

The expanding Devonian paleoestuary of Miguasha

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The fossil-bearing cliff of Miguasha was discovered in 1842 by Abraham Gessner, then rediscovered in 1879 by R.-W. Ells, of the Canada Geological Commission. For more than a century, the geographical distribution of the famous Escuminac Formation was considered limited to the coastal areas of Miguasha Point and Escuminac Bay, with the reference section being included in Parc national de Miguasha. This park was created in 1985 to preserve, protect and develop its exceptional fossil wildlife and flora.

Discoveries made in recent years have greatly altered previous conceptions about the extent of the sedimentary basin that is home to the Miguasha Group, which also includes the Escuminac Formation and the underlying Fleurant Formation. In 2003, a major outcrop area of this geological group was identified at the eastern boundary of the municipality of Nouvelle, about 5 km northeast of the conservation park. This new fossil-bearing site, which is very promising, occupies the nose of the Ristigouche syncline. Even more surprisingly, the same two geological formations were identified in 2006 some 40 km east of Miguasha, in the Cascapédia region, near New Richmond. Clasts of the Escuminac Formation are also dispersed locally in coastal fluvio-glacial deposits of the Maria region.

The paleoenvironment associated with the Escuminac Formation is the subject of debate, with the current consensus favouring an estuarine environment. The new recently discovered outcrops modify our perceptions of this ancient estuary which dates back 378 million years. The image of a major system, which perhaps occupied a large portion of Baie-des-Chaleurs, is beginning to emerge. These discoveries also raise the question of the protection of the universal paleontological heritage of the Escuminac Formation, which should be officially recognized by Québec.