

relates some of his interesting field experiences. Of mammals, he gives notes on grizzly bear, hoary marmot, Columbian ground squirrel, little chief hare, bushy-tailed woodrat or pack-rat, mountain flying squirrel, and Hudson Bay red squirrel.

Of birds, he gives many interesting notes on the habits of Richardson's grouse, grey ruffed grouse, Franklin's grouse or fool-hen, white-tailed ptarmigan, and golden eagle. Though he has written little, Mr. Spreadborough has a keen eye and ear for natural history work, and his wide journeyings into some of the most inaccessible parts of Canada have given him a wide knowledge of the habits of beasts and birds. It is to be hoped that he will put more of his observations on record.

R. M. ANDERSON.

MIGRATIONS OF THE GRAY SQUIRREL (*Sciurus carolinensis*). By Ernest Thompson Seton, *Journal of Mammalogy*, Vol. I., No. 2, February, 1920, pp. 53-58. Mr. Seton quotes from early accounts of "incredible" migrations before the eastern wooded area was thickly settled. Robert Kennicott records a migration from Canada across the Niagara River into western New York. As corroboration of the high figures given by the old naturalists, from which may be deduced a gray squirrel population of several billions at one time in the area inhabited by the species in 1800, Mr. Seton states that recently it was necessary to thin out the gray squirrels in the protected area of Central Park, New York, and 300 were shot without making much perceptible difference. That is, there were over 1000 to the 300 acres of timber. "In my recollection of a squirrel woods in Ontario, 1887, the numbers in Central Park are not to be compared to those in the northern woods. They were at least three times as numerous in the latter and yet we knew that there were about three to the acre in the park."

Mr. Seton asks young naturalists to render service now by interviewing all available old-timers who hunted squirrels in the 60's, and make a record of the time, place, extent, direction, etc., of every emigration that can be traced, together with facts that bear upon the causes and results or that in any way offer interesting light.

R. M. ANDERSON.

The Condor, Vol. XXI., ending Dec., 1919. During the past year there has appeared in this publication the following papers and articles of interest to Canadian readers:

P. 42, Sapsuckers and Hummingbirds, a short note by H. H. Mitchell, Provincial Museum, Regina, Sask. In this is described the visits of at least seven Ruby-throated Hummingbirds that successive-

ly came to drink sap flowing from the drilling made by a Yellow-bellied Sapsucker in a birch tree.

Pp. 57-60. Notes on the Breeding Habits of the Red Crossbill in the Okanagan Valley, British Columbia, by J. A. Munro, Okanagan Landing, B.C. This is an interesting paper on a little known subject. The author states that he secured specimens "which plainly show reversion from the yellow plumage to the red," thus giving evidence supporting the much disputed view that the red plumage is not the livery of the most mature birds.

Pp. 80-86. The Summer Birds of Hazelton, British Columbia, by P. A. Taverner, Geological Survey, Ottawa. This is an annotated list of 69 species noted or collected, in the summer of 1917, at Hazelton, on the Grand Trunk Pacific at its most northern point in British Columbia, by Wm. Spreadborough and the author.

Pp. 91-92. Letter by Mr. A. B. Howell, continuing the discussion started by Mr. Taverner's use of binomials.

P. 124. Mr. J. H. Fleming, of Toronto, has a note giving measurements and descriptions of Trumpeter Swans from California, the St. Clair Flats, Mich., and the State of Washington. Mainly details of a specimen in the British Museum, supplementary to its citation in *The Game Birds of California*.

Pp. 175. Editorial notice of the departure—May 14th, of a zoological collecting expedition from the Museum of Vertebrate Zoology, University of California, into Alaska and British Columbia, entering in the vicinity of Wrangell to proceed up the Stikine River to the neighborhood of Telegraph Creek. The party was composed of Mr. Harry S. Swarth, Curator of Birds in the museum and Mr. Joseph Dixon, Economic Mammalogist, and local assistants. It may here be noted that they returned in October with a large collection of important material. The expedition and the report that is planned to be published on its results was made possible through the financial interest of Miss Annie Alexander who has done so much to further zoological investigation on the Alaskan and British Columbian coast. It is well recognized in California, more perhaps, than anywhere else in this country that it is impossible to truly understand local zoological problems without studying adjacent extralimital territory.

Pp. 222-225. Bird Notes from Saskatchewan, by Mr. H. H. Mitchell, with three photographic illustrations. This consists of annotations on several species of birds. Brewer's Sparrow was found in some numbers in the valley of the Frenchman river, taken June 16, 1919, and fairly common between Eastend and Ravenscrag. Specimens identi-