

Duck-bill dinosaur mystery finally solved

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A University of Toronto scientist has concluded duck-billed dinosaurs' large, hollow crests had nothing to do with olfaction.

David Evans, a University of Toronto-Mississauga doctoral zoology student, has used a reconstructed brain cavity to rule out one of the most popular theories: that the crests evolved to increase the animal's sense of smell.

"From the brain case, there's no indication that the nerves curled upward into the crest, as we would expect if the crest was used for the sense of smell," Evans says. "It appears the brain changed very little from their non-crested dinosaur ancestors, and the primary region of the sense of smell was located right in front of the eyes -- and, coincidentally, that's where it is in birds, crocodiles, mammals and basically all four-legged animals."

Evans research adds weight to two other popular theories: the crests were used to create resonant sounds to attract mates or warn of predators, or they were used for visual display in mate selection or species recognition.

The study appears in the journal *Paleobiology*.

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