

length, when entire, and not far from seven inches in its maximum height.

OTTAWA, October 9th, 1891.

NOTE ON THE OCCURRENCE OF PAUCISPIRAL  
OPERCULA OF GASTEROPODA IN THE GUELPH  
FORMATION OF ONTARIO

By J. F. WHITEAVES.<sup>1</sup>

Opercula of gasteropoda appear to be of rather rare occurrence in the palæozoic rocks of Canada. The best known and earliest described are those of *Maclurea Logani*, from the Black River limestone of Paquette's Rapids, on the Ottawa River, which were first described and figured by Salter in 1851, in the first decade of "Canadian Organic Remains." The operculum of this shell, which has fortunately been found occupying its normal position in the aperture of the shell to which it belongs, is in many respects unlike that of any known gasteropod, whether fossil or recent, both in its internal and external characters. It was described by Dr. S. P. Woodward as "sinistrally subspiral, solid, with two internal projections for the attachment of muscles—one of them beneath the nucleus and very thick and rugose."

A specimen of another species of *Maclurea*, which has since been described and figured under the name *M. Manitobensis*, with its operculum in place, was collected by Prof. H. Y. Hind in the Trenton limestone at Punk Island, Lake Winnipeg, but this operculum is very imperfect and badly preserved.

In 1874-82 several solid, calcareous and multispiral opercula were collected by Mr. Joseph Townsend in the Guelph limestone at Durham, Ont., but none of these were found *in situ*. These opercula, some of which are described and illustrated in a report on the fossils of the Guelph forma-

<sup>1</sup> Communicated by permission of the Director of the Geological Survey.