

greatly enhance the value of educational literature. Further, it is unfortunate that Madon's work is so replete with argumentative discussion and criticism of the investigations of other scientists, much of which is not particularly appealing to readers only mildly interested in the economics of wild life, and which serves to obscure the more significant matters that should receive emphasis.

In spite of its shortcomings, the report, with the exception of the index, has been mechanically worked up in good fashion; and owing to the abundance of tables summarizing available information it is valuable as a reference work on the food habits of European raptors.—A. L. NELSON.

Lambrecht's 'Handbuch der Palaeornithologie'.¹—The product of many years of painstaking research and compilation this work has no equal in the literature of ornithology in scope and detail so far as the subject of fossils among birds is concerned.

The author begins with a brief statement of museums where fossil birds are found as well as collections of skeletons of modern birds for comparison. This is followed by an account of the bird skeleton where figures of the different bones have names indicated for parts and processes. The next section, in detailed statement covering nearly 600 pages, deals with all known fossil records from a systematic standpoint, including not only those forms that have been definitely named but also records identified to genus, family or order. The account is thus exceptionally complete. Under each species there is given the place of original description, other references in literature, including synonymy, a list of specimens with the museum in which they are found when this is known, the age and type locality, and remarks on status and other interesting matters. The details naturally are more complete for Old World species where the author has examined the material; in other cases there are usually quotations from the original describer.

In many instances under the Order there is included a general history of the group as shown by the known fossils with indication of the probable affinities of the different forms, fossil and living. Supposed lines of descent are frequently shown in tabular form with the geographic distribution of the fossils. As one interesting aside there is given a résumé of stories of the fabulous Roc of Marco Polo and other travelers. The entire work is profusely illustrated with reproductions of original figures and restorations. While the preface is dated July, 1931, an addendum brings the information included down to December 15, 1932.

To indicate briefly a few of the important proposals in this work, *Gastornis*, *Remiornis*, *Dasornis*, and *Macrornis* are included in the order Diatrymiformes with *Diatryma* and *Omorhamphus*. The family Elop-terygidae (p. 287) is erected for *Elopteryx nopcsai*, *Eostega lebedinskyi* and *Actiornis anglicus*.

¹ Handbuch | der | Palaeornithologie | von | Kalmán Lambrecht | A. O. Uni-
versitätsprofessor | Mit 209 Textabbildungen und 4 Tafeln | Verlag von Gebrüder
Borntraeger in Berlin W 35 | 1933. Pp. 1-xx + 1-1024, 209 figs., price 115 RM.

To continue, Dr. Lambrecht has given considerable attention to the question of generic relationships to the end that he has proposed numerous new generic terms as indicated in the following list (some of these have appeared in earlier papers): *Oligocorax* (p. 290), including *Phalacrocorax marinavis* Shufeldt and *P. mediterraneus* Shufeldt; *Miocorax* (p. 291) including *Phalacrocorax femoralis* L. H. Miller; *Paracorax* (p. 292); *Australocorax* (p. 293); *Parascaniornis* (p. 335); *Aquilavus* (p. 407); *Archaeophasianus*, for *Phasianus roberti* Stone and *P. miocaenus* Shufeldt; *Miophasianus* (p. 439); *Miogallus* (p. 442); *Quercyrallus* (p. 461); *Palaeoaramides* (p. 462); *Paraortygometra* (p. 462); *Rallicrox* (p. 463); *Pararallus* (p. 466); *Miorallus* (p. 466); *Fulica-aletornis* (p. 479) for *Aletornis venustus* Marsh; *Miofulica* (p. 480); *Moreno-merceratia* (p. 512); *Probalearica* (p. 519); *Pliogrus* (p. 522); *Gerandia* (p. 602); *Archaeopsittacus* (p. 609); *Paratrogon* (p. 629); and *Palaeopicus* (p. 629); and *Miocorvus* (pp. 636 and 1024).

The following new species are described: *Ciconia gaudryi* (p. 323) from the lower Pliocene of Pikermi; *Parascaniornis stensioi* (p. 335) from the Cretaceous of Ivö, Sweden; *Anas isarensis* (p. 361) from the Upper Miocene near München; *Anas eppelsheimensis* (p. 362) from the lower Pliocene of Eppelsheim, Germany; *Cygnus csákvárensis* (p. 383) from the Upper Miocene of Hungary; *Francolinus capeki* (p. 433) from the Upper Pliocene of Hungary; *Rallicrox kolozsvárensis* (p. 463), from Upper Oligocene or lower Miocene beds near Kolozsvár, Hungary; and *Pliogrus germanicus* (p. 522) from the lower Pliocene of Eppelsheim, Germany. *Palaeortyx gaillardii* (p. 451) is given as a new name for *Palaeortyx cayluxensis* Milne-Edwards 1893, preoccupied by *P. cayluxensis* Lydekker 1891.

All together there are listed 691 fossil forms of which 276 come from Europe and 179 from North America.

The systematic list is followed by a discussion of the forms found in the various strata with the data divided under the different continents. In this there are included references to modern birds whose remains occur in the Pleistocene. The section closes with a few paragraphs devoted to figures of birds carved by prehistoric men.

The final portion of the book is devoted to general discussion that treats of fossilization, chemical composition of fossil bones, mummified birds, fossil feathers, tracks, eggs, nests gastroliths and coprolites. The work closes with a discussion of the development of various factors in the life of the bird and of evolution in the group. Throughout the volume there are many bibliographic references to important literature, such a section beginning the account of each order. As indicative of the extent that this may reach, ten pages are required to list the papers on the Moa.

Though critical examination may reveal occasional errors these become insignificant when the entire volume is considered and the work as a whole can have only the highest commendation. It will stand as the most

important contribution in its field for many years to come and should be invaluable as a work of reference in every comprehensive library devoted to ornithology.

The labor involved in the preparation of this volume can be realized only by first hand examination since in this way alone can one appreciate the detail in which many sections are covered and wealth of information that is included. The subject of fossil birds long has been one of considerable difficulty due in large part to the scattered literature of the subject. With Lambrecht's comprehensive work these difficulties largely disappear so that for the first time this section of our science is placed on a definite footing that allows a comprehensive insight into the subject on a world wide basis. Future investigations will build on this volume as on a foundation for further advance in the field concerned.—A. W.

Priest's 'Birds of Southern Rhodesia.'—We had occasion to review Capt. Priest's earlier 'Guide to the Birds of Southern Rhodesia' in 'The Auk' for 1930. Our author has now presented the first volume of a much more pretentious work¹ on the same subject, his object being "to redeem the errors of my previous book, and to give the public a more accurate knowledge" of the subject.

Nomenclature, the physical features of the country, faunal distribution, etc., are treated in the introduction to which are added a glossary and details as to measurements, and an explanation of the keys for identification.

The text under each species is divided into "distribution," "habits and general notes," and "description," and in addition to his own notes and observations the author has quoted freely from a number of standard works on African birds and from certain general works, thus providing the reader with a large amount of valuable and instructive information. Keys to the genera and species furnish an easy way to identify any specimen that may come to hand, while striking field characters are mentioned.

There is a good colored map of the country, ten colored plates of birds, and 120 text figures, apparently from pencil drawings. While these are sufficiently large and detailed to give one an idea of posture and style of coloration, and are thus a distinct aid to identification, they are decidedly crude as compared with most ornithological illustrations of today.

Capt. Priest has we think produced a book that cannot but arouse interest in the birds of Rhodesia and is calculated to develop a number of ornithologists in the coming generation, while it will furnish a reliable list of the avifauna of a country about which we have all too little ornithological literature.

The author's accounts of his personal experiences with various species make interesting reading. We learn about the little *Nettapus*, the so-

¹ The Birds of Southern Rhodesia | By | Captain Cecil D. Priest | [etc. etc.] | Map and Ten Coloured Plates | One hundred and Twenty Illustrations | Volume One | Printed by | William Clowes and Sons, Limited | London and Beccles | Obtainable from them at 94, Jermyn Street, London, S. W. 1, or from | The "Herald" Book Store, Salisbury, Southern Rhodesia. | 1933. Pp. i-xxxii + 1-454.