

Ball's is based primarily upon the collection of ninety-two Jungle Fowl obtained by the Whitney South Sea Expedition in the Society Islands and the Marquesas and is chiefly concerned with the origin and relationship of the representatives of the genus *Gallus* on the islands of the South Pacific.

He has made extensive researches in the literature of the subject and quotes many pertinent remarks from the journals of the early explorers, as well as presenting in great detail descriptions of the several specimens and the results of pigmental studies of the feathers.

Prior to about 1840 it would seem that the fowls existing on these islands were the direct descendants of wild or partly domesticated birds brought by early Polynesians from the Malaysian region and were nearly typical *Gallus gallus* Linnaeus. Subsequent to this date, however, an increasing number of visitations from European vessels brought various strains of domestic fowls far removed in characters from the original Malay bird, from which all were of course descended, and this is responsible for the heterogeneity presented by the present island birds.

Dr. Ball finds no trace of the other wild Jungle Fowls of Ceylon, Java and India in the South Pacific birds and it would seem that only the Malay species was originally introduced. There is considerable variation in size among the birds studied and very great difference in color; some closely approach the coloration of the wild type, but the majority tend to melanism, to albinism, or to an increase in the distribution and intensity of the yellow pigment. All of the various color tints, however, are produced by two melanins and a yellow lipochrome.

Dr. Ball has presented a paper of importance and interest from at least three points of view: the historic, the geographic and the genetic. It will also answer many questions constantly being asked regarding the origin of domestic poultry.

Seven excellent color plates illustrate several types of plumage and the microscopic study of the feathers.—W. S.

Littlejohns' 'The Magic Voice.'—Those who were fortunate enough to attend the Salem Meeting of the A. O. U. will remember Mr. Cope's account of the Lyre Bird and the motion pictures which he brought home with him from Australia, illustrating the success of the photographers of the Antipodes in making possible a knowledge of this remarkable bird to those unable to visit its haunts.

Mr. Littlejohns' attractive little book now presents his excellent photographs of the bird in the performance of its "dance" as well as views of its haunts while the author writes of his experiences in studying it.

The phonograph record which he has made of the song of the Lyre Bird is familiar to many and he has added a detailed timed description of this

¹ *The Magic Voice. A Story of the Australian Lyre-Bird.* By R. T. Littlejohns co-author of "Birds of our Bush" etc. Melbourne, Ramsay Publishing Pty. Ltd. 197-207 King Street. Pp. 1-40. 1933. Price 5 shillings, Robertson & Mullens Ltd. 107-113, Elizabeth St., Melbourne, Australia.

as well as a list of the bird songs which have been "borrowed" by this famous "mocker" in its vocal performance.

The book is beautifully gotten up, with a colored frontispiece and fourteen excellently reproduced photographs.—W. S.

Bowen on the Distribution of African Birds.—In a paper published in 1932 (see *Auk*, 1932, p. 501) Mr. Bowen discussed the life zones of Africa advancing the theory that they were primarily dependent upon temperature rather than upon rainfall as had been claimed. In the present contribution¹ he elaborates his discussion with many maps illustrating minimum and maximum temperatures for the various parts of the continent as well as rainfall, plant and bird distribution.

He concludes that the importance of the so-called West African Sub-region with its heavy precipitation has been somewhat exaggerated; that a Subtropical and Temperate Zone are recognizable; and that the majority of the Ethiopian birds are distributed wholly within the bounds of the life zones that he has delineated. His paper is a valuable contribution to our knowledge of zoogeography.—W. S.

Duck Decline in the Northwest.²—This is a detailed account of a tour of inspection by an anonymous agent of the 'More Game in America Foundation' through the prairie Duck breeding region of North Dakota, Montana, Manitoba, Alberta and Saskatchewan, in July 1933.

"On the whole," says the report, "the duck breeding situation presented very gloomy aspects: water conditions were very bad; a number of large lakes have dried up completely or have been reduced to fractions of their former size . . . and of small water areas more than 80% have been claimed by agriculture and of the remainder about one-half were dry."

It is considered, however, that there are great possibilities for improving breeding grounds in agricultural areas but immediate action is necessary. The key to the situation seems to lie in the region north of the grain area, where the majority of various species now breed and this must be surveyed and the relative importance of its various sections determined.

The report is fully illustrated and should be studied by those interested in Duck preservation for as stated in the 'foreword' "the elimination of wild fowling as a field sport in America is not an impossibility . . . and has been approaching for the past twenty years but the pace has increased tremendously in the past three. Despite all enactments the birds have continued to decrease."—W. S.

Bennitt's Missouri 'Check-List.'³—How many more expensively illustrated state bird books will be published remains to be seen but there will always be need for such excellent state "lists" as are exemplified by Prof. Bennitt's for the state of Missouri.

¹ African Bird Distribution in Relation to Temperature and Rainfall. By W. Wedgwood Bowen, *Ecology*, XIV, No. 3, July, 1933. Pp. 247-271.

² The Duck Decline in the Northwest. In two parts, "More Game in America," 500 Fifth Ave., New York City.

³ Check-List of the Birds of Missouri. By Rudolf Bennitt, Ph.D., Univ. of Missouri Studies, VII, No. 3, July 1, 1932. Pp. 1-81.