

The half-tones from original photographs are excellent and varied. The common birds are considered under the convenient and rather novel headings of (1) 'bird and mammal eaters'; (2) 'fish, frog and crayfish eaters', including 'stalkers, plungers, divers'; (3) 'insect eaters',—'strainers, probers, scratchers, borers, gleaners'; (4) 'vegetable feeders',—seed eaters, fruit eaters. A convincing colored plate by L. A. Fuertes depicts the Horned Owl, Cooper's and Sharp-shinned Hawks devouring respectively a chicken, pigeon and robin, while the Marsh Hawk, Red-tailed Hawk and Barred Owl are feasting on meadow mice and a rat, and the Sparrow Hawk on a grasshopper. Dr. Allen has produced a valuable addition to the literature of bird protection, which could be reprinted for use in a much wider field with advantage.—W. S.

**Simpson's 'Pheasant Farming'**.<sup>1</sup>—This is a most attractive little brochure, illustrated by half-tones from photographs and drawings, and a colored plate by Bruce Horsfall. The chapter headings give a good idea of the contents: 'Propagation of Game Birds'; 'Varieties of Pheasants'; 'The Chinese Pheasant in Oregon'; 'Equipment for a Pheasant Farm'; 'The Ideal Mother for Pheasants'; 'Food for Young Pheasants'; 'Enemies of the Game Breeder'; 'Advice to Beginners'.

The demand for game and the absolute necessity of preventing the marketing of native species will make this industry of constantly increasing importance and this excellent little pamphlet will be in much demand.—W. S.

**Recent Biological Survey Publications.**—The ornithological activities of the Survey as set forth in the annual report of the chief, Mr. Henry W. Henshaw,<sup>2</sup> covered the food of Wild Ducks; the relation of birds to the Boll and Alfalfa Weevils and to the Range Caterpillar; the economic status of the Starling; and the general protection and attracting of birds and enforcement of the migratory bird law.

Mr. W. L. McAtee has prepared a timely report on 'How to attract Birds'<sup>3</sup> covering protection of grounds from cats, and the preparations of all sorts of feeding and shelter devices. There is also appended a valuable list of wild fruit and berry bearing trees and shrubs with their fruiting seasons. A report on the food of Robins and Bluebirds<sup>4</sup> by Prof. Beal sets forth in great detail the animal and vegetable food of these familiar birds as shown by the extended investigations of the Biological Survey.

<sup>1</sup> Pheasant Farming. By 'Gene M. Simpson. Bull. No. 2, Oregon Fish and Game Commission, 1914.

<sup>2</sup> Report of Chief of Bureau of Biological Survey. By H. W. Henshaw. Advance Sheets from Annual Report of the Dept. of Agriculture for 1914 [Dec. 12, 1914], pp. 1-12.

<sup>3</sup> How to Attract Birds in Northeastern United States. By W. L. McAtee. Farmers Bulletin U. S. Dept. Agr. No. 621, Dec. 14, 1914, pp. 1-15.

<sup>4</sup> Food of the Robins and Bluebirds of the United States. By F. E. L. Beal. Bull. U. S. Dept. Agr. No. 171, Feb. 5, 1915, pp. 1-31.

In the case of the Robin the birds do no serious damage when their normal food supply is abundant, but in sections of New Jersey where the birds have been protected for years, they are constantly increasing, while the native berry bearing shrubs have been largely supplanted by domestic varieties. They are then very destructive to the berry crops and as Prof. Beal says: "Under such circumstances there is no doubt that a law allowing the fruit grower to protect his crop when attacked by birds would be proper." The Robin is similarly destructive to the olive plantations of California.

The examination of the Bluebird's food "fully justifies the high esteem in which the bird is held. It does not prey upon any product of husbandry or in any way render itself injurious or annoying." During the berry season of spring and early summer it feeds mainly upon insects, its fruit eating period being from late fall to early spring when waste fruit is available.

Prof. Cooke<sup>1</sup> describes the attempt to secure an estimate of the number of breeding birds in various sections of the country during 1914. The plan was the same as that outlined in the request for coöperation in a similar effort during 1915 which appears in 'Notes and News' of the present issue of 'The Auk.'

The 1914 census showed the Robin to be the most abundant species in the Northeastern States, with the English Sparrow second, followed by the Catbird, Brown Thrasher, House Wren, Kingbird and Bluebird.—W. S.

#### **Economic Ornithology in Recent Entomological Publications.**—

The most emphatic acknowledgement of the economic value of birds in any recent entomological paper is that of Mr. J. A. Hyslop in a bulletin on "Wireworms attacking cereal and forage crops,"<sup>2</sup> who says, "Probably the most important factor in keeping wireworms in check are the birds." The significance of this statement is apparent from the authors estimate that wireworms are among the 5 worst pests of Indian corn, and among the 12 worst for wheat and oats. A list is given of 90 species of birds found by the Biological Survey to feed upon wireworms.

In a report on "The grasshopper problem and alfalfa culture,"<sup>3</sup> Professor F. M. Webster states that "upward of 100 species of birds are known to feed to a greater or less extent upon grasshoppers, but probably the most useful in this direction are quails, prairie chickens, the sparrow hawk and Swainson hawk, the loggerhead shrike, all cuckoos, the cowbird, all black-birds, and meadowlarks, the catbird, and the red-headed woodpecker."

The results of some original investigations by Messrs. R. N. and T. Scott Wilson of the bird enemies of the three cornered alfalfa hopper (*Sticto-*

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<sup>1</sup> Preliminary Census of Birds of the United States. By Wells W. Cooke. Bull. U. S. Dept. Agr. No. 187, Feb. 11, 1915, pp. 1-11.

<sup>2</sup> Bulletin 156, U. S. Department of Agriculture, Jan. 27, 1915, 34 pp.

<sup>3</sup> Farmers' Bulletin 637, U. S. Department of Agriculture, Jan. 25, 1915, 10 pp.