

Palmer on National Reservations for the Protection of Wild Life.—

In this circular¹ Dr. Palmer has brought together for handy reference a list of the various National reservations, where birds and wild life in general are afforded protection, together with statistics upon their extent and history of their establishment. Some information is also presented on the species of birds and game found on certain reservations, while a bibliography furnishes titles of various papers dealing with this subject. There are 95 of these reservations at present, located in 27 states and territories, and of these 56 were set aside especially as bird refuges during the past nine years.— W. S.

Economic Ornithology in Recent Entomological Publications.—

A résumé of the entire boll weevil investigation, by W. D. Hunter and W. D. Pierce, has been published as a Senate Document.² It discusses all kinds of natural enemies of the boll weevil, including birds. A schedule of stomach examinations of birds which had eaten boll weevils, on p. 146, is reprinted from Biological Survey Circular No. 64. The comment on this table is as follows:

“Exhaustive studies of the stomachs of many birds killed in infested cotton fields by the agents of the Biological Survey of this department have emphasized the fact that the birds play a considerable part in the control of the adult boll weevils. The investigation has resulted in a list of 53 species which more or less commonly feed upon the adult weevils . . .

“It will be noticed that the largest numbers of boll weevils were eaten during the months of July, August, and September, and also that a considerable number are consumed during the hibernating season. The most important birds are those that capture the boll weevil during the winter. According to this table these are the three species of blackbirds, two meadowlarks, six species of native sparrows, the pipit, the three species of wrens, and the two species of titmice. It will be noted that only one of the 108 quail stomachs examined showed remains of the boll weevil.” On p. 145 is recorded Mr. E. A. Schwarz’s observation that in Cuba “an oriole (*Icterus hypomelas*) has developed a habit of extracting the immature stages from the bolls and squares.”

Another weevil (*Lissorhoptrus simplex*) is said to be the most serious insect enemy of growing rice. The larvæ feed on the roots and the adults on the leaves of the rice plant. The only natural enemies recorded are birds, the records (furnished by the Biological Survey) being for the Long-billed Marsh Wren and Mallard Duck. The author of the circular³ on the rice water-weevil states that Mr. C. E. Hood of the Bureau of Entomology

¹ National Reservations for the Protection of Wild Life. By T. S. Palmer. Circular No. 87, Bureau of Biological Survey, U. S. Department of Agriculture, 8vo., pp. 1-32, figs. 1-5. October 5, 1912.

² 62nd Congress, 2nd Session, No. 305, 1912, 188 pp.

³ Tucker, E. S., No. 152, U. S. Bur. Ent. July 10, 1912, 20 pp.