APRIL ARCHOSAUR ABSURDITY 2025

CREATURE GUIDE

PHILIP J. CURRIE DINOSAUR MUSEUM

#AAA2025

Welcome to the AAA 2025 Creature Guide!

Specially curated by our palaeontologist, Dr. Bamforth, this guide will provide you with everything you need to know about the eight archosaur competitors before the battles start.

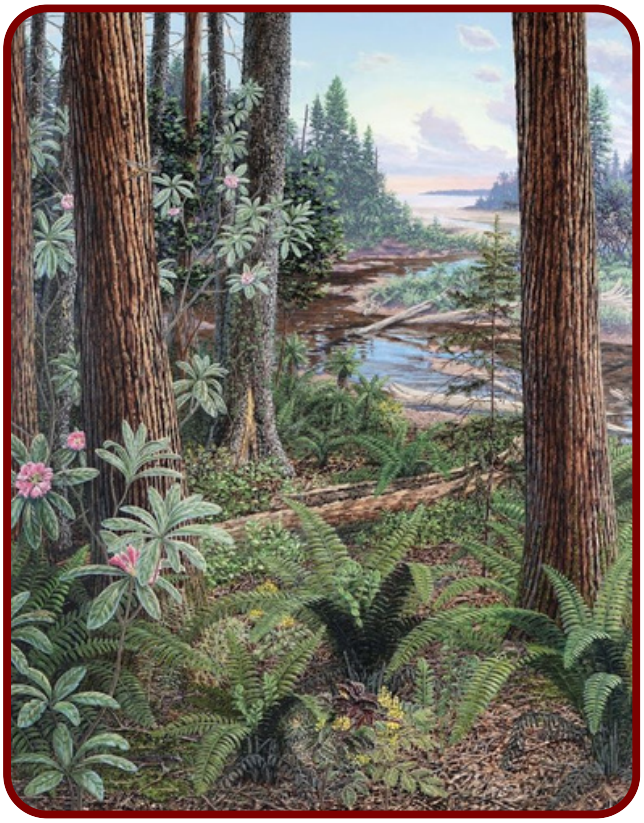
Look out for **underlined red words**; these terms are defined in the glossary at the end.

For example...

Archosaur:

A large group of reptiles that include dinosaurs, pterosaurs, crocodilians, and birds.

THE BATTLEGROUND: LATE CRETACEOUS GRANDE PRAIRIE



Painting by Marlon Jansen

All of AAA2025 will be set in Late Cretaceous Grande Prairie. During the Late Cretaceous, the Grande Prairie area looked very different than today. To the west, there was an inland seaway called the Western Interior Sea. This sea, which stretched from the Arctic Circle to the Gulf of Mexico, cut North America in half. At the time, there was no connection between the western North American microcontinent, known as Laramidia, from the eastern one, known as Appalachia.

The environment around Grande Prairie would have been a coastal lowland, not far from the shore of the Western Interior Sea. In the Late Cretaceous, the world was in a 'Greenhouse Period', meaning that global temperatures were much warmer. The climate of the Grande Prairie area would have been warm-temperate and snow and ice would have been rare. However, as Grande Prairie was even further north than it is today, the winters would still have been very dark, with long nights and short days.

The land would have been heavily forested, with the forest canopy made up of giant redwood trees and swamp cypresses, and the understorey being a riot of flowering plants, ferns, mosses, Gingkoes, and cycads. There would have been no grass, as grass hadn't evolved yet in North America. Most of the flowering trees and shrubs would have been deciduous (lost their leaves in the fall) because of the dark winter months.

A Late Cretaceous scene around Grande Prairie might have looked like a cross between the Florida Everglades, the Mississippi Delta, and the giant redwood forests of California, all set at a northern latitude. It is an environment that has no modern equivalent.

ARCHOSAURS WITH AN EDGE:

GET OFF MY TURF

Our archosaurs are from a variety of different time periods and lived in a variety of different paleoenvironments. Just like animals today, ancient animals evolved adaptions for specific environments, and animals that are better adapted to their environment typically have a higher chance of survival. We have chosen to set all our battles in the Late Cretaceous of Grande Prairie, which was a **forested coastal lowland**.

In AAA 2025, some of the archosaurs we've selected would be well adapted to the paleoenvironments of Late Cretaceous Grande Prairie, while others are not so well adapted. Remember... these results may impact the outcome of the battles.

 **Well**

 **Moderately Well**

 **Not Well**

 ***Dracopelta***, from the Jurassic of Portugal, was adapted to live in a **hot, seasonally dry environment.**

 ***Utahraptor*****,** from the Early Cretaceous of Utah, was adapted to live in a **semi-arid (hot and dry) floodplain with seasonal monsoons.**

 ***Pachyrhinosaurus***, from the Late Cretaceous of Alberta, was adapted to live in a **forested coastal floodplain.**

 ***Cryodrakon***, from the Late Cretaceous of Alberta, was adapted to live in a **forested coastal floodplain.**

 ***Triceratops***, from the Late Cretaceous of western North America, was adapted to live in a **forested coastal floodplain**.

 ***Anzu***, from the Late Cretaceous of western North America, was adapted to live in a **forested coastal floodplain.**

 ***Spinosaurus***, from the Late Cretaceous of north Africa, was adapted to live in a **warm climate with tidal flats and mangrove forests.**

 ***Lusotitan***, from the Jurassic of Portugal, was adapted to live in a **hot, seasonally dry environment.**

ARCHOSAURS WITH AN EDGE:

SAFETY IN NUMBERS

Some animals today, like wolves and caribou, live in groups. Others, like bears and moose, live do not live in groups and spend most of their lives as solitary animals. Archosaurs were the same. Palaeontologists know that some of these animals lived in herds or packs, while others lived alone. Would living in a herd or hunting in a pack help an archosaur win a battle? You decide.

Here is what palaeontologists understand about whether our AAA 2025 archosaurs lived in groups or were solitary animals. And remember... these results may impact the outcome of the battles.

GROUP

SOLITARY

Dracopelta, may have lived in **SMALL FAMILY GROUPS**, based on what is known about its closest relatives.

Utahraptor**,** was a **PACK HUNTER**. Fossils of multiple animals have been found together.

Pachyrhinosaurus lived in **LARGE HERDS**. Fossils of multiple animals have been found together.

Cryodrakon, possibly lived in **SMALL SOCIAL GROUPS**, based on what is known about its closest relatives.

Triceratops,was mostly **SOLITARY**, as their fossils are usually found as isolated individuals.

Anzu, likely lived in **SOCIAL GROUPS**, based on what is known about its closest relatives.

Spinosaurus, was likely a **SOLITARY** animal. It would have needed a huge territory to support it's voracious hunting needs.

Lusotitan, likely lived in **HERDS**, based on what is known about its closest relatives.

COMPETITOR #1

By: cisiopurple

Name:
Dracopelta

Home Range:
Portugal

Home Geologic Time Period:
Late Jurassic (152 Ma)

Home Geologic Formations:
Lourinhã Formation

Size:
Up to 3 m long

Diet:
Herbivore

Type of Archosaur:
Dinosaur (Ankylosaur)

What's in a Name?
Name means 'Dragon Shield'

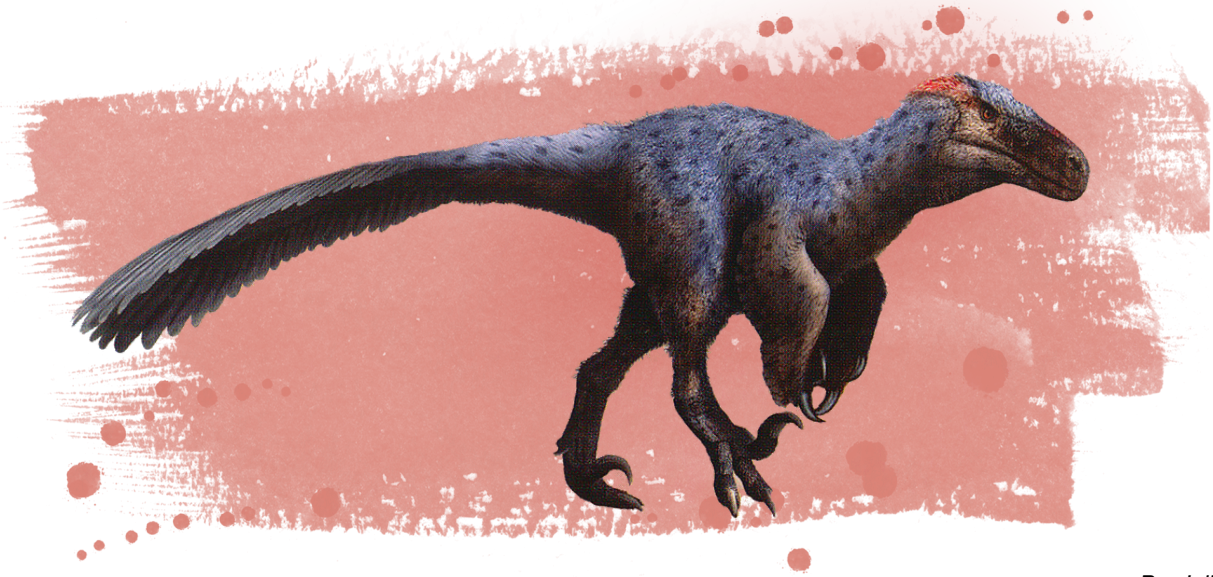
CLAIM TO FAME!

Despite its fearsome name meaning 'dragon shield', *Dracopelta* was a comparatively small ankylosaur ('armored dinosaur'). *Dracopleta* would have been covered with bony plates called scutes, and would have had a series of spikes along its midline.

DID YOU KNOW?

- Unlike its huge tank-like relatives like *Ankylosaurus*, *Dracopelta*'s smaller body size and unique feet meant that it was probably capable of running.
- The jury is out as to whether or not *Dracopelta* had a tail club. The tail of the dinosaur has never been found, and palaeontologists aren't sure if it belongs to the ankylosaur group that had tail clubs (the ankylosaurids) or to the group that did not have tail clubs (the nodosaurids).

COMPETITOR #2



By: Julius T. Csotonyi

Name:
Utahraptor

Size:
Up to 7 m long

Home Range:
Utah

Diet:
Carnivore

Geologic Time Period:
Early Cretaceous (139-134 Ma)

Type of Archosaur:
Dinosaur (Dromaeosaur)

Home Geologic Formations:
Cedar Mountain Formation

What's in a Name?
Name means 'Utah's Predator'

CLAIM TO FAME!

Utahraptor was one of the largest and heaviest dromaeosaurs (the carnivorous dinosaurs with a distinctive sickle-claw to which *Velociraptor* belongs). An adult *Utahraptor* may have weighed as much as a polar bear.

DID YOU KNOW?

- *Utahraptor* has been found in fossil assemblages that contain multiple individuals of various ages, suggesting that these dinosaurs were pack animals.
- Unlike all other known dromaeosaurs, *Utahraptor* is thought to have been an ambush predator, rather than a pursuit predator. (That is, hunting more like a cougar than a cheetah).
- *Velociraptors* are only the size of a large turkey but were made much larger for the 1993 movie 'Jurassic Park'. By contrast, *Utahraptor* was the size of a Jurassic Park 'raptor', but it was described after Michael Crichton wrote the novel Jurassic Park (1990), upon which the movie is based.

COMPETITOR #3

By: Julius T. Csotonyi

Name:
Pachyrhinosaurus lakustai

Home Range:
Northern Alberta

Home Geologic Time Period:
Late Cretaceous (72-74 Ma)

Home Geologic Formations:
Wapiti Formation

Size:
Up to 5 m long

Diet:
Herbivore

Type of Archosaur:
Dinosaur (Ceratopsian)

What's in a Name?
Name means 'Lakusta's thick-nosed lizard'

CLAIM TO FAME!

Pachyrhinosaurs' eponymous boss, a thick, bony bump over the nose and eyes, is unique among horned dinosaurs. *Pachyrhinosaurus lakustai* also has a unique spike (or spikes) in the middle of its forehead called the 'unicorn spike'.

DID YOU KNOW?

- All known specimens of *Pachyrhinosaurus lakustai* come from a single location, the Pipestone Creek Bonebed south of Wembley, Alberta. The bonebed contains hundreds or possibly thousands of dinosaurs that all died together in a single catastrophic event.
- Pachyrhinosaurs were northern specialists. All three species (*Pachyrhinosaurus lakustai* from northwest Alberta, *Pachyrhinosaurus canadensis* from southern Alberta, and *Pachyrhinosaurus perotorum* from Alaska) are found above the 49th parallel.

COMPETITOR #4

By: Gabriel Ugueto

Name:
Cryodrakon

Home Range:
Alberta

Home Geologic Time Period:
Late Cretaceous (76-74 Ma)

Home Geologic Formations:
Dinosaur Park Formation

Size:
Wingspan of up to 10 m

Diet:
Carnivore

Type of Archosaur:
Pterosaur (Azhdarchid)

What's in a Name?
Name means 'Cold Dragon'

CLAIM TO FAME!

Cryodrakon was azhdarchid pterosaur, a group of enormous and terrifying flying reptiles that lived during the Late Cretaceous period. Standing almost as tall as a giraffe, it likely hunted on the ground with a long razor-sharp beak.

DID YOU KNOW?

- Despite its huge size, *Cryodrakon* still needed to be light enough to fly. Like other pterosaurs, *Cryodrakon* would have had thin, hollow bones with internal struts to make them strong.
- Pterosaurs are very hard to find in the fossil record, at least in Canada. *Cryodrakon* is the only species of pterosaur found in Canada that is represented by more than one fossil bone.

COMPETITOR #5

By: Julius T. Csotonyi

Name:
Triceratops

Home Range:
Western North America

Home Geologic Time Period:
Late Cretaceous (68-66 Ma)

Home Geologic Formations:
Frenchman Formation (Saskatchewan), Lance Formation (Wyoming), Hell Creek Formation (Montana, Dakotas), Scollard Formation (Alberta)

Size:
Up to 9 m long

Diet:
Herbivore

Type of Archosaur:
Dinosaur (Ceratopsian)

What's in a Name?
Name means 'three-horned face'.

CLAIM TO FAME!

Triceratops were the largest of all the horned dinosaurs, weighing up to an astonishing 10 tons, and were contemporaneous with *T. rex.*

DID YOU KNOW?

- *Triceratops* were the last dinosaurs to roam North America before the dinosaur mass extinction. *Triceratops* fossils have been found within 5 cm of the Cretaceous-Paleogene (K-Pg) Boundary; the layer of clay made up of fallout from the meteorite impact.
- At one time, palaeontologists thought there were sixteen species of *Triceratops*. Once more fossils were found, they realized that the vast majority of the 'species' (14 of the 16) were actually baby and teenaged *Triceratops* that hadn't developed their adult features yet.

COMPETITOR #6

By: Julius T. Csotonyi

Name:
Anzu

Home Range:
Saskatchewan, Montana, and the Dakotas

Home Geologic Time Period:
Late Cretaceous (68-66 Ma)

Home Geologic Formations:
Frenchman Formation (Saskatchewan), Hell Creek Formation (Montana, Dakotas)

Size:
Up to 3.5 m long

Diet:
Unknown, most likely an **omnivore**.

Type of Archosaur:
Dinosaur (Caenagnathid)

What's in a Name?
Named after a bird-like daemon from Ancient Mesopotamia

CLAIM TO FAME!

Coined 'the chicken from hell' when it was described in 2014, *Anzu* had long-clawed digits, a prominent head crest, a toothless beak, and feathers that covered its whole body.

DID YOU KNOW?

- Palaeontologists aren't sure what *Anzu* ate, as it has no teeth. It would have been a quick, agile runner, and possibly fed on plants, insects, small mammals, and seeds.
- Caenagnathids (pronounced 'cane-ag-nay-th-ids') were a bizarre group of dinosaurs closely related to oviraptors ('egg-thief dinosaurs'). *Anzu* is most closely related to *Caenagnathus*, a genus of dinosaur only found in Dinosaur Provincial Park, Alberta.

COMPETITOR #7

By: Julius T. Csotonyi

Name:
Spinosaurus

Size:
Up to 16 m in length

Home Range:
North Africa

Diet:
Piscivore

Home Geologic Time Period:
Middle Cretaceous (100-94 Ma)

Type of Archosaur:
Dinosaur (Theropod)

Home Geologic Formations:
Bahariya Formation

What's in a Name?
Name means 'Spine Lizard'

CLAIM TO FAME!

Spinosaurus was one of the largest and heaviest theropods (bipedal carnivorous dinosaurs) to ever live. Despite its ferocious appearance, *Spinosaurus* was likely a fish-eater, with a long narrow snout designed for catching huge swordfish.

DID YOU KNOW?

- Palaeontologists have long debated whether *Spinosaurus* could swim. It has a long, flat tail like a crocodile's that suggested it was adapted for living and moving in water. Other palaeontologists have suggested its body form is adapted for stalking prey like a stork, wading in shallow water before ambushing its prey from above.
- *Spinosaurus* was originally discovered in Egypt by a German palaeontologist called Ernst Stomer in 1915. However, the specimen was destroyed when the museum it was housed in was bombed during WWII. It was almost 100 years before a second specimen was discovered.

COMPETITOR #8

By: Julius T. Csotonyi

Name:
Lusotitan

Home Range:
Portugal

Home Geologic Time Period:
Late Jurassic (152 Ma)

Home Geologic Formations:
Lourinhã Formation

Size:
Up to 21 m long

Diet:
Herbivore

Type of Archosaur:
Dinosaur (Sauropod)

What's in a Name?
Name means 'Giant of Lusitania'

CLAIM TO FAME!

Related to *Brachiosaurus*, *Lusotitan* was the largest known animal living in the Late Jurassic of Portugal. It could grow to lengths of 21 m and weigh as much as 30 tons.

DID YOU KNOW?

- *Lusoititan* belonged to the family of sauropod ('long-necked dinosaurs') that included *Brachiosaurus*. These sauropods had longer forelimbs than hindlimbs, giving their bodies a distinctive sloped outline.
- When *Lusotitan* was living, Portugal was a part of hot, coastal floodplain. It would have lived alongside *Dracopelta*, one of the other AAA 2025 competitors.

GLOSSARY

Ankylosaur: An armored dinosaur, such as Ankylosaurus.

Archosaur: A large **phylogenetic** (see 'phylogeny' below) group of reptiles that includes crocodiles, dinosaurs, pterosaurs (see 'pterosaur' below), and birds.

Azhdarchid ('az-dark-id'): Huge pterosaurs from the late Cretaceous period characterized by their large body size and sharp, pointed, toothless beaks. Despite being able to fly, these animals hunted on the ground.

Boss: Large bony bumps over the nose and/or eyes, in place of a horn, in a small number of horned dinosaur species, including *Pachyrhinosaurus*.

Caenagnathid ('cane-ag-nay-thid') Dinosaurs: Bipedal dinosaurs from the Cretaceous period closely related to the 'egg-thief' oviraptors. These dinosaurs, found in North America and Asian, had toothless beaks, long legs like an ostrich, crested skulls, and would have been covered in feathers.

Ceratopsian: A horned dinosaurs, such as Triceratops.

Contemporaneous: Lived at the same time as.

Cretaceous: A geologic period of time during the Mesozoic ('Age of the Dinosaurs'), starting 145 million years ago and ended 66 million years ago with the dinosaur mass extinction.

Dromaeosaur: Small, bipedal, carnivorous dinosaurs with a distinctive sickle-claw on its feet. Velociraptor is the most classic example.

Geologic Formation: A package of rocks representing a continuous period of geologic time.

Omnivore: Ate both plants and other animals.

Phylogeny: The relationships between different groups of animals based on common ancestry and shared traits. E.g. Humans and chimpanzees are in the same phylogenetic group called Primates.

Piscivorous: Fish-eating.

Pterosaurs: Flying reptiles that lived during the Mesozoic ('Age of Dinosaurs'). The term 'flying dinosaurs' is a misnomer - while pterosaurs are reptiles, they are not dinosaurs.

Theropod: A bipedal, carnivorous dinosaur, such as T. rex or *Velociraptor*.

Sauropod: 'Long-necked' dinosaurs, such as *Apatosaurus* and *Diplodocus*.