

RECENT LITERATURE.

Murphy's 'Oceanic Birds of South America.'—In two sturdy volumes¹ Dr. Robert Cushman Murphy's long looked for 'Oceanic Birds of South America' is before us and constitutes a fitting climax to his years of study of the birds of the sea and a monument to himself. We have followed his activities in this field with much interest since the publication of the first results of his trip to South Georgia Island, which appeared in the pages of 'The Auk' in 1914, and it is a pleasure to congratulate him upon the completion of the present splendid work.

There have been many elaborate publications on the birds of various countries as well as of various States of the Union but nothing, we believe, at all comparable to the present work devoted exclusively to the water birds of any region and it stands unique in several respects.

The arrangement of the subject matter seems excellent. It is divided into two parts (I) The physical Environment and (II) The Oceanic Birds. Part I begins with a brief introduction which sets forth the major part that Dr. L. C. Sanford and Mr. F. F. Brewster have played in obtaining for the American Museum of Natural History the collections upon which this report is primarily based and Mr. Brewster's generosity in making possible the publication of the volumes. There follows, very fittingly, an autobiography of the Field Worker who with his wife did the actual collecting—Rollo H. Beck, and his narrative of the expeditions covering 1912 to 1917.

Dr. Murphy follows with an account of his own explorations on South Georgia Island, 1912-1913, and Peru, 1919 and 1924, and the trips of Correia, Murphy and Heilner, Chapman, Tate, Chapin, etc., which procured material or data for the Museum that has been used in the work.

Under the head of Geographic Background the author discusses the meteorology and hydrology of the South American coasts. In the former, rainfall and winds are considered in much detail with relation to their effect on bird life, while an interesting section treats of hurricanes and their part in carrying sea birds far from their normal habitat. Under hydrology there is a detailed discussion of the ocean currents a subject to which Dr. Murphy has given much attention. The food content of sea water is also discussed and the greater amount of nutritive material found in cold as compared to warm water, the greater salinity of the latter and the greater number of coexisting generations of lower forms of life which it contains; all of which are factors that are concerned with the greater amount of invertebrate life in the southern seas and the consequent abundance of their oceanic birds.

Dr. Murphy then divides the oceans of the Southern Hemisphere into more or less definite zones—Antarctic, Sub-Antarctic, Sub-Tropical, Tropical—listing the characteristic species of each, and finally shows how the ocean currents distort the boundaries of these zones and how complex is the avifauna of some of these currents, notably the Humboldt Current which skirts the coast of Peru veering away to the west at the Equator toward the Galapagos, and carrying Antarctic forms far to the northward. It is probably responsible for the occurrence of a Penguin on the Gala-

¹ Oceanic Birds of South America | A Study of Species of the | Related Coasts and Seas, Including | the American Quadrant of Antarctica | Based upon the Brewster-Sanford | Collection in the American Museum of Natural History | By | Robert Cushman Murphy | Illustrated from Paintings by Francis L. Jacques | Photographs, Maps, and other Drawings | 1936 | American Museum of Natural History | New York | Vol. I, pp. i-xxiv + 1-640. Vol. II, 641-1245. Plates 16-72, text figs. 80. Price \$10.50 post paid. Amer. Mus. Nat. Hist., 77th St. and Central Park W., N. Y. City

pagos, the only Penguin known from so far north as the Equator. The source and relationship of some of the birds found over certain ocean currents is puzzling and other birds of the southern seas which do not lend themselves to any of the regions outlined by our author are designated by him as "zoneless birds." Such is the Tern, *Sterna vittata*, which nests on the Antarctic Archipelago but seems like a sedentary representative of the Arctic Tern a boreal species which winters in the Antarctic. Other species showing similar puzzling distribution are *Sterna hirundinacea*, *Larus dominicanus* and *Phalacrocorax olivaceus*. Next comes a lengthy and extremely interesting "Ornithological Circumnavigation of South America" beginning with the northern (Caribbean) coast and continuing down the east coast and up the west including all of the coastwise islands. This carefully compiled account presents the physical features of the various sections of the coast line and their climate with lists of the characteristic shore and sea birds and bits of their life histories. There are many pertinent quotations from various authors and explorers which add to the interest of the story and indicate how thoroughly Dr. Murphy has mastered the literature of his subject. The accounts of South Georgia Island and the coast of Peru are from the author's personal experiences, the latter made familiar to many of our readers in his 'Bird Islands of Peru' and his lectures on the region.

Part II comprises the systematic portion of the work, an admirable series of life histories beginning with the Penguins and following the order of Wetmore's classification. The author tells us that he has "sought to include only birds which have close association with salt water" so that while all the South American species of such groups as the Penguins, Petrels, Man-o-war Birds etc., are included, he has, in other groups, been forced to choose more or less arbitrarily on the above basis, as the line delimiting "oceanic" birds cannot be very clearly drawn. The biographies are very well done. There is a word picture of the bird in life, its historic and economic status, field observations by members of the Museum expeditions, full descriptions with comments on distribution, migration, habits and behavior, etc.

While it is impossible in the limited space at our disposal to even mention all of the species treated we select a few items from the mass of interesting material that is presented. Under the Penguins the author discusses the origin and history of the group as set forth by Wiman, and by Lowe, calling attention to the errors of the former and presenting the objections to the latter's theories recently advanced by Dr. W. K. Gregory and himself. Lowe considered that these curious birds were not descended from flying ancestors but came along a different line from that of the flying birds. Gregory and Murphy, however, are convinced that their ancestors did fly and were birds with normal wings. Much interesting evidence is presented.

Dr. Murphy's studies of the curious Steamer Ducks of Patagonia are full of interest. These birds have been the subject of long controversy. Some authors have regarded the flightless individuals as of a distinct species from those which have the power of flight, while others contend that the former were able to fly when young but lost the power later in life. With over one hundred specimens at his disposal Dr. Murphy is convinced that there are three distinct species: a flightless one from the Falkland Islands; another flightless species ranging from Chiloe Island to Cape Horn and a third flying species occurring in all parts of the ranges of the other two. Curiously enough the downy young of the three forms are more distinctive in appearance than birds in any later plumage. In discussing the feeding habits of the Skimmer, Dr. Murphy endorses the views of various authors who claim that the bird catches small fish or other prey between its mandibles in the usual way. Others have stated that it feeds on minute organisms which it scoops up from the water as it ploughs its

bill along the surface and that the peculiar bill has developed in some way to aid such feeding! Dr. Murphy suggests that the brightly colored bill is skimmed along the surface as a lure, somewhat like a trout fly, and that curious fish rise to see what it may be and the bird retracing its course snaps them up.

These life histories are full of interesting reading and abound with original information.

The work is illustrated by 16 colored plates by Francis L. Jacques who visited the coast of Peru and the South Pacific to obtain sketches for his backgrounds and to see many of the birds in life. They form a beautiful series of pictures and, like others of the artist's paintings, are all group compositions usually with many birds often of several species, rather than individual portraits.

There are also 72 beautifully printed halftone plates, from photographs, covering both sides of extra heavy coated paper, and 80 text figures. A well prepared bibliography and an adequate index complete this notable work of which all concerned in its production may well be proud.

While the proof-reading seems to have been very well done there are a half dozen errata listed on p. xxiv and apparently there is another error on p. 472 where it is stated that "the Puffininae make up the bulk of the family Hydrobatidae." Family "Procellariidae" is apparently intended.—W. S.

Swann's Monograph of the Birds of Prey.—Another part of this notable work¹ appeared in December, 1935, carrying us through the Kites and their allies and the genus *Falco*, leaving only the remainder of the Falcons and the Ospreys to be treated. It seems likely therefore that it will be completed during the present year. Colored plates of the Battelaur and the Sea Eagle and a photogravure of a Kite's nest are the illustrations accompanying this part.—W. S.

Aymar's 'Bird Flight.'—The basis of this interesting volume² is the two hundred photographs of flying birds and as the author says, while there have been many books treating of the flight of birds there has been none "devoted exclusively to allowing the infallible camera to state what actually happens in the many different types of flight of the various species. That is the real justification for this book," and he adds that "the book belongs to the men whose perseverance and skill have produced the photographs of which it is composed."

At the same time the author is responsible for the conception of such a work, for the selection of the pictures and for the discussion of the published information on the several phases of bird flight. He has had before him practically all of the important works dealing with flight and his chapters on Evolution, Biology, Migration, and Aerodynamics present an excellent summary of the latest views on these subjects. At the end of each chapter, and sometimes scattered through it, are photographs illustrating points connected with its subject matter with explanatory text below or on adjacent pages. Owing to the fact that the type used in the main text and in these explanatory paragraphs is of nearly the same size, we sometimes find it difficult to see where one stops and the other begins. Under the picture of the Black Skimmer we note the old belief that the bird "scoops up" its food from the surface of the water and that the peculiar bill is in some way an adaptation for this sort of feeding. This has been questioned by several authors in 'The Auk' (Arthur, Stone, etc.) and es-

¹ A Monograph of the Birds of Prey. Part XIII, December, 1935. By H. Kirk Swann, edited by Alexander Wetmore. Wheldon and Wesley, Ltd. 2, 3 & 4 Arthur St., New Oxford Street, W. C. 2, London. Pp. 257-352, 3 plates.

² Bird Flight. Written and Designed by Gordon C. Aymar. A Collection of 200 Action Photographs. Dodd, Mead & Co. 1935. Pp. i-xii + 1-234. Price \$4.00