

PHYLOGENY AND SYSTEMATICS OF THEROPODS (DINOSAURIA)

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Theropoda is a monophyletic taxon of dinosaurs that includes modern birds. The earliest forms include *Eoraptor* and *Herrerasaurus* from the Late Triassic Carnian rocks of Argentina.

Large theropods first appeared early in the Jurassic and persisted until the end of the Cretaceous. Most belong to a monophyletic taxon called Carnosauria, which is united by more than a dozen synapomorphies, including the universal presence of opisthocoelic cervical vertebrae. Cervical centra of *Ceratosaurus* approach the opisthocoelic condition seen in carnosaurs, which is one of the reasons that this genus can be considered to be the sister taxon of the Carnosauria. A taxon widely referred to as Ceratosauria in recent years can only be defined on the basis of plesiomorphic characters if *Ceratosaurus* is included. *Ceratosaurus* should be removed from this grouping, and the taxon redefined.

Phylogenetic analysis groups most of the remaining well-known theropods (including avimimids, caenagnathids, dromaeosaurids, ornithomimids, oviraptorids, troodontids and birds) into a monophyletic taxon called the Coelurosauria. As has been shown by other authors, tyrannosaurids are not carnosaurs, but are more appropriately considered as Late Cretaceous coelurosaurs.

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