

## Skull structure and evolution in tyrannosaurid dinosaurs

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Tyrannosauridae can be subdivided into two distinct subfamilies—the Albertosaurinae and the Tyrannosaurinae. Previously recognized subdivisions Aublysodontinae and Shanshanosaurinae are rejected because they are based on insufficient material and juvenile specimens. Our results are based upon a phylogenetic analysis using PAUP program (Swofford 1999) of 77 skull characters and seven genera (*Albertosaurus*, *Alioramus*, *Daspletosaurus*, *Gorgosaurus*, *Nanotyrannus*, *Tarbosaurus*, and *Tyrannosaurus*); with *Allosaurus* as outgroup. Of the 77 characters used, more than half were parsimony informative. A single most parsimonious tree was obtained with the Tree Length being 88. The analysis of cranial characters and comparison of postcranial features reveal that *Tarbosaurus bataar* is not the sister taxon of *Tyrannosaurus rex* (*contra* Holtz 2001). Their similarities are partially due to the fact that both are extremely large animals. Thus, *Tarbosaurus* should be considered a genus distinct from *Tyrannosaurus*.

**Key words:** Dinosauria, Theropoda, Coelurosauria, Tyrannosauridae, phylogeny, parsimonious analysis.

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