

is left to enjoy his prize in peace. Occasionally one sees a solitary Swamp Sparrow as he patters over the mud and trash caused by the overflow of lake or river. His discordant metallic *chink* does not impress one as a feathered friend at all. The first time I visited the Nova Scotia wilderness in quest of big game, when a boy of sixteen, I remarked upon the absence of crows to an old guide. "No sir," said he, "you will never see or hear one back here, but I should like to bring a live one out here and let him go; he wouldn't live long." "Why?" I queried. "Oh," the guide replied, "he would fly up to one of these big granite rocks

and caw himself to death trying to locate a friend." This fall I was surprised to hear a Song Sparrow burst forth into song. He was at least twenty-five miles from civilization. I waved my hat in his direction and wished him a safe journey south and an early return next spring. He was the exception to the rule.

We may sum up the perching birds that may be seen in the wilderness here as follows: Great-Horned Owl; Raven; Jay; Chickadee; Crossbill; Flicker; Robin; Hawk; Swamp Sparrow. The first five mentioned are residents.

H. A. P. SMITH, DIGBY, N.S.

### BOOK NOTICES AND REVIEWS.

LEAD POISONING IN WATERFOWL, by Alexander Wetmore, Bulletin No. 793, U.S. Dept. Agr., Professional Paper, Washington, D.C., July 31, 1919. This is a twelve-page pamphlet of considerable interest to sportsmen, conservationists and ornithologists. Many of our ducking marshes have been shot over for a good many years. Each shot so fired scatters in the neighborhood of an ounce of shot over the bottom. Mr. Wetmore estimates that on one large marsh examined by him an average of 75,000 shells are fired annually. This amounts to over two tons a year. As lead shot resists corrosion and is practically everlasting, the effect is cumulative and amounts to over eighty tons in the past twenty years. The shot gradually sinks in the mud, of course, but as tipping ducks, such as Mallard, Pintail and others, dig down into it from 12 to 16 inches, it is evident that their opportunity for picking up shot is considerable. On examination the author found in the mud from the bottom in the neighborhood of favorite shooting stands from 20 to 22 No. 6 shot in each sample dredged up and examined. The ducks in sifting through the mud for food retain any small hard particle like gravel and the presence of real gravel does not seem to prevent them from taking the shot as well. Experiments on captive specimens of wild species proved that six pellets, often less, are fatal to ducks.

In this manner large numbers of ducks have been poisoned in certain marshes every year though it is only lately (see Bowles, *Auk*, XXV, 1908, pp. 312-313) that the cause of the deaths was recognized. By a process of experiment and elimination it was proved that it is the lead content and not the additions to the metal such as arsenic that causes the trouble, though chilled shot is less rapid in its effects than soft.

The paper deals at length with the symptoms and pathology of the poisoned conditions. The first ef-

fect is a weakening of the wing muscles until the power of flight is lost, difficulty is experienced in walking and partial or complete paralysis of the legs ensues. The wings drag and the tail droops. The bird's appetite remains good and even increases, but the food does not seem to pass the stomach and the proventriculus and lower esophagus become distended with food. The fecal matter is green and watery. The heart is finally affected and death comes in from a few days to five weeks.

Though magnesian sulphate in water, 60 grams to 10 quarts, seems to give relief and sometimes cure in individual treatments no suggestions as to treatment or prevention on a large scale is proposed. It is suggested that by its nature the trouble is more likely to increase than decrease but the author seems more anxious over the effect the lead poisoning will have, even in the cases of birds showing considerable resistance to or even recovery from it, on reproductive fertility, than over the number it actually kills.

So far only Mallards, Pintails, Canvas-backs, Whistling Swans and Marbled Godwits have been known to be affected, and as shot is common in stomachs of wild ducks examined by the Biological Survey, it seems that some individuals or species have more or less tolerance for, or resistance to, lead poisoning, or its effects would be more widespread and serious. It would be well for the sportsmen to look out for sickly ducks and examine them for lead poisoning, in order that fuller details may be known.

P. A. TAVERNER.

ANNOTATED CHECK LIST OF THE MACROLEPIDOPTERA OF ALBERTA. By Kenneth Bowman. Published by the Alberta Natural History Society, Red Deer, Alta., 16 pp., February, 1919.

For a number of years the late F. H. Wolley-

Dod, who was one of our leading lepidopterists, published in the *Canadian Entomologist*, a series of papers dealing with the lepidoptera of the province of Alberta. Since the appearance of Mr. Dod's last paper, however, other indefatigable collectors, particularly Messrs. Bowman and Mackie, of Edmonton, have added many records new to the province. The new list prepared by Mr. Bow-

man is certainly a useful publication and I have had many occasions to refer to it. In the preparation of this list the author has "endeavored to provide an epitomy of what has been accomplished by students of this order within the province to date, as an aid, not only to present workers, but those who will follow after."

ARTHUR GIBSON.

### OTTAWA FIELD-NATURALISTS' CLUB SATURDAY AFTERNOON EXCURSIONS FOR THE SEASON OF 1920.

May 1. Geology.—Rockcliffe Park.—Meet at the first stop in the Park.

May 15. General natural history.—Catfish Bay, along the Ottawa River just west of Hull.—Meet in front of the Eddy Co's office.

May 29. Botany and Ornithology.—Fairy Lake. Take the Chelsea road electric car line to the end of the loop.

June 12. Entomology (Mr. C. B. Hutchings, Leader).—Queen's Park, Aylmer.

June 26. Horticulture (Mr. W. T. Macoun, Leader).—Central Experimental Farm, Ottawa.

Sept. 18. General natural history.—Britannia.

The time of meeting at the points indicated will

be 2.45 p.m. Leaders conversant with the subjects mentioned will be present to render assistance. All interested are cordially invited to attend.

An unusually well-attended meeting of the Excursions Committee of The Ottawa Field Naturalists' Club was held on the afternoon of April 8, for the purpose of formulating the above programme for the coming season.

Reference was made incidentally to two very enjoyable reunions of the Club held during the past winter, and the intention was expressed of holding similar meetings and outings during the next winter season.

### OBITUARY.

#### JAMES MELVILLE MACOUN, C.M.G.

Succumbing to a fatal illness, James Melville Macoun, C.M.G., passed peacefully away, in Ottawa, on January 8th, 1920.

The late James Macoun was born in Belleville, Ont., in 1862, and was the son of Professor John Macoun, the illustrious Father of Canadian Botany, who, living at Sidney, on Vancouver Island, B.C., is still active in natural history research. James Macoun attended the Belleville High School and Albert College, where, at that time, his father was Professor of Botany. When, in 1882, Professor Macoun was called to Ottawa to take charge of the botanical and other natural history work in the Geological Survey, James Macoun became his Assistant, beginning regular work with the Dominion Government in 1883. As early as 1881, however, he assisted his father in field work, exploring the territory between Portage la Prairie, Man., and the headwaters of the Assiniboine.

James Macoun was a born naturalist and natural history explorer. Although, by natural inclination, he gradually specialized in botany, he made most valuable contributions in other branches of natural

history. The wideness of the extensive scope of work in which Mr. Macoun was engaged during his long career as a Canadian naturalist may be more fully realized from the brief data which are presented herewith.

In 1884, at the age of twenty-two, Mr. Macoun made extensive collections of Cambro-Silurian fossils in the Red River valley, Man., on the west shore of Lake Winnipeg, and on the adjacent islands. In 1885, he collected natural history specimens in general in the Lake Mistassini district in the Province of Quebec and, the following year, worked along the line from Lake Winnipeg, Man., to Hudson bay. In 1887, Mr. Macoun explored islands of James Bay and contributed much interesting information, floristic and zoological, to the knowledge of the natural history of the southern part of the Hudson Bay region.

In 1888, he collected plants and birds along the Athabaska and the Churchill rivers, and in the following year collected, with his father, birds, mammals, reptiles and insects in British Columbia. He also greatly assisted his father in making a very



Gibson, Arthur. 1920. "Annotated Check List of the Macrolepidoptera of Alberta, by Kenneth Bowman [Review]." *The Canadian field-naturalist* 34(2), 37–38. <https://doi.org/10.5962/p.337947>.

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