

# FOSSILS IN FOCUS

## SPECIMEN FACT SHEET

ROYAL TYRRELL MUSEUM

Drumheller, Alberta [www.tyrrellmuseum.com](http://www.tyrrellmuseum.com)



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.

## Current Specimens 2015

### THE FRILL OF DISCOVERY

#### *Regaliceratops peterhewsi*

(ree-GAY-lih-SER-uh-tops peter-HEWS-ee-eye)



- *Regaliceratops peterhewsi* is a newly described genus and species of ceratopsid (horned dinosaur) that lived during the Late Cretaceous 68.5 – 67.5 million years ago and is a close relative of *Triceratops*
- Ceratopsids are divided into two groups: chasmosaurines (e.g., *Triceratops*) and centrosaurines. Centrosaurines went extinct several million years before the chasmosaurines, which went extinct at the end of the Cretaceous along with all the other dinosaurs
- Characteristically, chasmosaurines have a small nose horn, large horns over their eyes, and shield-like frills with simple scalloped edges. *Regaliceratops* is unexpected because it shows the exact opposite pattern large nose horn, small horns over the eyes, and elaborately decorated frills similar to centrosaurines. This demonstrates that at least one group of chasmosaurines evolved ornamentation similar to centrosaurines following their extinction
- Discovered by Calgary resident Peter Hews, a geologist in the petroleum industry, in 2005. He found the snout sticking out of a cliff along the Oldman River in southwestern Alberta, Canada where horned dinosaurs have not been found before
- Nicknamed after the comic book character “Hellboy” due to the difficulty collecting the specimen and for the challenging preparation process to remove it from the very hard rock in which it was encased



## MINI MEAT-EATER

### *Protictis*

(PRO-tic-tis)

- *Protictis* was a small, primitive mammal that probably resembled living weasels
- As a meat-eating mammal, they have a specialized set of teeth for shearing flesh
- This is the best-preserved and most nearly complete specimen of *Protictis* found in Alberta
- Ongoing research on *Protictis*, as well as other fossil mammals, continues to give us a better understanding of the ancient mammal communities that existed in Alberta 60 or so million years ago



## MONKEYING AROUND IN ALBERTA

### *Plesiadapis* and *Phenacolemur*

(PLEES-ee-ah-DAPP-sis) and (fenn-ah-COLE-eh-myur)

- The earliest primates first appear in the fossil record soon after the extinction of the dinosaurs 66 million years ago
- These are distant relatives of living primates that were small and squirrel-like
- Western Canada has one of the densest fossil records of early primates
- *Plesiadapis* and *Phenacolemur* are two of the more common early primates that lived in Alberta during the Palaeocene epoch (66 – 55 million years ago)



## LIKE WATER OFF A DUCKBILL'S BACK

### Castle River Hadrosaur

- Lived 80 million years ago during the Late Cretaceous
- Discovered by a Calgary area father and his two sons fishing along Castle River in southwestern Alberta in August 2014
- Since this specimen is older than other hadrosaur fossils found in southern Alberta, and comes from an area without prior dinosaur discoveries, it could represent a new species
- A helicopter was needed to lift the 1300 kg block from its precarious location in the river



## FINE FEATHERED FRIENDS

### Bird feather fragment in amber

- A visiting researcher to the Royal Tyrrell Museum, Ryan McKellar of the Royal Saskatchewan Museum, discovered three-dimensional, near-perfectly preserved feathers in several pieces of 80-million-year-old amber (tiny drops of fossilized tree resin)
- The exquisitely fossilized specimens range from simple protofeathers of dinosaurs to much more complex feathers that resemble those of modern birds
- Study of pigments in several of the feathers revealed a range of colours that is consistent with that seen in modern birds



## HORNS THROUGH TIME

### *Centrosaurus apertus* and *Styracosaurus albertensis*

(SEN-troh-SORE-us ah-PUR-tus and STYE-rack-oh-SORE-us al-BURR-ten-sis)

- Both *Centrosaurus* and *Styracosaurus* lived in Alberta, but not at the same time. *Centrosaurus* lived 77 – 76.6 million years ago and *Styracosaurus* lived 76.6 – 76.3 million years ago
- The question of the evolutionary relationship between *Centrosaurus* and *Styracosaurus* remains an important topic of our ongoing research at the Museum
- The horns at the back of the *Styracosaurus* skull are small compared to other specimens, indicating this animal was not fully grown when it died



## WHAT'S IN A NAME?

### *Stangerochampsia mccabei*

(STAIN-jurr-oh-CHAMP-sah mick-CABE-ee-eye)

- Lived 72 million years ago and is Alberta's first known alligator
- Is one of only three early alligators known from the Late Cretaceous of Alberta
- Named for landowner Ron Stanger (*Stangerochampsia*), and Museum technician Jim McCabe (*mccabei*) who discovered it on a weekend hike in Horsethief Canyon, Drumheller