

other damage, we have no information. We do know, however, that the majority of copies of this volume now existing are much injured by unsightly stains and spots due to dampness, in this respect greatly exceeding such defects in the other volumes.—SAMUEL N. RHOADS. *Haddonfield, N. J.*

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### RECENT LITERATURE.

**Todd and Carriker on the Birds of Santa Marta.**<sup>1</sup>—Ornithologists have known that for many years past Messrs. Todd and Carriker have been engaged upon an intensive study of the birds of the Santa Marta Region of northern Colombia. Mr. Carriker took up his residence in the district in 1911, and ever since has been diligently engaged in collecting specimens which have been secured by the Carnegie Museum of Pittsburgh and the Academy of Natural Sciences of Philadelphia, and in studying the habits and distribution of the species, while Mr. Todd at the Carnegie Museum has been identifying the material and working out the technical questions presented by the collections and by his colleague's field notes. While we understand that the report has been practically completed for some time it has only recently appeared from the press. It constitutes a very full account of the 514 species recorded from the Santa Marta region, with prefatory sketches of the geography, geology, and climate and an historical account of ornithological explorations in the area. There is also a list of the species described from the Santa Marta region and a detailed discussion of the faunal zones into which it may be divided. At the end of the volume is an elaborate bibliography in which every paper with the slightest mention of Santa Marta seems to have been included, and a few supplementary pages by Mr. Carriker, covering a trip made in the summer of 1920, to the valley region east and south of the Santa Marta range. A colored map, four views of the country, six excellent colored plates of birds from paintings by G. M. Sutton and nine text figures illustrate the volume. The writers have termed their work "complimentary" to Dr. Chapman's volume on 'The Distribution of Bird Life in Colombia' and such indeed it is, especially as that author, well aware of the present investigation, omitted the Santa Marta region entirely in his study. It must therefore be very gratifying to the authors of both works as well as to ornithologists at large, that this intensive study of a limited area carried on for ten years, confirms in every way the

<sup>1</sup> *The Birds of the Santa Marta Region of Colombia: A Study in Altitudinal Distribution.* By W. E. Clyde Todd, and M. A. Carriker, Jr. *Annals of the Carnegie Museum.* Vol. XIV. October, 1922. Publications of the Carnegie Museum. Serial No. III. pp. 3-611, pls. I-IX. [pages 1-2 contain a foreword by W. J. Holland] (Received January 23, 1923.)

conclusions as to the distribution and origin of the Colombian bird life arrived at by Dr. Chapman from a much more superficial study of a much larger area.

We learn from the account of the physical features of the region that the Santa Marta mountains—the Sierra Nevada—are much older than the Andes and appear to be a remnant of a great transverse mountain chain, of which the Venezuelan Andes are another part and which probably terminated out in the Carribean Sea beyond the Leeward Islands. A study of the bird life shows that there is a marked relationship between the species of the Santa Marta region and of the Venezuelan Andes, while those of the former region show little relationship with the fauna of the much nearer chain of the Eastern Andes, which of course belongs to the more recent Andean system.

In discussing the development of the Subtropical Fauna which the authors derives from the Tropical, as does Dr. Chapman, they contend that there has been a wide lateral dispersal of species developed in this zone as more and more territory suited to their needs became available, so that at present we should not be surprised if we find in the immediately contiguous portion of the Tropical Zone no form from which the Subtropical species seems to have sprung. This theory explains a rather puzzling condition that often presents itself in studying the origin of these species.

Of the birds found in the Santa Marta region 337 are considered as belonging to the Tropical Zone; 75 to the Subtropical; 22 to the Temperate and 7 to the Paramo Zone. A number of new forms have been obtained by Mr. Carriker in the course of his field work, but most of these have been previously described elsewhere by Mr. Todd. The single new race described in the present volume is a Puff Bird, *Hypnelus ruficollis decolor*, (p. 228) from Rio Hacha.

In the treatment of the systematic list of species the authors have for the most part followed Dr. Chapman's method but have differed in several important particulars. The classification, unfortunately, we think, follows that set forth in Mr. Ridgway's 'Birds of North and Middle America,' instead of that of Brabourne and Chubb's 'Birds of South America,' which is the only modern list of the Neotropical avifauna and which was followed by Dr. Chapman. The immense convenience, for the student who must consult Chapman's work and the present volume, of having a uniform sequence would seem to outrank all other arguments. A more important point perhaps is the omission of the reference to the original place of publication in all species except those described from Santa Marta. This is so directly contrary to general custom that it is often confusing and very annoying, especially as we frequently wish to know the type locality of the form we are discussing and are compelled to look up some other work of reference before we can even find where we are to seek this information. With such punctilious exactness in the preparation of the bibliography one would certainly have expected this

reference in the synonymy. Then again it would have been of the greatest assistance to those interested in the work of Mr. Carriker and his predecessors to have had a map with their routes indicated. It is however ungracious to criticize so admirable a work and we find here what was lacking in Dr. Chapman's volume—mention of all species recorded from the region whether taken by Mr. Carriker or not, those which seem of rather doubtful authenticity as regards locality being printed in smaller type. The clearly defined area which the authors are considering and the length of time that they have devoted to the work makes this exhaustive treatment possible, which was not the case in Chapman's study.

Messrs. Todd and Carriker are to be congratulated upon having produced one of the most important works ever published on the neotropical avifauna and the most important intensive study of a limited neotropical area. Taken in conjunction with Dr. Chapman's volume we now have the complex and puzzling bird life of Colombia placed upon a sound basis so that we are able to understand it and conduct our future studies in an intelligent manner. The work is admirably printed and while the errata are not numerous they have been carefully collected by the authors and published in two lists, one in the work itself, the other on an inserted slip.—W. S.

**Beebe's 'A Monograph of the Pheasants.'**<sup>1</sup>—The fourth and concluding volume of this splendid work was distributed shortly after the first of the year and in every way conforms to the high standard of the preceding parts. For those who delight in the author's vivid word pictures of the Malay jungle and the mountain heights of the Himalayas there is an abundance of entertaining writing, while the more serious ornithologist will find as heretofore full descriptions of the beautiful birds of which the work treats, in all their plumages, with accounts of their habits and habitats, and much regarding their breeding and life in captivity.

The genera covered in the present volume are the Golden Pheasants (*Chrysolophus*), the Bronze-tailed Peacock Pheasants (*Chalcurus*), the Peacock Pheasants (*Polyplectron*), the Ocellated Pheasants (*Rheinhardius*), the Argus Pheasants (*Argusianus*) and the Peafowl (*Pavo*). The first is found in China and eastern Tibet and Burma; the second restricted to the Malay Peninsula and Sumatra; the third covering a wide range from Burma and eastern India to Indo-China and the lowlands of the Malay

<sup>1</sup> A Monograph of the Pheasants by William Beebe, Curator of Birds in the New York Zoological Park; Fellow of the New York Zoological Society and Director of the Tropical Research Station in British Guiana; Fellow of the American Ornithologists' Union and of the New York Academy of Sciences; Member of the British Ornithologists' Union; Corresponding Member of the Zoological Society of London, etc. In Four Volumes Volume IV, published under the auspices of the New York Zoological Society by H. F. & G. Witherby, 326 High Holborn, London, England 1922, pp. i-xv and 1-242. pl. LXIX-XC and XV [omitted from Vol. 1.], photogravures 61-87, maps XV-XX. Price \$62.50 per volume in subscription for the four volumes.