will doubtless remove such difficulties. Under each of the species, taken up in the A. O. U. 'Check-list' order, are given the official vernacular name, followed by other names if any, then the name used by French-speaking people, the Latin name, then the distinctive characters, field marks, nesting and distribution in small type, with a brief account of the economic status or characteristic habits in larger print. It is thus a guide and handbook rather than an exhaustive treatise, yet contains a vast amount of useful information packed into small compass.

In the treatment of wide-ranging species with local representative forms, the author adopts the logical point of view that too great emphasis upon subspecific distinctions tends to obscure broader relationships of value. Thus in writing of the Raven or the Magpie, the range is given so as to include the distribution in both old and new worlds, followed by a special paragraph mentioning the subspecies and defining their general areas. Migration dates might have been useful, but the subject is dismissed in two pages of the introduction. Nevertheless in a book of this type one might have expected to find in the case of the more-northern breeders some indication of the times of their coming and going, but evidently this was outside the scope attempted. The many colored plates by Allan Brooks and F. C. Hennessey illustrate a large percentage of the birds treated, but especially helpful are the abundant text-figures in black and white, the work of the author himself, which show minor distinctive points and provide an unusually valuable aid for field identification. In addition to an exhaustive index of English and Latin names, there is a special index to the French vernacular names, and one to the A. O. U. numbers. The book is thus far more than a mere combination of the author's previous two works, covering respectively the birds of eastern and western Canada, but a thorough and well-illustrated guide to the identification in field and laboratory, of all the Canadian species, with helpful indications of other points of major interest in their study. It might conceivably form an introductory volume to a future one in which the northern birds would be treated from a life-history point of view.—
G. M. ALLEN.

Lincoln's 'Migration of American Birds,' the latest addition to Doubleday's well-known 'Nature Library,' is a welcome contribution¹ to the abundant literature on this subject, providing not only a well-written summary of the general aspects of bird migration, but more important still, a large amount of new matter derived from the author's own investigations in the field and his study of the voluminous migration data now accumulated in the files of the United States Bureau of Biological Survey, particularly those resulting from extensive banding operations in the last decade or more.

Opening chapters sketch again a brief history of the older beliefs and theories of migration and the development of our knowledge on the subject. The causes of migration are still, the author points out, largely unsolved, but at least some of its advantages are obvious, while the fact that nearly every species performs its journeys in a special way, indicates that these causes are likely to have been multiple and have developed responses to the particular needs of each. Food or its lack seems one of the most likely reasons for changes of location by populations of birds yet many species start forth while food is still abundant. There is thus some stimulus requisite for the individual bird in order to make it start on its migration. The nature of this

¹ Lincoln, Frederick C. *The Migration of American Birds*. 8vo, xii + 189 pp., 12 colored plates, 22 text illustrations, 1939: Doubleday, Doran and Co., New York City. Price \$4.00.

stimulus is regarded as probably physiological, due in spring to gonadal development; but what of the autumnal urge? No reference is made to the many experiments of European ornithologists as to the latter nor is the recent important paper of Baldwin and Kendeigh mentioned in which the suggestion is made that there may be a relation between the weight of a bird and an optimum temperature at different times of year inducing change of location. The suggestion that migration may have been brought about originally by the climate of the Ice Age does not, as the author hints, seem to carry the matter far enough into the past. We are still therefore forced to admit that "all theories thus far advanced to account for the origin of the migratory habit are subject to unanswered criticisms."

Succeeding chapters admirably sum up the method of migration, its times and its dangers, with illustrations drawn from data on North American species. The all too brief chapter on pelagic migration exposes our inadequate knowledge of the subject, but nevertheless might have provided a better account of what is known of the causes determining the distribution and movements of American seabirds. In considering "vagrant migration," those irregular mass movements of such birds as Snowy Owls, or crossbills, no clear distinction is made between what Heape terms 'emigration' as in the case of the owls, and 'nomadism' as illustrated by the crossbills, but these are finer points. The chapter on bird banding tells of this newer method of studying movements of individual birds and is largely devoted to the statement of cases of interesting recoveries drawn from a large variety of species. One might have wished for a fuller account of the important facts now brought out by the study of banding returns, but perhaps the time is not yet ripe for their presentation. The final chapters are devoted to a study of 'flyways' as the principal migration routes are now to be called, with interesting suggestion as to the method of their development.

Twelve full-page colored plates brighten up the volume, and are reproduced from the familiar Fuertes paintings for Eaton's 'Birds of New York.' More important as an aid in visualizing the vast extent of migratory movements are the twenty-two full-page maps on which routes and seasonal-distribution areas are plotted.

As a clear and readable presentation of the main important facts in the migration of North American birds, this book forms a notable addition to the list of works on natural history now available for the 'general reader'.—G. M. ALLEN.

Bent's 'Life histories of North American Woodpeckers' forms the twelfth volume¹ of this series of bulletins, begun twenty years ago. It treats of sixty-four species and subspecies, giving as in previous parts, a condensed account of the habits, distribution, nesting dates and egg measurements as well as a description of plumages and other facts of interest. A wide search through literature for important notes is supplemented by the personal observations of many collaborators, and the aid of the U. S. Biological Survey's immense files of data is acknowledged. While Mr. Bent has borne the main part of the work in preparation of these life histories, a few are contributed by others: that on the Ivory-billed Woodpecker by Arthur A. Allen, those on the Northern Downy Woodpecker and Yellow-bellied Sapsucker by Dr. W. M. Tyler, that on the Red-cockaded Woodpecker by Eugene E. Murphy, that on the Northern Pileated Woodpecker by B. H. Christy.

The woodpeckers form a remarkable group of birds, specialized for their peculiar mode of life to a degree that is reflected strongly in the many external traits, such as

¹ Bent, Arthur Cleveland. Life histories of North American Woodpeckers. Order Piciformes. Bull. U. S. Nat. Mus., no. 174, viii + 334 pp., 39 pls., 1939. Superintendent of Documents, Washington, D. C., price 50 cents.

bill structure, foot structure, tail feathers, gait, that characterize these birds. They have become adapted to strange ways of living and of feeding, some have turned anteaters, some seek fruits, others again may show cannibalistic traits, others make storehouses for nuts. In North America, north of Mexico there are, however, only ten genera with twenty-two species, of which some are widespread and become diversified into numerous subspecies, while others are represented by only a single form. One, the Guadeloupe Woodpecker, an island form, is now extinct, due to the restriction of its range and changes incident to human occupation. In reading through these well-written summaries of our present knowledge of American woodpeckers, one has the impression that there is still much to be learned concerning their more intimate habits. For example, the European ornithologists find that the male woodpecker of some species usually takes over nest duty at night, and there are individual differences in different pairs in the amount of parental care, of which apparently little or nothing seems to have been noticed by American observers. The extraordinary habit of making a roosting burrow for the winter in the case of some species should be further investigated. Evolution of the food-storing habit needs additional study. In this useful summary of Mr. Bent's, the reader will find much to stimulate interest and suggest the needs of more searching observation. Thirty-nine plates of half-tones reproduce some remarkable photographs of these birds, their nests and their haunts. The volume is well indexed and is accompanied by an extensive bibliography. It is a satisfaction to know that this series of bulletins is continuing steadily.—G. M. ALLEN.

Cottam, Martin and Uhler on duck foods.—Two recent bulletins¹ of the U. S. Biological Survey provide timely and important information concerning the food requirements of North American ducks based on the careful analysis of stomach contents from several thousands of ducks taken at representative points. Ducks are of high esthetic, recreational and economic importance, both directly through their habits and appearance and indirectly through the commercial value of the sporting goods and local trade which sportsmen bring. With the alarming decrease in the duck populations of the continent in recent years, it becomes a matter of concern to attempt to build up the stock to something like a former level in order that these interests may be maintained.

In the first of the bulletins, the food habits of the diving ducks are considered. Of these, the Redhead, Canvas-back, Ring-necked, Scaup, Ruddy and Masked Ducks are predominantly plant feeders, while the Golden-eyes, Buffhead, Oldsquaw, Eider Ducks and Scoters are mainly animal feeders. The second of the bulletins makes further summary of some eight thousand analyses of stomach contents, from eleven species of shoal-water ducks and seven of diving ducks. The method of presentation is unusually clear. The United States and Canada are divided into eight major regions: eastern and western Canada, the Atlantic and the Pacific coasts, eastern and western United States, the lower Mississippi Valley and the Gulf coast. For each of these are listed in tabular form the principal food plants used by ducks in the order of their abundance in stomach contents, with Latin and English names, numerical representation, and volumetric percentages shown both by figures and by black lines in proper proportion; in addition a small map is given with each table to show the region to which it pertains. In the second part of the

¹ Cottam, Clarence. Food habits of North American diving ducks. Techn. Bull., U. S. Dept. Agric., no. 643, 140 pp., 10 pls., April 1939. Price 30 cents.

Martin, A. C., and Uhler, F. M. Food of game ducks in the United States and Canada. Techn. Bull., U. S. Dept. Agric., no. 634, 157 pp., 153 pls., March 1939. Price 40 cents.

paper, the food plants are taken up separately according to species, with brief paragraphs on food value, parts eaten, means of identification, and propagation, together with a small map giving the geographic range of each. Animal foods are briefly covered in less detail. A third section deals specially with methods of management and propagation of food plants, and physical factors detrimental or favorable to their growth. The greater part of the second bulletin is given over to a series of 152 half-tone plates reproducing photographs of the chief animals and plants mentioned. The two bulletins together present in condensed form an immense amount of information previously scattered in literature or not available in printed form, and should be of the greatest value not only to the ornithologist requiring to know what ducks feed upon, but also to the conservationist or owner of private preserves, who must have a knowledge of food requirements in order to attract or maintain duck populations on breeding or resting areas. In addition to the many plates in black and white, there are excellent colored plates of the inland diving ducks and the sea ducks by Allan Brooks in the first bulletin, and a colored frontispiece of the Pintail by Kalmbach in the second. Obtainable from the Superintendent of Documents, Washington, for a very nominal sum, these valuable papers cannot fail to prove of great interest and value.—G. M. ALLEN.

Pettingill's 'Laboratory and Field Manual of Ornithology.'—Designed as a laboratory notebook for an introductory college course in ornithology, this¹ forms a convenient guide as well to the gross anatomy of birds and to the identification of families. It is printed in clear multigraph style on typewriter-size sheets, hinged with spiral binding wire at the back, to lie open flat at any point. The foreword states as the general aim of the course outlined: (1) the intensive study of birds as a highly specialized vertebrate type; (2) to provide a basic knowledge with which to pursue advanced work in ornithology; and (3) to promote a keener appreciation of a delightful and enjoyable element of the living world.

The guide lists the requisite material to be provided by the teacher of such a course and offers directions for the student to follow. The external anatomy of a pigeon or an English Sparrow is then taken up in topical sequence and the various parts named, even to such obvious features as "the horizontal fissure called the *mouth*." Outline drawings to be labelled by the student accompany the text; or blanks, to be filled in with drawings, serve to impress such matters on the mind. The internal anatomy is treated in similar style with directions as to what should be looked for, compared or drawn, so that the entire gross structure is covered. Pages for drawings of bills and other characters are followed by a classificatory list of important orders and families with a key to the orders found in the United States and Canada. The student is expected to work out the major characters of 150 representative birds supplied as laboratory skins. Distribution and migration routes are discussed and there are maps to be filled in by the student. Part II, Field Studies, provides directions for the identification and record of habits of various birds seen in the field while the final pages give a useful bibliography of accessible works of reference.

Any student who has thoroughly mastered the subject matter and field work indicated should derive therefrom a good outline knowledge of the general structure of birds. The manual will prove suggestive and useful to all teachers and students in this field as a concise set of directions and guide to observation.—G. M. ALLEN.

¹ Pettingill, Olin Sewall, Jr. A laboratory and field manual of ornithology. 127 pp. (typewriter size). Burgess Publ. Co., 426 South 6th St., Minneapolis, Minnesota. \$1.70.

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