

BACKGROUND

Museum's Choice: Fossil Favourites from Across Canada – a national travelling fossil exhibition



OVERVIEW

To celebrate the 150th anniversary of Canada's Confederation, members of the Alliance of Natural History Museums of Canada (ANHMC) have collaborated to produce a national travelling exhibition featuring some of Canada's most intriguing fossils.

Now in its fifteenth year, the ANHMC network shares information and educates Canadians about natural history collections and museum research across the country.

This exhibition features contributions from 11 museums across Canada, showcasing noteworthy fossils that represent significant discoveries and research at these institutions.

The exhibition will tour the member institutions between the autumn of 2017 and 2019.

The first stop is at the Royal BC Museum, where the exhibition will be on display, freely accessible to the public in Clifford Carl Hall, from September 26-October 26, 2017.

FOSSILS

1. *STROMATOLITE* **One of Earth's oldest life forms**

Precambrian, Proterozoic, 2.2 to 1.3 billion years ago
Utsingi Point, East Arm of Great Slave Lake, Northwest Territories
Authentic specimen

Loaned by the Prince of Wales Northern Heritage Centre

Stromatolites are layered structures formed by microscopic organisms (primarily cyanobacteria colonies that obtain their energy through photosynthesis).

The oldest stromatolites are billions of years old. They are among the oldest forms of life on Earth. The youngest species are alive today.

Over the last billion years or so, stromatolites that formed in the East Arm of Great Slave Lake have been tilted and folded by plate tectonic forces. This has created rocks in spectacular colours, shapes and sizes.

2. *ANOMALOCARIS CANADENSIS* Largest predator in the Cambrian sea

Cambrian, about 508 million years ago

Burgess Shale, Yoho National Park, eastern British Columbia

3D model and authentic specimen

Loaned by the Royal Ontario Museum (courtesy of Parks Canada) and the Royal British Columbia Museum

Anomalocaris canadensis (which translates to "strange shrimp of Canada") belongs to an extinct category of arthropods, a group that today includes spiders, millipedes, crabs and insects.

Some specimens of *Anomalocaris canadensis* grew to about 100 centimetres in length.

The anterior (front) section of this three-dimensional model shows a pair of eyes, a pair of grasping claws and lobed body segments.

The fossil fragment is a frontal feeding appendage.

3. *ISOTELUS REX* Largest of the trilobites

Late Ordovician, about 445 million years ago

East of Churchill, Manitoba

Cast of the specimen

Loaned by the Manitoba Museum

This resin replica has been made from the newly described trilobite species *Isotelus rex*.

Trilobites are extinct arthropods (marine invertebrates with jointed legs) related to insects and crabs.

Isotelus rex lived in shallow tropical seas and fed on smaller animals such as shrimp and worms.

Measuring 72 centimetres in length and 40 centimetres in width, this specimen is the largest complete trilobite ever found.

4. *TIKTAALIK ROSEAE* A “fishapod” in the North

Late Devonian, about 375 million years ago

Ellesmere Island, Nunavut

Cast of the specimen

Loaned by the Canadian Museum of Nature on behalf of the Government of Nunavut

Tiktaalik roseae looked like a cross between a primitive fish and a rudimentary four-legged animal known as a tetrapod.

Its fossilized remains help us understand some of the changes that occurred when the first fishes ventured onto land.

Tiktaalik roseae had lobed fins that contained simple wrist bones and finger-like structures.

It also had large shoulder elements, indicating that it had flexible muscles, and large head spiracles (respiratory openings), suggesting that it had both gills and primitive lungs.

5. *ARCHAEOPTERIS GASPIENSIS* The Gaspé’s giant tree with fern-like foliage

Late Devonian through Carboniferous, 375 to 350 million years ago

Miguasha National Park, Gaspé Peninsula, Quebec

Cast of a frond

Loaned by the Redpath Museum

Archaeopteris gaspiensis was a tree-like plant with a large, woody trunk and an umbrella canopy of fern-like fronds. Deep, branching roots allowed it to grow about 10 metres high.

Archaeopteris may have played a part in transforming Earth’s climate and ecosystems during the Devonian period.

Its canopy provided shelter, while its frond litter enriched streams in which freshwater fishes were rapidly increasing in number and diversity.

6. *ARTHROPLEURA*

Giant millipede tracks

Late Carboniferous, Pennsylvanian, 318 to 314 million years ago

Bay of Fundy, New Brunswick

Cast of the trackway

Loaned by the New Brunswick Museum

Tracks left by ancient millipedes called *Arthropleura* show up today as double rows of fossilized indentations. Some of these trackways are 50 centimetres wide and 5 metres long.

Arthropleura may have grown to more than two metres in length. Gigantism in **arthropods (animals with jointed legs, related to today's crabs and spiders)** is thought to have resulted from high oxygen levels in the lush forests of the late Carboniferous.

Arthropleura appears to have lived among horsetail-like trees called *Calamites*, which were common during the Carboniferous Period.

Over time, debris from the abundant plant life was buried and compressed to **form today's great coal deposits.**

7. *ANCHISAURIPUS*

A Bay of Fundy carnivore

Early Jurassic, Hettangian, about 200 million years ago

McCoy Brook Formation, Five Islands Provincial Park, Bay of Fundy, Nova Scotia

Plaster cast, painted

Loaned by the Museum of Natural History, part of the Nova Scotia Museum

Fossils of Canada's oldest dinosaurs are found in Nova Scotia's sandstone sea cliffs.

The cliffs are continuously eroded by the famous Bay of Fundy tides, leading to new discoveries of footprints and bones every year.

One set of prints was left by a small, meat-eating theropod dinosaur called *Anchisauripus*.

Just one to three metres in size, it evolved early and survived a major mass extinction 200 million years ago.

8. *TYRANNOSAURUS REX*

Saskatchewan's ferocious predator

Late Cretaceous, about 66 million years ago
Near Eastend, southwestern Saskatchewan
Cast of the skull

Loaned by the Royal Saskatchewan Museum

Larger than a school bus and with massive legs, "**Scotty,**" as the locals call it, was a big *T. rex* theropod dinosaur who roamed Saskatchewan 66 million years ago. This *T. rex* was around until the dinosaurs became extinct.

Scotty is one of the largest, most complete *Tyrannosaurus rex* skeletons ever found. Scientists recovered about 65 percent of the skeleton.

Fossilized plants such as palms and broad-leafed trees at the site tell us that Saskatchewan was once much warmer and wetter than it is today.

9. *CORNWALLIUS SOOKENSIS*

Vancouver Island's sea cow

Late Oligocene, about 25 million years ago
Near Sooke, Vancouver Island, British Columbia
Molar replica

Loaned by the Royal British Columbia Museum

Cornwallius sookensis (of the order Desmostylia) was a marine mammal related to today's sea cows (Sirenia) and elephants (Proboscidea).

Desmostylia had an elongate jaw, forward-facing tusks and strong, flat molars. They fed on aquatic plants in shallow coastal waters.

When the climate cooled, this naked sea cow became extinct, while mammoths—which were hairy elephants—thrived on land.

10. *CAMELOPS HESTERNUS*

A camel in a gold mine

Pleistocene, about 125,000 years ago
Hunker Creek, central Yukon
Authentic specimen

Loaned by the Yukon Beringia Interpretive Centre

Camels migrated north to the Yukon between the Ice Ages. They were common across western North America during the last Ice Age.

This *Camelops hesternus* toe bone was discovered in a placer gold mine.

DNA analysis completed on this specimen showed that camels in what is now the Yukon were **distantly related to today's dromedaries and Bactrian camels**. They were previously thought to be related to llamas and alpacas.

11. *EQUUS CONVERSIDENS* A horse hunted by humans

Pleistocene, 13,300 to 13,000 years ago

Wally's Beach, southern Alberta

Cast of the skull

Loaned by the Royal Alberta Museum

As the massive continental Ice Age glaciers retreated, southern Alberta was reoccupied by camels, caribou, bison, mammoths, muskoxen and horses—and then by humans.

In the face of rapid environmental change and hunting, the Ice Age megafauna eventually became extinct.

Today, skeletal remains such as this skull from an Ice Age horse (*Equus conversidens*) are reminders of that not-so-distant past.

About the Royal BC Museum

The Royal BC Museum explores the province's human history and natural history, advances new knowledge and understanding of BC, and provides a dynamic forum for discussion and a place for reflection. The museum and archives celebrate culture and history, telling the stories of BC in ways that enlighten, stimulate and inspire. We are a hub of community connections in BC—onsite, offsite and online—taking pride in our collective histories.

- 30 -

Media contact:

Royal BC Museum Media Inquiries
250-387-5051

news@royalbcmuseum.bc.ca

 @RoyalBCMuseum  royalbcmuseum  RoyalBCMuseum

