During the first year or two, the occasional use of the hoe around the newly introduced plants will hasten growth, but during the season of bird nesting, from May 1st to July 1st, too frequent presence on the reserve is not desirable until the birds have become thoroughly at home.

A plot of ground set apart for a bird reserve and treated as described above ought to begin to show practical results in the second year, and it will be surprising what a tremendous difference in bird numbers can be made by a little attention to their needs.

That this attention will give a substantial return in dollars and cents cannot be gainsaid, while for those fortunate country residents who already love the birds, and desire their presence, the results will be a constant joy.

Personal inquiries on this subject are invited by the writer.

MYOSURUS IN CANADA—I.

BY EDWARD L. GREENE.

Throughout the whole of Eastern North America the genus *Myosurus* is very scantily and feebly represented, and that too, in as far as our knowledge goes by the single species, *M. minimus*, an old world plant and the type species of the genus; and this is so great a rarity here at the east as to have been observed hitherto in no more than two localities, east of the Ohio river. One of these stations is Belleville, in southeastern Ontario, the other Norfolk, in the extreme southeastern corner of Virginia. The two stations are about 500 hundred miles apart in linear distance. For none of the intervening states of New York, Pennsylvania, Maryland, or for any of those of New England or the Maritime Provinces of Canada, is there any record of Myosurus; and for further demonstration of the complete isolation of the plant at Belleville, let it be taken note of that from that point southwestward to south-central Illinois, where it occurs again, the distance is some 750 miles. Then measuring the distance westward and within the Dominion, to where it occurs again in Assiniboia, we have 950, if not a round 1000 miles.

At the time when the plant was first detected at Belleville its isolation there would have appeared still more pronounced if the matter of its very sparing occurrence in North America had been taken into consideration; for in 1878, when Professor John Macoun brought forward specimens from there, the Virginian habitat was not yet known, and the nearest known stations for it eastward and southward were as very far away as Georgia, Tennessee, and Kentucky. At Norfolk, Virginia, it was not detected until 1893, or fifteen years later than Professor Macoun's obtaining it at Belleville.

Mr. F. V. Coville, the discoverer of the Norfolk habitat, remarked that the plant had the appearance of a recent arrival there; but in the case of the station in Ontario, Professor Macoun registers no supsicion that it is other than indigenous there. Indeed, he took it to be native, as we shall see later; and in this he may have submitted to the opinion of authors within the United States, not one of whom, in writing of *M. minimus* as occurring with us here, and there southwestward and far westward, expresses a doubt about its being native. Accepting this doctrine, there was, with the discoverer of the Ontario station, no occasion to question how the plant came there, however strangely isolated it was. But here I must reproduce his very interesting first notes about it in the first volume of the Catalogue of the Plants of Canada, P. 15.

"On ground subject to overflow and on limestone shingle at the ferry house opposite Belleville, Ontario; rocky pastures west of Albert College, Belleville, Ontario."

Here are given as many as three different kinds of environment for the plant as it was found growing in the vicinity of Belleville, now almost forty years since; and I know of no other more recent mention of Myosurus as being there. Results of a diligent, renewed investigation of the locality after so long a lapse of time would be very interesting, whatever they might be. One thing, however, which the language of Professor Macoun suggests to me is the possibility of there being in the Belleville neighborhood more than one species of the genus. I refer to the different kinds of environment, in each of which he found the plant growing. The expression, "ground subject to overflow", though not very definite, implies the prevalence of a good degree of moisture; but whether some stretch of low plain be meant where a temporary pool is formed after every good rain, or whether it were a stream bank where waters rise and fall at intervals—all these are uncertainties. But the European plant is said to grow there nowhere but in low, moist lands. This is not, however, true of all the

several Myosurus species native to America in the Great Basin and on the Pacific slope of the continent; and when "limestone shingle" is named as another environment of the Belleville Myosurus, the mind of the widely travelled student of these plants is reminded of the habitat of certain far western members of the genus. So also does the Belleville rocky pasture locality; for that should mean on the rocks themselves, either in their seams and crevices or on top of them, where there is little depth of earth, and some considerable degree of aridity; for as far north as eastern Ontario, all, except the rocks of a pasture, is occupied by perennial grasses, into the sod of which no Myosurus or other annual finds a foothold. In a word, the whole story of the Ontario locality for these plants points to the derivation of this colony from the far westward. Moreover, between the northwestern shore of Lake Ontario and those far-away Myosurus stations of the Southern States, there is practically no commercial traffic at all; whereas, by means of the Canadian Pacific Railway System, there is a very direct and constant inter-communication between all British Columbia and even eastern Ontario.

Long after his having discovered that Belleville colony of these plants, Professor Macoun found Myosurus on Vancouver Island, and I find his remark on this also very interesting It occurs in his supplement to the volume already quoted, page 479. Listing it there, still under the name *Myosurus minimus*, he says: "It is extremely probable that the British Columbia form is a distinct species." This is a plain intimation that while still regarding the eastern plant as the real original *M. minimus* and native there, he saw discrepancies between the two, and suspected the Vancouver Island plant to be really new and nameless. Into these matters the present writer intends making further and critical research, the results of which may be presented later.

THE GENUS *ANTENNARIA* IN GREENLAND.

BY MORTEN P. PORSILD.

The Antennarias of Greenland have for a long time—by Joh. Lange and later authors—been determined as (1) *A. alpina* (L.) Gaertn., (2) *A. alpina* var. *glabrata* J. Vahl, (3) *A. dioica* var. *hyperborea* Don, to which L. K. Rosenvinge has added (4) *A. alpina* var. *intermedia* Rosenv. A closer study