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Edmontosaurus Skull

USA

Late Cretaceous Period, C. 68-66 Million Years Ago

Fossilised Bone

H:53cm W:28cm L:64cm

An impressive skull of an Edmontosaurus, a large herbivorous dinosaur that lived during the Late Cretaceous period, 68-66 million years ago. The three rows of sixty or more teeth on either side of the jaw, known as the 'dental battery', mark the Edmontosaurus as part of the Hadrosauridae, or duckbill family of dinosaurs. It belongs to the flat-skulled, or solid-crested, Hadrosaurinae, which replaced the older hollow-crested hadrosaurs. Edmontosaurus was one of the last non-avian dinosaurs to ever exist, living shortly before the Cretaceous-Paleogene extinction event.

The Edmontosaurus was named in 1917 by Lawrence Lambe, after a partial specimen from Edmonton in Alberta, Canada. The existence of large Edmontosaur bone beds and numerous fossils with preserved soft tissue and skin impressions means that Edmontosaurus is one of the best studied dinosaurs of North America. Edmontosaurus fossils are widely distributed across western North America, ranging from Colorado to the northern slopes of Alaska. The Ruth Mason Quarry in South Dakota, where this specimen was found, is one of the most famous bone beds, containing thousands of Edmontosaurus bones. These fossils have allowed palaeontologists to understand clearly how this dinosaur would have looked and acted.

Edmontosaurus was one of the largest hadrosaurs, reaching heights of over thirteen metres tall, and

weighing around 3,400 kg. It could walk on both two and four legs, with fleshy pads on the front feet, and hooves on the back. Recent studies have suggested that their legs and tail were 25% larger than originally believed, allowing them to reach speeds of up to 28 miles per hour – faster than a Tyrannosaurus. Edmontosaurus had a fleshy rooster-like comb on the top of its head, the first entirely soft tissue structure on the head of a dinosaur to be found. This comb was probably used for social signalling or sexual selection, in the same way as modern birds. The Edmontosaurus' highly specialised mouth and unique beaks made them highly efficient feeders. It is believed that they would probably have used their beaks to shear off tough vegetation and bark. With one of the most complex teeth structures of any animal, with dental tissue that varies from tooth to tooth, the Edmontosaurus could quickly grind up very tough plant material. Conifer needles, twigs, and seeds have all been found in their fossilised stomach contents. Edmontosaurus also had very tough, thick skin – a crucial defence against Tyrannosaurus attacks. Skin impressions also reveal a segmented frill ran along the Edmontosaurus' tail, and scale patterns indicate that this tail may have been striped, possibly as a form of camouflage. Tracks and nesting sites, as well as the existence of multiple bone beds, suggest that Edmontosaurus lived in herds, like modern grazing animals.