

saving from extinction grouse, ptarmigan and water fowl in certain sections, while the law against spring shooting is generally respected.

The New Jersey Audubon Society has issued an attractive annual report,¹ devoted especially to the Junior Audubon class work.— W. S.

A Beginning of Philippine Economic Ornithology.— Mr. Richard C. McGregor, Ornithologist of the Philippine Bureau of Science has undertaken the study of the economic value of birds in the Philippines, in which work he has the support and coöperation of the Agricultural Congress. A circular requesting information has been issued, accompanied by a card upon which the data can be entered. There has been published also a press bulletin² intended to arouse interest in the work. This publication illustrates some common types of Philippine birds, and contains general notes on the food of many species, and specific data on a few.

It is to be hoped that good progress can be made on the elucidation of the economic ornithology of the Philippines, and that the results in rational protection of birds will be satisfactory.— W. L. M.

Collinge's 'Some Observations on the Rate of Digestion in Different Groups of Wild Birds.'— Under this caption, Professor Walter E. Collinge summarizes³ the investigations of other workers, and presents the results of his own studies on rate of digestion in the Rook, Starling, and House Sparrow. The various findings agree very well that the contents of the stomach are completely digested in about four hours. From this it would seem that the human plan of three meals a day must be largely prevalent among birds. The reviewer has presented evidence⁴ that a much larger number of meals may be taken when the food consists of particularly delicate insects.— W. L. M.

Economic Ornithology in Recent Entomological Publications.— In "Some notes on the western twelve-spotted . . . cucumber beetles,"⁵ Mr. R. A. Sell notes that "The only birds observed actually eating these insects were the purple finch, the bush-tit, the linnet and the canon wren."

The Biological Survey records add to this list: the Pipit, Wren-tit, Tule Wren, Red-shafted Flicker, Steller's Jay, Yellow Warbler, Western Yellow-bellied Flycatcher, Trail's Flycatcher, Brewer's Blackbird, Western Yellow-throat, Lutescent Warbler, Barn Swallow, Russet-backed Thrush, Bullock's Oriole, California Shrike, Valley Quail, Gambel's Quail, Cliff Swallow, California Towhee, Spurred Towhee, Black Phoebe, Vigor's Wren, and Black-headed Grosbeak. Some of these birds feed extensively

¹ Fifth Annual Report of the New Jersey Audubon Society. Oct. 5, 1915. pp. 1-23.

² No. 32, rev. Bureau of Science, 14 pp., Dec. 29, 1915. *Birds in Their Economic Relation to Man.*

³ Journ. Econ. Biol., Vol. X, No. 3, Sept., 1915, pp. 65-68.

⁴ Yearbook, U. S. Dept. of Agriculture, 1912 (1913) pp. 402-403.

⁵ Journ. of Economic Ent., Vol. 8, No. 6, Dec. 1915, p. 518.