

Mysteries of the Ediacaran Period

The Oldest Fossils at the Royal BC Museum

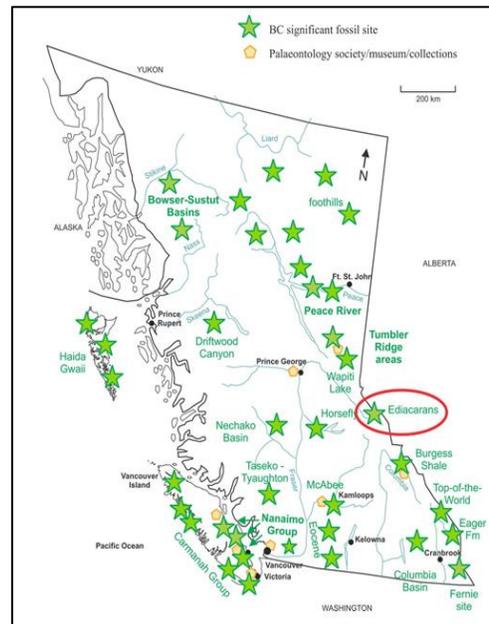
By Paleontology Collections Manager, Marji Johns

The oldest fossils in the Royal BC Museum collections are about 550 million years old. They are from a time called the Ediacaran Period (635 -542 million years ago), the last time period of the Precambrian Eon. (See the timeline in the Learning Portal).

These fossils represent early life forms resembling jellyfish, strange worms, frond-like corals, and sea pens (aquatic animals that look like antique feather pens). Ediacaran fossils have many forms and range in size from just millimetres to metres. They are found in a variety of environments such as deep oceans, shallow water closer to shore, on sand bars and in lagoons.

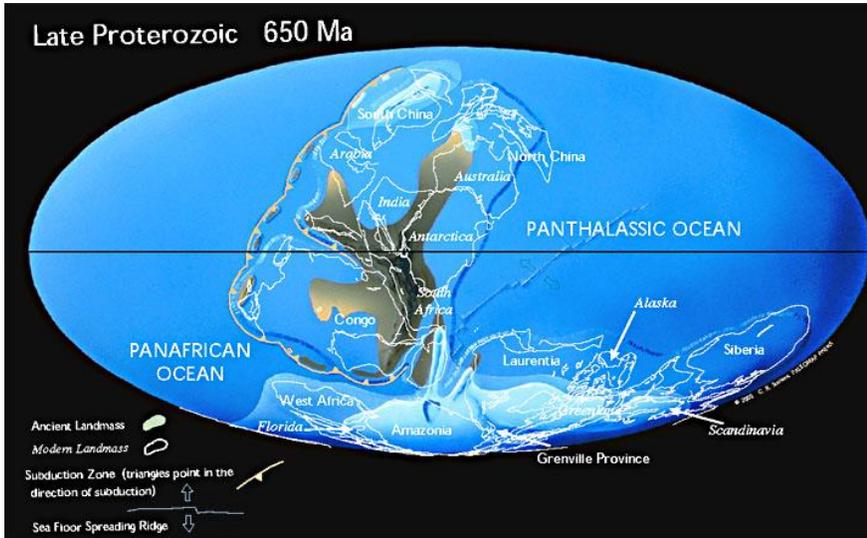
Many of these life forms only left tracks, impressions or burrows in the sediment. Most of the fossils do not look like any other known life form. Were they animals or not? Were they a group of failed experiments that went extinct 542 million years ago? Paleontologists and other scientists don't know for sure. It remains a mystery.

The Ediacaran fossils are named after the Ediacara Hills in Australia where scientists first discovered these life forms in 1946. Since their first discovery in Australia, these fossils have been found at more than 30 localities globally, on every continent except Antarctica. The Royal BC Museum Ediacaran fossils were collected at Salient Mountain, near Mt. Robson, in Mount Robson Provincial Park.



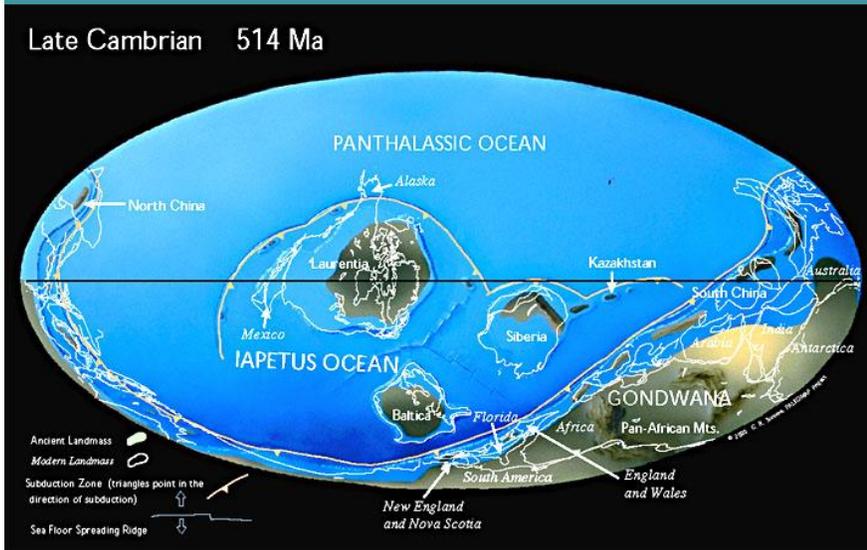
Above: BC Map showing the location of Salient Mountain and Mt. Robson Ediacaran fossils sites. Below: In the rest of Canada, Ediacaran fossils are found in the Yukon, Northwest Territories, and Newfoundland.





During Ediacaran time, the continents and oceans were very different from today. Ediacaran life forms are associated with the continent Laurentia in the southern Panthalassic Ocean.

Above: the Earth during the Precambrian, Late Proterozoic Eon, 650 million years ago. Below: the Earth during the late Cambrian, 514 million years ago. Credit: Paleogeographic Maps by C.R. Scotese, PALEOMAP Project (www.scotese.com).



By the Late Cambrian, Laurentia was at the equator.