

until 1871. No less than twenty-two species of the extinct Moas are recognized referred to five genera. Moa gizzard stones, four perfect eggs and pieces of skin with feathers and muscles attached have been discovered and the evidence is clear that they were killed in numbers and cooked for food by the Maoris after they reached the islands and to this slaughter is attributed the apparently rapid extermination of the great birds.

Since the settlement of the country by Europeans twenty-three species of birds have either become extinct or have been greatly reduced in numbers. As a factor in this the introduction of foreign birds is to be considered and America would do well to seriously take heed of the effect of the enormous increase in the numbers of the European Starling and the consequent disappearance of our native species where the foreigner is most strongly entrenched. If this species is not held in check some of our native American birds will go the way of the New Zealand forms.

Where fields and plantations replace native forest in New Zealand, we learn that European, Australian and Asiatic birds meet the eye on all hands and here and there only is a native species to be seen. Mr. Oliver is to be congratulated upon his excellent book which should be in every ornithological library describing as it does one of the most interesting bird faunas to be found anywhere in the world.—W. S.

Baerg's 'Birds of Arkansas.'—Prof. W. J. Baerg, of the Entomological Department of the University of Arkansas, College of Agriculture, has prepared an excellent pamphlet¹ on the birds of the state. There are introductory remarks on distribution, migration, song, conservation etc., with a table of arrival dates at Fayetteville and another showing song periods.

The main text consists of a brief description of each species and a statement of range followed, in the case of the better known species, by a short account of habits, etc. A number of halftone illustrations are scattered through the text.

The present list includes 312 species or subspecies of which 15 have not definitely been observed within the state limits but are listed because there is every likelihood of their presence there. Howell's list of 1911 contained 255 forms with 35 additional not yet definitely found within the state, while Wheeler's list, 1924, included 287 species and subspecies of which 2 were not definitely known from within the state limits, so that the score would seem to stand Howell 255, Wheeler 285, and Baerg 297.

Mr. Baerg's publication will prove of much assistance to teachers and bird students throughout Arkansas and will doubtless result, in the near future, in definite records for the fifteen species requiring confirmation.—W. S.

Van Schaick's 'The Little Hill Farm.'—Those who are familiar with Mr. Van Schaick's nature sketches will welcome another little volume

¹ Birds of Arkansas. By W. J. Baerg. Bulletin No. 258. Agricultural Experiment Station. Univ. Arkansas. College of Agriculture. Dan T. Gray, Director. Fayetteville, Arkansas. January, 1931. Pp. 1-197. Price 77 cents.

published under the above title.¹ It treats of nature as seen in a little valley in the Catskills and of farm life in a rather remote spot. While birds do not figure very largely the chapters will hold the interest of all who love the outdoors.—W. S.

Mailliard's 'Birds of Golden Gate Park.'—This serviceable little booklet² has been prepared by Mr. Mailliard for the benefit of bird lovers and those who might become bird lovers, who frequent Golden Gate Park, San Francisco, and who have expressed a desire for a local guide to the bird life of this area.

The work is, we think, admirably adapted to its purpose and will be of service to all who would know the birds of the San Francisco region. On each left hand page are drawings of several birds with brief descriptions based on field characters—the bird in the bush rather than the bird in the hand—while on the opposite pages are brief accounts of striking habits or characteristics of the species figured, their time of occurrence, relative abundance and habitat. The species are arranged in several sections—birds of the lakes, birds of the high trees, birds of the air, birds of the ground, etc.

The little book is published and sold by the California Academy of Sciences, at the museum in the Park.—W. S.

A Theoretical Discussion of the History of Bird Migration, by Mayr and Meise.³—Recent literature on bird migration has been very largely descriptive, or such theory as has been introduced, so mixed with descriptive matter as to lose clarity or balance. Hence the present paper which confines itself to the theory of migration, using as evidence facts already established and for the most part familiar, is well worth careful study and discussion. It concerns itself with the historical-zoogeographic and evolutionary origins and development of migration, without considering the biological factors which control it in,—or how it is accomplished by, the individual bird.

The paper consists of two parts. First there is a general review of the subject. Migration can only be understood from its historical aspect; each year's migration is an unfolding of habits which have their origin in the history of the respective species, not a new enterprise. Migration is always correlated with seasonal change, which renders regions favorable for avian occupancy at one part of the year unfavorable at another; hence, birds of

¹ The Little Hill Farm or Cruisings in Old Schoharie. By John Van Schaick, Jr. Universalist Publishing House, 176 Newbury Street, Boston, Mass. (1930). Pp. 1-179.

² Handbook of the Birds of Golden Gate Park, San Francisco. By Joseph Mailliard, Curator Emeritus Department of Ornithology, California Academy of Sciences (Special Publication) San Francisco. Published by the Academy. 1930. Pp. 1-84.

³ Theoretisches zur Geschichte des Vogelzuges. Von Ernst Mayr und Wilhelm Meise. Der Vogelzug, I, 1930, Heft. 4, pp. 149 to 172.