

# FOSSILS IN FOCUS



The Museum's collection of fossils is vast and diverse. The majority of specimens have been found right here in Alberta, the most remarkable place in the world to find fossils from 80 – 55 million years ago.

Only a fraction of our collection is on display throughout the Museum. This rotating exhibit will highlight some of our most remarkable and scientifically significant fossils, chosen from the tens of thousands of specimens in our collection.

New specimens reflecting current research will be added as the science of palaeontology moves forward.

---

## 2018 SPECIMEN FACT SHEET



### EXPLODED SKULL

- Individual bones in a skull are very detailed and provide valuable information that can be used to identify a dinosaur species and determine its nearest relatives.
- The 41 fossilized bones of this *Daspletosaurus* skull were found separate from each other and uncrushed.
- Casts were made of some elements and the more delicate and complex bones were digitized and 3D printed so that they could be displayed in this manner.
- Although many bones were collected the first year after their discovery, crews returned to the area for 10 years to find all of them.



### NOT ALL EGGS IN THE SAME BASKET

- Dr. François Therrien and his colleagues discovered about 600 eggshell fragments from nine different sites in southwestern Alberta.
- The fossil evidence indicates that at least seven dinosaur species nested in the area, including small theropods and ceratopsians, hadrosaurs, and *Tyrannosaurus rex*.
- Eggshell evidence combined with previously-discovered fossil bones indicates that at least nine species lived in southwestern Alberta – three times the previously-known number.
- Dinosaur eggs did not all look like chicken eggs, and were different shapes, sizes, and textures.



## SMALL EVIDENCE, BIG IMPLICATIONS

- Scientific understanding of the early evolution of horned dinosaurs from smaller, less elaborate species is limited due to the rarity of fossils.
- These two horn cores show that the earliest-known horned dinosaurs had some of the largest horns, indicating rapid evolution of horn shape and size.
- This demonstrates that even small, isolated specimens can add important information to the fossil record.
- These two horn cores are some of the geologically oldest horned dinosaur material in the world.



## AFTER A LONG WHILE, CROCODILE

- The discovery of a skull and partial skeleton of a new crocodylian provides the first evidence of the types of crocodiles that lived in Alberta during the Cretaceous Period.
- Although crocodiles are well represented in the latest Cretaceous, most of the fossil remains are isolated teeth.
- Teeth cannot be assigned to a particular species, as the teeth of different crocodiles are very similar in form.
- This specimen is 70% complete, and includes a skull and mandible (lower jaw), and part of the body.



## WELCOME TO A NEW FAMILY

- The extinction of non-avian dinosaurs at the end of the Cretaceous Period was an extremely important time in the evolutionary history of mammals.
- Eutherian mammals have been the dominant mammals since 66 million years ago.
- After analyzing the two newer species of eutherians, Dr. Craig Scott named a new family of eutherian mammals, the Horolodectidae.
- Naming a new family of mammals is uncommon in mammalian palaeontology.



## OUR OWN BADLANDS BACKYARD

- The Royal Tyrrell Museum's scientists work in locations all around the world, but sometimes they don't have to go far from the Museum to find something exceptional.
- An *Edmontosaurus* skull was found in the Drumheller area by members of the public in 2017. It is the first complete skull of this common hadrosaur species to be discovered in Alberta in more than 50 years.
- A Museum field crew prospecting during their lunch hour discovered an *Anchiceratops* bonebed in the same area.
- These specimens indicate there are more examples of ancient life to be found in our own backyard.

In Alberta  
403-823-7707

In Alberta (toll free)  
310-0000 then 403-823-7707

In North America (toll free)  
1-888-440-4240



tyrrellmuseum.com