

# Dino Cousins

*This triceratops' cousin is not only a new species; it's a whole new branch on the dinosaur family tree.*



*The massive Nasutoceratops titusi wandered Earth 76 million years ago. Its fast-paced evolutionary trajectory may have increased its chances of reproductive success ... before it went extinct.*

**W**hen paleontologist Scott Sampson dug up a nearly 6-foot Nasutoceratops titusi skull in Utah in 2006, he also uncovered hints of what life was like 76 million years ago for creatures on the hot, half-flooded landmass called Laramidia.

“Nasutoceratops represents not just a new dinosaur, but a previously un-

known branch of the horned dinosaur family tree,” Sampson says. That family, including the well-known Triceratops, had knobby noggins thought to attract mates and keep competitors at bay.

Nasutoceratops titusi’s simple frill, stout snout and unusually long horns contrast sharply with the “elaborate bony bells and whistles” of its contemporaries, says Sampson, who published a description of the species in July.

Sampson says such variation was probably prodded by sexual selection, which can drive big, fast-paced evolutionary changes to increase a male’s chances of reproductive success. The result? Horned dinosaurs evolved in only 5 million to 8 million years to become the most diverse dinosaur family on the ancient landmass, Sampson says.

**N**asutoceratops shows a unique combination of in themselves not unique traits. The horn on the nose is low and narrow, with an elongated base. The squamosal has

a high ridge on its upper surface, running from the direction of the eye socket towards the squamosal rim. The skull frill is more or less circular with its widest point at the middle edge. The osteoderms on the frill

edge, the epiparietals and episquamosals, do not have the form of spikes but are shaped like simple low crescents. The rear frill edge is not notched but instead has an epiparietal on the midline.[3]



The nasal bones of Nasutoceratops exhibit internal cavities that the authors consider to represent pneumatic excavations, invading the bone from the nasal cavity. This is noteworthy because pneumatic nasals are unknown in any other ceratopsid, which supports that this feature represents a unique derived trait of this genus. Nasutoceratops had as many as 29 tooth positions in the maxilla, each occupied by several stacked teeth.

*Rob Gaston/Natural History Museum of Utah*

**T**he skull roof between the eye sockets is vaulted and is markedly higher than the snout region. The curved horizontally projecting brow horn arrangement was by

paleontologist David Hone likened to that of modern cattle.[5] The brow horns span approximately 40% of the total length of the skull, almost reaching the level of the snout tip, and with a bone core length of up to 457

millimetres are the longest known of any centrosaurine, both in absolute and relative terms. The epijugal (cheek horn) is with a length of 85 millimetres also the largest known among centrosaurines.

