the Water-fowl 'Unit' and we understand that other 'Units' are to appear shortly dealing with "Eagles and Owls" and with "Fish-eating Birds."

While much has been published in the way of popular information and instruction on bird protection, the recent activities of sportsmen's organizations in the thoughtless destruction of various birds supposed to destroy "game," and the difficulty in making the public at large realize man's part in the decrease in water fowl, make it imperative that full knowledge of these topics be added to the courses in conservation conducted in our schools and the pamphlets here noticed seem to be an excellent effort in the right direction. The greatest opportunity for conservation lies in education in the schools, for the children are open minded while the sportsmen often are not, and it is the children of today who will frame the laws of tomorrow.—W. S.

Russian Economic Ornithology.—A few recently received papers illustrative of this field are herewith reviewed.

V. I. Tichvinsky[1] discusses analyses of 370 stomach contents representing nine species of Russian wild Ducks, four of which are the same as species occurring regularly in the United States. Two tabulations are presented, one of spring and the other of autumn foods. It is evident that the items are much the same as those found in studies of American wild-fowl. The pondweeds, bullrushes, bur-reeds, waterlilies and smartweeds are prominent among the vegetable, and snails, water beetles, dragonflies and caddis-flies among the animal items of food. The Gadwall, as with us, is a great consumer of green vegetation, and the Shoveller of mollusks; other species have less pronounced tastes. The text is in Russian, a summary in Esperanto.

A statement[2] is made about natural enemies of the ground-squirrel in which the Kite, Buzzard, Kestrel, Golden and White-tailed Eagles and Long-eared Owl are credited with preying upon the animal and eight other birds of prey not known to do so are named. Text in Russian, summary in English.

Birds of prey are also credited[3] with causing a rapid decrease in severity of an outbreak of the Steppe Lemmer. The birds most prominently mentioned are *Milvus koshun, Circus macrurus,* and *Asio accipitrinus.*

A paper by Jarkoff and Teploff[4] is based on nest studies, includes analysis of remains of prey about the nest, disgorged food, and the contents of stomachs, during the years 1924 to 1930. The interesting statement is

[1] The Food of Aquatic Game Birds. By V. I. Tichvinsky. Records Volga-Kama Biologic-Trade Station, 1a, 1931. Pp. 169–202.

[2] The Biology of the Reddish Ground-squirrel (*Citellus rufescens* Keys. et Blas). By V. I. Tichvinsky. Records Volga-Kama Biologic-Trade Station, 2, 1932. Pp. 46–89, 19 figs.

[3] On the biology of the Steppe Lemmer (*Lagurus lagurus* Pall.) and experiments for its control. By N. M. Sewenov. Journ. Agr. Sci. of southeastern U. S. S. R., 8(2), 1930. P. 394.

[4] Materials on the Food of the Birds of Prey. By J. V. Jarkoff and V. P. Teploff. Records Volga-Kama Biologic-Trade Station, 2, 1932. Pp. 138–201, 17 figs.

made that raptors prefer the front part of the body of prey, and that the frequently observed weakness and death of the youngest nestling is due not only to reduction in quantity of food obtained but also to its quality because the front part of the body is usually eaten by the older nestlings which seize it first.

The authors divide the raptors studied into two groups, (a) those that prefer prey of a definite group and take other only casually, and (b) those habitually taking a mixed diet. In the first class are the mouse-eaters, *Cerchneis tinnunculus, Bubo bubo, Syrnium aluco, Asio flammeus,* and *Asio otus;* the bird-eaters *Astur palumbarius* and *Accipiter nisus;* a fish-eater *Pandion haliaetus;* and insect-eaters *Erythropus vespertinus* and *Pernis apivorus.* In class "b" are mouse and bird eaters as *Aquila clanda, Cercus aeruginosus* and *Circus pygargus;* mouse and insect eaters as *Athene noctua, Nyctale tengmalmi, Glaucidum passerinum,* and *Scops giu;* and omnivorous species as *Buteo buteo, Milvus korschun,* and *Haliaetus albicilla.* Text in Russian, summary in English.

A report on the Gray Crow[1] was based on field study and 170 stomach analyses, and the results are presented according to seasons. In May and June the predominant food is insects of which more than half are of injurious and the others of neutral sorts. Some mice also are eaten. In July fishes and mollusks caught in drying pools left by spring floods, as well as insects (69 per cent harmful) are consumed. From August to November grain is freely eaten, some of it from crops. In March and April grain, this time chiefly waste, predominates but many mice are eaten and a variety of refuse. The author believes that the Crow is generally useful to agriculture and as a scavenger, but that it does some damage to hunting interests. Text in Russian, summary in English.

1070 pellets of Magpies from winter roosts along the Kama River were studied by Vlasoff and Teploff.[2] Leading items of food found in the numbers cited were, rodents 684, moles and shrews 38, birds 5, Anura 3, fishes 124, insects 63, besides a considerable variety of seeds. The authors state that under the conditions of this study the Magpie was an omnivorous but completely useful bird and that Magpie killing by hunting groups should not be permitted. The usefulness of old Magpie nests to such beneficial birds as the Long-eared Owl and Kestrel also is noted. Text and bibliography of 14 titles in Russian, summary in English.—W. L. M.

Shorter Publications.

Allen, Arthur A.—A New Bird for North America. (University State of N. Y. Bulletin to Schools, XX, No. 13, March 15, 1934.)—Capture of a

[1] Economic Importance of the Gray Crow (*Corvus cornix* L.) in the Lower Kama Valley. By D. J. Aspeasoff. Records Volga-Kama Biologic-Trade Station, 2, 1932. Pp. 202–227, 4 figs.

[2] Food of the Magpie—Pica pica L. By A. A. Vlasoff and V. P. Teploff. Records Volga-Kama Biologic-Trade Station, 2, 1932. Pp. 228–240.