

upland game birds has been largely exhausted and the importation of western stock into the eastern States is yearly becoming more difficult.

In order to encourage this industry the Biological Survey has issued a pamphlet¹ on the subject prepared by W. L. McAtee which gives all desired information on requirements, coops, enclosures, food, pinioning, etc. It is devoted especially to Ring-necked Pheasants, Bobwhite, Mallard and Canada Goose, the game birds that can be most successfully reared, although there is some reference to other species. Numerous illustrations add to the value of the Bulletin.—W. S.

Economic Ornithology in Recent Entomological Publications.—

European Corn Borer.—“In the late winter and spring of 1922 as high as 95 per cent of the larvae were removed from standing cornstalks in some of the small home gardens in the environs of Boston, presumably by woodpeckers.” In such commendatory terms is the work of birds on the European corn borer extolled in a recent publication² summarizing information on the history and present status of that destructive insect in the eastern United States. Although such conspicuous work was found to be exceptional, experiments carried out during the winter of 1923–24 in 47 widely separated localities in New England revealed a destruction by birds of an average of 19 per cent of the hibernating larvae. Downy Woodpeckers were found by direct observation to be responsible for most of this beneficial activity.

Field observation revealed the Robin to be an enemy of the borer, when it was found late in spring feeding on exposed larvae on a pile of cornstalks. Grackles, Blackbirds (presumably Redwings) and Starlings also aided at that season by devouring over-wintering larvae that were migrating in search of suitable quarters for pupation.

Reference is made to work conducted by the Biological Survey in the spring and fall of 1920 when C. C. Sperry of that Bureau made a study of the relation of birds to the corn borer. Stomach examination added the Ring-necked Pheasant to the list of bird enemies and the reputation of the Starling was upheld by the finding of six corn borers in a single stomach.

Citrus Insects.—In more general terms has the value of birds been recognized by one trained to view the problem primarily from the viewpoint of an entomologist.³ J. R. Watson in discussing citrus insects and their control gives ample praise to insectivorous birds. “Except for an occasional tree attacked by sapsuckers, birds do virtually no direct injury to a citrus grove,” the writer explains, a refreshing and reassuring thought

¹ Propagation of Game Birds. By W. L. McAtee. U. S. Department of Agriculture. Farmers' Bulletin No. 1521. March, 1927. pp. 1–56. Price 10 cents. Supt. of Documents, Gov't Printing Office, Washington, D. C.

² Caffrey, D. J. and L. H. Worthley. A Progress Report on the Investigations of the European Corn Borer. Bul. 1476, U. S. Dept. Agric., February, 1927. 154 pp., 52 figs.

³ Watson, J. R. Citrus Insects and their Control. Bul. 183 (revision of Bul. 148), Univ. of Florida Agric. Exp. Sta., June, 1926. pp. 293–423, illus.

considering the unqualified condemnation of certain species of birds coming from the orchards and vineyards of California within recent months.—W. L. M. per X.

The Ornithological Journals.

Bird-Lore. XXIX, No. 2. March–April, 1927.

Averages are Fundamental in Economic Ornithology. By W. L. McAtee.—A paper that should be read by all farmers as well as bird protectionists. A species, the White-necked Raven, is shown to be beneficial to one farmer because it is the only check on the devastations of certain insects on his alfalfa, while the same bird is very injurious to his neighbor by destroying his cantaloupes. The Biological Survey aims to constitute itself an agency to average up the character of each species and permit local control by killing, where local depredations warrant it, but to guard against anything like extermination.

Some Bird Residents. By Clarence M. Beal.—Excellent photograph of a Pileated Woodpecker.

The migration and plumage notes cover the Flickers, with a colored plate by Fuertes.

Bird-Lore. XXIX, No. 3. May–June, 1927.

The Meadowlark. By Lorene Squire.

Our Pet Hummingbird. By Mrs. Frank Gilliland.

From Seacoast to Sage-Brush. By Laidlaw Williams.—A trip from Monterey to Klamath Lake.

Relation of Birds to an Outbreak of Locusts. By Leon L. Gardner.

There is a colored plate of the Bittern by Allan Brooks and many interesting photographs.

The Audubon Department contains Dr. Chapman's address on Audubon at the unveiling of the bust in the Hall of Fame.

The Condor. XXIX, No. 2. March–April, 1927.

Black Swifts Nesting in Yosemite National Park. By Charles W. Michael.—Report on weekly visits to a nest in Tenaya Cañon for seven successive weeks. A remarkable contribution to the history of this elusive species.

Banding of Gambel Sparrows in the Fall of 1926. By Joseph Mailliard.

Experience with Cardinals at a feeding Station in Oklahoma. By Margaret M. Nice.

Three Notable Nesting Colonies of the Cliff Swallow in California. By Tracy I. Storer.

A Method of Keeping Notes and Files Dealing with Ornithology. By Alexander Wetmore.

Notes on Swarth's Report on a Collection of Birds and Mammals from the Atlin Region. By Allan Brooks.—A list of additional species observed