

is before us is in the nature of a memorial, edited and revised by his successor in the Museum of Natural History at Milan, Dr. Egardo Moltoni, associated with Dr. Carlo Vandoni. It is a quarto volume of over 700 pages with 308 text figures or full page half-tones and sixteen colored plates. The illustrations are mainly from water colors by the author with the addition of a few by Dr. Vandoni and illustrate a large number of the 476 species and subspecies so far found in Italy. They vary in excellence and artistic merit but are all satisfactory representations of the subjects that they depict while many are excellent and show the intimate knowledge of the author concerning the actions and poses of the familiar birds of his country.

The text consists of a description of each species with measurements and a brief account of distribution and habits. The nomenclature and classification follow that of Sharpe's 'Hand-List.'

The book is more popular in character than the 'Ornitologia Italiana' of Arrigoni degli Oddi, to which it makes a satisfactory companion, furnishing the illustrations which the latter lacks.

The authors are to be congratulated upon an excellent volume and one which should stimulate interest in birds throughout Italy.—W. S.

Wetmore on 'Birds.'—The Smithsonian Institution is sponsoring a series of volumes dealing with all branches of science. Volume 9 of the series treats of the warm-blooded vertebrates and the first part covering the birds¹ is by Dr. Alexander Wetmore. The intention is to give a résumé of general information regarding bird life such as will interest the reader, without attempting to cover technical matter or to present a systematic account of the species, or even of the higher groups. The chapter headings will give a good idea of the contents of the volume: viz.; Birds in Relation to Man; Adaptations for Progression by Flying; Color and its Arrangement; Ancestors and Ancestry; Migration and its Study; Homes and their Location; Eggs and their Care; Something about Young Birds; Voice and Other Sounds; Studies Afield and in the Laboratory; Food and Economic Relations; The Kinds of Birds in Brief Review.

Dr. Wetmore has exercised excellent judgment in choosing the information that he has presented, with the result that he has included in a small space a surprising amount of important matter. As an additional attraction there are a number of admirable photographs of birds in life and several beautiful color plates from paintings by Allan Brooks. If the other volumes of the series measure up to Dr. Wetmore's contribution it will prove a unique summary of scientific knowledge.

Chapman on the Bird-life of Mts. Roraima and Duida.—The fauna and flora of these two isolated mountains rising from the tropical

¹ Smithsonian Scientific Series Vol. 9, Part 1. Birds, by Alexander Wetmore, Assistant Secretary Smithsonian Institution. Pp. 1-166. 69 Plates and several text figures. 1931.

forests of British Guiana and Venezuela respectively, just above the Brazilian boundary, have long been of consuming interest to naturalists. Schomburgk (1842), Whitely (1883) and McConnell and Quelch (1894 and 1898) had made collections of birds on Roraima but none had ever been made on Duida nor had it ever been ascended. In 1928, however, the Sydney F. Tyler Expedition of the American Museum of Natural History, under the leadership of G. H. H. Tate, succeeded in climbing it, while Mr. R. S. Deck and the Ecuadorean collectors A. and R. Ollala secured a collection of 6748 skins of which 1165 came from above the 3000 ft. level.

In order to have comparative material the Museum had sent the Lee Garnett Day expedition, also under Mr. Tate, to Roraima, in 1927, and, although fires had destroyed much of the forests on the mountain sides, Mr. T. D. Carter, ornithologist of the party, was able to secure a collection of 831 specimens.

Dr. Chapman in a previous paper has described the many new forms discovered on Duida and in the present report¹ he compares the faunas of the two mountains, discusses their origin and adds a detailed annotated list of all species and subspecies obtained above 4000 ft. on Roraima and above 3250 ft. on Duida. Mr. Tate's descriptions of the several collecting localities and numerous illustrations add to the interest of this important report.

Dr. Chapman's studies show that the upper zonal avifauna (mainly Subtropical) on the two mountains is essentially alike while the existence of other high mountains north of the Pacarima range indicates that the fauna supposed to be peculiar to Roraima and its immediate vicinity probably covers a much larger area. On Roraima the Subtropical and Tropical faunas meet at about 4000 ft. and interosculate, while on Duida they meet at about 3200 ft. and their boundaries are more sharply defined. There are evidences of the former existence of a Temperate Zone on both mountains. About a quarter of the indigenous birds have been derived from Tropical ancestors, about a quarter are too distinct to afford evidence of their immediate ancestry, while the remainder is composed chiefly of forms showing more or less resemblance to birds of the Andean Subtropical and in smaller part to the Andean Temperate Zones.

The existence of these representative forms in such widely separated regions, the author considers, may be explained by the disappearance of their common ancestors in the intervening area, probably due to climatic changes.

There is a good deal of discussion of discontinuous distribution which sometimes leads the author rather far afield, as in the argument that the so-called *Zonotrichia capensis*, found through so much of South America all the way to Cape Horn, and recently in Santo Domingo, is of North

¹ The Upper Zonal Bird-Life of | Mts. Roraima and Duida | By Frank M. Chapman | Bull. Amer. Mus. Nat. Hist., Vol. LXIII, 1931, Art. I. New York, 1931, pp. 1-135, figs. 1-42.

American origin. While we do not presume to disprove Dr. Chapman's argument, nevertheless are we sure that this bird really is a *Zonotrichia*? No one is more anxious than the reviewer to keep down the number of genera but when the lumping involves important questions of zoögeography should we not also consider the possibilities of parallel development of structural characters, especially in the Fringillidae where they are not very emphatically marked at best?

However, theorizing on such problems is fascinating both for the author and the reader and only thus may we reach more definite conclusions. We have again to congratulate Dr. Chapman on a contribution of the first importance to neotropical ornithology, as well as Messrs. Sydney F. Tyler, Jr. and Lee Garnett Day whose support made these explorations possible.

We notice a number of typographical errors missed by the proof-readers which is unusual in the American Museum's publications. On p. 40 the genus *Myrmothera* appears as *Myrmotherula*, in the last line on p. 42 the word "follows" has not been stricken out, the reference to Fig. 24 on p. 46 is wrong and Dr. W. L. Abbott's name appears as "W. J." Abbott (p. 51).—W. S.

Pickwell on the Prairie Horned Lark.—This monographic study¹ to use the author's words "attempts to give the history of the Prairie Horned Lark as carefully and extensively as the literature, more than 220 visits to occupied territory, 33 nests and over two years of study at Evanston, Ill., and Ithaca, N. Y., would allow." Although the result seems to have very satisfactorily justified the "attempt," the author nevertheless finds, as have many others engaged in similar studies, that "the things yet to be learned seem more momentous by far than the few things learned."

The bulk of the report deals with reproduction and ecology of the nesting site and these subjects have been treated exhaustively forming a most valuable contribution not only to the life history of this particular bird but to bird behavior in general. Song, song flight, nest location, and detailed continuous observation of nesting birds during incubation and feeding periods, as well as the development of the young are discussed, with tables and graphs to further illustrate the investigations. The section on history is not so convincing and although we do not question the correctness of the general theory of the dispersal of the bird coincident with forest destruction yet we feel that it must have been present in many places long before there was any definite record and in some states, particularly Pennsylvania where we have some personal knowledge, we are inclined to think that lack of observers and ignorance of the existence of a breeding form of Horned Lark were responsible for the apparent absence of the bird in earlier times.

A number of excellent photographs of nests and young illustrate this valuable publication and there is a good bibliography although records of

¹ The Prairie Horned Lark | Gayle B. Pickwell | Trans. St. Louis Acad. Sci., Vol. XXVII, pp. 153, figs. 1-18, ppl. 1-34. August, 1931. Price \$2.00.