

RECENT LITERATURE.

Widmann's 'Birds of Missouri.'— Mr. Widmann's 'Catalog of the Birds of Missouri'¹ supplies a much needed list of the birds of that State. As the author states, this is the first attempt at a list for the State of Missouri. "It is based," he informs us, "chiefly on personal observations made during the last thirty years"; but he has also availed himself of the literature bearing on the subject, and of much unpublished information contributed by other observers, whom he mentions in his introduction, including the loan from the Bureau of the Biological Survey of the migration reports on birds of Missouri from 1884 to 1905. With such resources, and Mr. Widmann's well known abilities as an observer and a writer, one is led to expect a thoroughly trustworthy and full report upon the subject in hand, and this volume of nearly 300 pages fully justifies such anticipation.

The twenty pages of introductory matter give a résumé of the literature bearing upon the ornithology of the State; an explanation of the terms used to denote relative abundance; an account of the faunal areas, the climate and topography; remarks on the decrease of birds and the contributing causes; and some good suggestions respecting bird protection. The arrangement and nomenclature of the list is that of the second edition of the A. O. U. Check-List and its supplements. "Synonyms, both scientific and English, used in the works of American ornithologists, principally those used by Wilson, Audubon, Nuttall, Baird, and Coues, are given to enable students to find their way through the many and great changes in nomenclature made since the first of these books was printed ninety-eight years ago,"—merely the names, however, without citation of the authors. "The catalog is confined," the author tells us, "to a detailed treatment of the geographic distribution of each species and subspecies in accordance with the latest sources of information. This is followed by a statement of its range in Missouri, manner of occurrence in regard to season and relative abundance, dates of arrival and departure, and such notes as may be helpful to the student in the search of rare species." Those known to have bred in the State, or whose breeding in the State is "almost certain," are marked with an asterisk. "The catalog contains not only species and subspecies fully authenticated, but also a few of such highly probable occurrence that it seems only a question of time and opportunity to establish the proof of their occurrence." They are not, however, relegated to a 'hypothetical list, since in this way he believes they might be overlooked and escape the attention they deserve. Extirpated and introduced species are also included in due systematic

¹ A Preliminary Catalog of the Birds of Missouri. By Otto Widmann. Trans. Acad. Science of St. Louis, Vol. XVII, No. 1, pp. 1-288. "Issued Nov. 16, 1907." Also separate, without statement of place of publication.

sequence. "The total number of species and subspecies contained in the catalog is 383, of which 162 are breeders. Species not actually taken within the limits of the state are distinguished by being put in brackets. Of this kind there are 30, which subtracted from 383 leave as the present status (July 8, 1907) 353 actually observed species and subspecies for our state."

The manner of occurrence and seasons of migration are stated with fulness, and authorities are cited for the records of the rarer species; the data respecting the former abundance and the extirpation of the Wild Pigeon and Carolina Paroquet are very fully given, as are the notes respecting the great decline in numbers of many other species. Taken as a whole, Mr. Widmann's 'Catalog' as an excellent summary of the ornithology of Missouri, for which his fellow ornithologists may well feel deeply grateful.—J. A. A.

Jones on 'The Development of Nestling Feathers.'¹ — "The purpose of this paper," says the author "is to give a more complete account of the development of the down, or Neossoptile, than has been given by previous writers and to show the true relation of this structure to the first definitive feather." This relation is thus stated: "The first down and its succeeding definitive feather are produced by one continuous growth, and therefore cannot be regarded as two distinct feathers. The first down is the plumulaceous tip of the first definitive feather." Contrary to the conclusion of some previous writers, the neossoptile is shown not to possess a shaft nor a true quill, but to be always in direct continuity with the barb-vanes of the first definitive feather. In other words, the neossoptile is only a more or less differentiated distal part of the first teleoptile.

These investigations are based on the study of a large number of species, representing many families, and relate to (1) the development of the nestling down (plates i-iv, and (2) the relation of the down to the first definitive feather (plates v-viii). The first definitive feather with down attached is shown in figures 56-138 (plates v-viii) from a large number of species "by direct prints from the feathers." The paper is thus one of much interest and an important contribution to the subject under investigation.—J. A. A.

Beebe on Geographic Variation in Birds.² — This paper consists of six Parts — (1) Historical; (2) Dichromatism; (3) Sporadic Melanism; (4) Experimental (*Hylocichla* and *Zonotrichia*); (5) Experimental (*Scardafella*).

¹ The Development of Nestling Feathers. By Lynds Jones. Laboratory Bulletin No. 13, Oberlin College, Oberlin, Ohio, 1907. Pp. 1-18, pl. i-viii.

² Geographic Variation in Birds with especial reference to the Effects of Humidity. By C. William Beebe, Curator of Birds, New York Zoological Society.—*Zoologica: Scientific Contributions of the New York Zoological Society*, Vol. I, No. 1, Sept. 25, 1907. Pp. 1-41, with 5 half-tone plates.