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CANADIAN SPHAERIIDAE.

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There are few more fascinating objects of study in natural history than the members of the family of small bivalve mussels known as the *Sphaeriidae*. They abound in the vicinity of Ottawa, and indeed throughout the whole Nearctic region. The drainage area of the Great Lakes, and of their outlet, our own St. Lawrence, may be regarded as the metropolis of the family in North America. Yet, as Dr. Vincent Sterki recently pointed out,¹ the fauna of the Great Lakes themselves is only fragmentarily known; but, so far as known, presents many peculiar forms and possibly species. Still less are we acquainted with the fauna of the vast areas northward, extending from Newfoundland through Labrador and across Canada to the Rocky Mountains. In Prince Edward Island, Mr. C. Ives, of Miscouche, has collected a few species. In the vicinity of Ottawa, in Ontario and Quebec, considerable work was done many years ago by the members of the Ottawa Field-Naturalists' Club, especially by Gilbert Heron, Dr. Fletcher, the Rev. Geo. W. Taylor, and the writer. Officers of the Geological and Natural History Survey, notably Mr. W. McInnes, gathered some material in the waters flowing into Hudson Bay. Little, however, is known of the family as it exists over the far-flung plains of the Canadian West. In Southern British Columbia, Lord found and described two new species,² and farther north, and on Vancouver Island, Prof. John Macoun and Mr. Taylor collected in a few localities.

Heron died before reaching the prime of his promising manhood. Fletcher, Taylor and Whiteaves passed away all too soon—not, however, without having accomplished and recorded achievements in various departments of natural science that will long keep their memory green. Of those who were active in the early days of the club in collecting and studying the mollusca of Canada only two remain, Prof. John Macoun and the writer. One is spending the decline of his fruitful life in distant Vancouver Island. The other for ten

months of the year is far removed from his native valley and concerned about matters but little related to natural history. Owing to lack of a leader, Conchology has for some years been dropped from the list of the club's activities. With such wide and productive areas open for original investigation, the want of interest shown is greatly to be regretted. It is not so much to publish a record of work as a member of the club as to arouse fresh interest in others, and to facilitate the collection and study of our most numerous and least known shells that the following observations are submitted. My hope is that some of our younger members may be induced to devote a part of their leisure to what I am sure they will find a delightful diversion, both out of doors and over their cabinets.

The *Sphaeriidae* are small in size, only a few species exceeding half-an-inch in length. As they ordinarily lie buried—though only slightly—in the sand or other material at the bottom of streams, ponds and lakes, they are seldom seen—never, indeed, unless where, in very dry seasons, the water has receded or evaporated, when the shells may sometimes be observed on the exposed surface. But so generally are they distributed that it might almost be said they are to be found—they should certainly be looked for—wherever there is water that is not within the category known to golfers as "casual." Yet mere depressions that contain water for but short periods in any year often yield these and several other fluvial shells.

To collect in quantity, except under conditions which seldom exist, a dredge of some kind is required. The beginner will find that a common bowl-shaped wire strainer will best serve his purpose. The size I find most useful has twelve meshes to the inch, and is six inches in diameter. I remove the handle and rim, which are too flexible and soon break, and substitute narrow, stiff, hoop-iron; but good results may be obtained without making such a change. The handle must be extended for all but very shallow water by whipping it firmly to a walking cane or light pole. On sifting in water the material raised by the dredge the shells will be

¹Annals of the Carnegie Museum, Vol. X, 1916, p. 431.

²Proc. Zoo. Soc. of London, 1863, p. 69.