



## “Thunder Beasts” of Saskatchewan

### What is a Brontothere?

Brontotheres are extinct, medium to large sized hoofed mammals whose closest living relatives are the rhinoceroses and horses. The word “brontothere” has Greek origins and means “thunder beast.” The name refers to their large size and the loud thunder-like sounds that would have been produced by moving herds of these animals.

### In Saskatchewan

Canadian brontotheres are known primarily from 44–34 million-year-old fossil deposits in the Cypress Hills area of southwestern Saskatchewan. They were first recognized in Saskatchewan over a century ago by the famed American paleontologist Edward Drinker Cope (1840–1897). Since then, hundreds of individual bones and bone



*Brontotheres in southwestern Saskatchewan 36 million years ago.*

fragments, including skeletons and complete skulls, have been discovered.

Most brontothere fossils accumulated in fast flowing rivers and streams, where carcasses and skeletons were usually torn apart and broken up before they were buried. As a result, single bones and fragments, rather than skeletons, are usually discovered. The Southfork locality is an example of a fossil deposit where numerous individual brontothere bones, along with those of other animals of that age, have accumulated. Geological evidence suggests that the site preserves an ancient streambed and that perhaps the brontotheres died during seasonal floods.

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### Brontothere Skeletons

Two partial brontothere skeletons have been discovered so far in Saskatchewan. Near Eastend, 60% of a skeleton belonging to the genus *Megacerops* was collected in 1973. Another nearly complete skeleton was collected near Simmie in 1996. Replicas of the *Megacerops* skeleton are on display at the Royal Saskatchewan Museum in Regina, and the T. rex Discovery Centre in Eastend.

## History

Brontotheres originated in the early Eocene Period, approximately 53 million years ago, and are known from North America, Europe and Asia. The early species were no bigger than a dog, but some individuals of later species reached the size of a small elephant. They were most diverse in the middle Eocene Period, approximately 45 million years ago.

## Horns

Many brontotheres had well-developed hornlike structures above their eyes. These horns were probably used in wrestling matches with other members of their own species, much like bison use their horns today. Actual striking with the horns was probably used only as a defensive tactic against predators. In some species, the horns became extremely long, while in others they were forked. Another purpose of the horns may have been species recognition because in some instances there may have been more than one species of brontotheres living in the same region.



*Mounted Megacerops skeleton in Earth Sciences Gallery.*



*Brontothere skull and jaws at dig site*

## Teeth and Diet

The teeth of brontotheres provide information regarding diet and feeding behaviour. The shape of the teeth suggests that they were used for cutting and crushing, ideal for eating soft twigs and leaves but not for processing coarser foods that required grinding. A probable dependence on softer foods may have been a problem when the environment changed.

## Extinction

Approximately 40 to 35 million years ago the climate started to become cooler and more seasonal. This change in climate was reflected in a reduction of forested areas and the development of more open, savanna-like habitats. By the end of the Eocene, approximately 34 million years ago, the brontotheres were unable to adapt to the changing environment and became extinct in North America. In Asia they may have lasted a few more million years into the middle Oligocene Period, approximately 30 million years ago.

*The Earth Sciences Program at the Royal Saskatchewan Museum carries out original scientific research on Saskatchewan's fossil history. Some of the information contained in this fact sheet is a direct result of that research.*

