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[1] 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,"[2] 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,"[3] 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 blackbirds, 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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[1] 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.

[2] Bulletin 156, U. S. Department of Agriculture, Jan. 27, 1915, 34 pp.

[3] Farmers' Bulletin 637, U. S. Department of Agriculture, Jan. 25, 1915, 10 pp.

cephala festina) are presented by V. L. Wildermuth.[1] Thirty-one stomachs representing 8 species of Arizona birds were examined and specimens of the alfalfa hopper found in 10 stomachs. The species of birds eating this insect were the Killdeer, Black Phœbe, and Sonoran Red-winged Blackbird. A record for the Nighthawk is quoted from Biological Survey records.

Bird enemies of midges, especially the giant midge (*Chironomus plumosus*) are mentioned in various recent papers by A. C. Burrill.[2] The species of birds mentioned are the Tree Swallow, Barn Swallow, Kingfisher, Sandpipers, Red-winged Blackbird, English Sparrow, and Palm Warbler.

In his ninth report [3] as state entomologist of Minnesota, Professor F. L. Washburn, includes an article on "Useful Birds found in Minnesota." Paragraphs containing brief descriptions of appearance and habits, and the more important economic information about 21 species of birds form the bulk of the report. Discussion is included also of bad birds, birds of doubtful utility, and protection of planted corn from crows and other animals.— W. L. M.

Two Recent Papers on Bird Food by Collinge.— In "Some Observations on the food of nestling sparrows," [4] Professor W. E. Collinge presents a comparative study of the food of juvenile *Passer domesticus* taken in fruit-growing and in suburban districts. The report is based on examinations of more than 280 stomachs, and is a convincing demonstration of the powerful influence of availability in controlling the choice of food by birds. The illustration of this factor is the occurrence of kitchen refuse in 53 out of 87 stomachs of suburban sparrows, and in only one out of 200 birds collected in fruit-growing regions.

The results of the study, on the whole, are favorable to the sparrow. Professor Collinge "is of the opinion that if this species were considerably reduced in numbers, the good that it would do would probably more than compensate for the harm, especially in fruit-growing districts."

The second paper in hand is a brief summary of the economic importance of British Wild Birds.[5] The commoner species are classed in the following groups:

1. Distinctly injurious — House-sparrow, Bullfinch, Sparrow-hawk, Wood-pigeon, and Stock-dove.

2. Too plentiful, and consequently injurious — Missel Thrush, Blackbird, Greenfinch, Chaffinch, Starling, and Rook.

3. Injurious, but not plentiful — Blackcap.

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[1] Journal of Agricultural Research, Vol. III, No. 4, Jan. 15, 1915, p. 360.

[2] By the Wayside, Vol. 13, No. 7, March, 1912, pp. 50–51; Vol. 14, No. 6, February, 1913, p. 44; Bulletin Wis. Nat. Hist. Soc., Vol. X, Nos. 3–4, April 18, 1913, pp. 145–146; Vol. XI, Nos. 1–2, June, 1913, p. 66.

[3] Fifteenth Rep. State Entomologist of Minn., 1913–1914, pp. 1–19, Col. Pls. 1–3. Also issued as Circular No. 32.

[4] Journ. British Board of Agriculture, Vol. XXI, No. 7, October, 1914.

[5] Nature. Jan. 7, 1915.