

of paragraphs. While the treatment is thus rather uneven a great variety of matter is presented in connection with the species that are considered in detail, covering general history, fossil birds and habits of specimens in the Washington "Zoo."—W. S.

The Food of Australian Birds.¹—Dr. J. B. Cleland presents a summary of investigations relating to the food of Australian Birds done by himself and Messrs. J. H. Maiden, W. W. Froggatt, E. W. Ferguson and C. T. Musson. The data is presented under the following headings: Broad Summary of Results, Detail Summaries and Verdicts on Individual Species, Food of Birds from the Botanical Aspect, List of Birds Feeding on Particular Foods, and Tabulated Results of Examination of the Contents of Stomachs and Crops Examined. In the summaries one finds nothing conveying an idea of the volume of food items, in the absence of which it is difficult to conclude just what are the important foods. Now that Professor W. E. Collinge of St. Andrew's University has adopted and championed the volumetric system of food analysis, it is to be hoped his colleagues in the British Dominions also will realize its advantages. In the discussion in the booklet reviewed the majority of the species are commended. The principal exceptions are: the Crow, Starling, and House Sparrows which for best results should be kept under strict control, the Silver-eyes, which must often be suppressed for the welfare of cultivated fruit, certain Parrots which destroy grain and the bee-eaters. Pigeons, Doves, Quails, most Waterbirds and the Honey-eaters are mentioned as having no marked economic significance.

Points of interest may be noted in connection with the lists of birds feeding on particular foods. The longest list, 73 species, is of birds feeding on ants, a group of insects that a certain school of biologists defines as "specially protected," the models for "mimicking" insects in all orders. Small comforts here for either the "mimics" or the biologists. Caterpillars and other stages of Lepidoptera are cited with 68 bird enemies, flies with 59 and grasshoppers and their allies with 35. Thrips are recorded from the stomachs of four species, probably a better list of enemies of these minute insects than could be made with present knowledge for birds of the United States. However, all of the other lists of birds feeding on weed seeds and groups of destructive insects could easily be exceeded from American records.—W. L. M.

The Ornithological Journals.

Bird-Lore.² XXI, No. 5. September–October, 1919.

William Brewster. By Frank M. Chapman. A beautifully written and appreciative sketch of his life and works.

The Spotted Sandpiper. By C. W. Leister.—An account of its home life with admirable photographs.

¹ Science Bul. No. 15, Dept. Agr. New South Wales, July, 1918, 112 pp.

² D. Appleton & Company, Harrisburg, Pa.