



# Bulletin of the MPE

## Anticosti in the news



Chute Vaureal Park, one of the jewels of Anticosti Island (Quebec).

**If you follow the news a little bit, you might have heard that the Federal Government supports the proposal for Anticosti Island to be designated a UNESCO World Heritage Site. We are fortunate that a friend of the MPE, Professor André Desrochers from the University of Ottawa has, for several years, lobbied the authorities concerned for this project to see the light of day.**

What is important for us today is that the selection criterion chosen by the Government to support the candidacy of Anticosti Island is its exceptional fossils record, which has no equivalent elsewhere on the planet, for the time interval covering the Late Ordovician and the Lower Silurian. The aesthetic factors, the beauty of the landscapes, and the cultural aspect, the uniqueness of its population, were not retained as criteria for selection.



## Anticosti in the news (cont.)

The Quebec government will soon have to speed up the process to protect Anticosti Island. It is also committed to working with the municipality of Anticosti Island to prepare a nomination dossier to be submitted by Canada to the World Heritage Committee under the UNESCO Convention. Professor Desrochers recently confided his thoughts on the subject:

“A well-kept secret to the general public, but well-known among researchers in stratigraphy and paleontology, Anticosti Island is a geological and geomorphological jewel. It is in this sense the best natural laboratory in the world for the study of fossils and sedimentary strata from life’s first mass extinction, nearly 445 million years ago. It is the thickest sequence of rocks in the world, as well as the most complete fossil record of a time we call the end of the Ordovician and the beginning of the Silurian.”

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“Thanks to these exceptional features, Anticosti Island allows researchers from all over the world to better understand the profound changes in climate that occurred on the planet at that time, the resulting mass extinction of species and the way life resumed afterwards. Although some Canadian sites classified by UNESCO serve as witnesses to other ancient geological epochs, no UNESCO World Heritage site covers this crucial period.”

## Anticosti in the news (cont.)

While we are all worried about the future of the biosphere, given current climate changes, it is appropriate that everyone, not only scientists, can see *in situ* the traces that the environmental changes of this distant time have left behind. To do this, it is essential that, in addition to being able to show the actual geologic cross-section, located fortunately near Port-Menier, there is an onsite interpretation center to familiarize the visitor with the paleontology of the island and the history of life. Professor Desrochers says:

"An idea that had been brewing for some time in the mind of John Pinault, Mayor of Anticosti Island municipality, was the construction of a natural history interpretation center an important part of which would be reserved for paleontology. There is no doubt that the Federal Government's decision to add Anticosti Island to its list of UNESCO World Heritage Sites in Canada will help bring this project to fruition. The MPE, with its fine collection of fossils from Anticosti Island and its recognized expertise and experience in mounting exhibitions, will play an important supporting role in the creation of an interpretation center. But before that, a steering committee and a scientific committee will soon have to be constituted by the three levels of government to establish a strategic plan to submit a complete nomination file to UNESCO World Heritage by 2023."

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## Anticosti in the news (cont.)

The committee will have a lot to do. For example, advanced research must be done and published, adequate tourist infrastructure must be built and the case for UNESCO must be developed. For us, this means ensuring that the MPE is chosen for the implementation of the interpretation center. It also means gathering the fossils and building the modules in time for the opening. After the big exhibition at the Biodôme the preparation of which will hold our attention during the coming year, it will be necessary to place Anticosti at the top of the list of things to do.

One last remark: the Port-Menier interpretation center could be presented as a branch of the MPE located in Montreal. This poses a problem: there is no MPE in Montreal yet. This is a motive to finally open a permanent exhibition venue for the MPE, part of which would be devoted to Anticosti. J.-P. G.

## Ongoing scientific publication projects on some of our Anticosti Island fossils

In our previous bulletins, we talked about the fact that the MPE curates Anticosti Island fossils from various sources. We will summarize this a little later in this text. Also, and it is important to mention this, these specimens, kept in the MPE laboratory, constitute the largest cataloged fossil collection from Anticosti in the province of Quebec. No other institution or organization in our province, even governmental, maintains a collection of this kind. However, it should be noted that the largest collection of Anticosti fossils is at the Geological Survey of Canada in Ottawa. It has been assembled by Dr. Paul Copper and his colleagues and students at Laurentian University in Sudbury, Ontario, over the last forty years and counts tens of thousands of specimens.

To return to our collections of Anticosti, it is essentially composed of three parts: first, ten thousand fossils donated by Nathalie Daoust and Mario Cournoyer; second, the fossil donations of Normand Pineault, Pierre Groulx, Pierre Bédard and Daniel Saint-Laurent which number several hundreds specimens; third, the samples collected during the 1970s and 1980s by Dr. Allen Petryk, for the Quebec Ministry of Natural Resources (now MERnQ), which include nearly 3,500 specimens. To conclude, our collections of fossils from Anticosti Island kept at the MPE constitute a good core for a reference collection.

Recently, the MPE acquired fossils from Anticosti that are of significant scientific importance. These fossils have attracted the attention of some Canadian, American and even British specialists, all of whom intend to publish on our fossils. The most ambitious project is to describe many of our crinoids, some of which belong to new species. It is Professor William (Bill) I. Ausich (Ohio State University) who will have the task of describing these new species. Professor Ausich several years ago published, Volume No. 29 of the *Palaeontographica Canadiana* series, devoted to Ordovician and Silurian crinoids of Anticosti Island ([https://www.gac.ca/publications/view\\_pub.php?id=205](https://www.gac.ca/publications/view_pub.php?id=205)).



Crinoids collected by Allen Petryk, Anticosti Island. MPEP510.4

## Ongoing scientific publication (cont.)

Other echinoderm fossils are currently being studied, this time by Dr. Timothy Ewin of the Natural History Museum in London. These fossils belong to a less well known group of echinoderms (cousins of starfish and crinoids), the edrioasteroids: kinds of small sea stars arranged on a flat disc supported by a stem. In addition, Timothy Ewin is working on a species of the cyclocystoid group, an even more obscure animal resembling a flat ring with a series of plates filling the inside of the ring. In both cases, these are new fossil species.

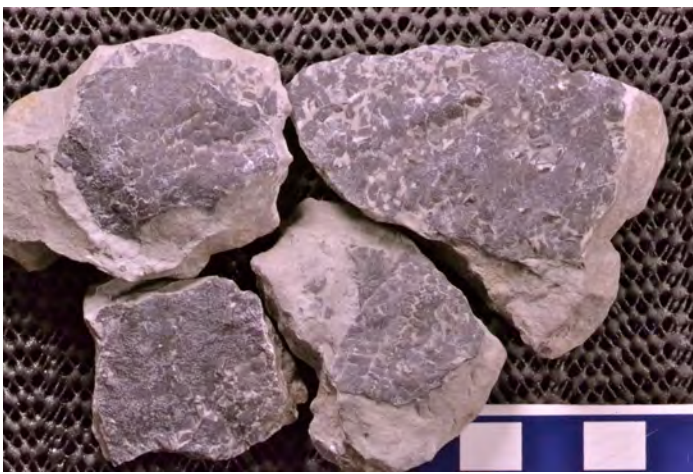


Photo on the left: an example of edrioasteroid on stem, of Silurian age. MPEP1126.1

Right picture: an Ordovician species of cyclocystoid from Ontario. MPEP673.2



Among the fossil collected by Allen Petryk are four pieces of rock preserving partial skeletons of echinoderms. Allen had written a note in which he mentioned the possibility that these fragmentary fossils might belong to one or more edrioasteroids, we say "one or more" because we are not able to join these fragments together. After verification by Dr. Bill Ausich, it turns out that these fragments of fossils belong to a sea urchin! Although sea urchin fossils abound in sediments from the dinosaur and more recent eras, those of Silurian age are extremely rare, because they are amongst the early evolutionary forms of this animal group.



The four fragments preserving sea urchin remnants. MPEP488.1

To conclude, there are other important fossils that are about to be studied. We are in possession, in particular, of fossil arthropods whose carapace is not usually preserved; they are related to horseshoe crabs and scorpions. We also have trilobite fossils that preserve soft parts such as legs and antennae. We are aware that we are toying with your curiosity in telling you about all these important specimens, but our primary goal is to make the population understand that Anticosti Island has an exceptional fossil heritage that deserves to be preserved and studied.

M. C.

**Fiche descriptive de spécimen**

Specimen number: MPEP148.1  
MPEP363.10 (inset)

Genus and species : *Aulacera* cf. *undulata* sp. (inset)

Identification : Segment of a cylindrical colony  
Cross section in a cylindrical colony (inset)

Age : Late Ordovician

Locality : Rivière Saumon, Anticosti, Québec  
Cap-aux-Homards, Anticosti (Qc) (inset)

Lithologic unit : Vauréal Formation

The genus *Aulacera* is common in Anticosti. It belongs to the group of stromatoporoids, colonial organisms that grow by successive crusts on a hard substrate. Their limestone part consists of a multitude of floors, living matter sandwiched between these floors. Stromatoporoids lived in the Paleozoic and have since disappeared. They have been classified into different major biological groups and have long been considered a kind of cnidarians. We now tend to classify them as sponges. As for the genus *Aulacera* strictly speaking, it was quite exceptional in that it had a vertical port, that is to say in the form of a post (see page 3 of this Bulletin). This may seem incompatible with growth by successive crusts. It should be understood that the base floor was cylindrical and that the colony grew by adding successive cylindrical floors (inset). It is believed that living matter was living near the surface of the "pole" during its lifetime and that the central part was empty of protoplasm and served as a support for the building. This pole-shaped shape captured food drifting at a certain height in the water column.



## Memberships

Just as at the beginning of every year, we wish to inform you that your membership must be renewed. Attached to this newsletter, you will find a copy of the membership renewal form. Remember that you can also make a donation; the Museum is a charitable organization duly registered with the Canada Revenue Agency (No. 890282445RR0001) and therefore authorized to issue receipts for income tax purposes.

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