



New information on the skull of *Coloradisaurus brevis* Bonaparte (*Dinosauria*, *Sauropodomorpha*) from the upper Los Colorados Formation (Late Triassic), northwestern Argentina

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Coloradisaurus brevis Bonaparte is a basal sauropodomorph from the upper Los Colorados Formation (Late Triassic), La Rioja Province, Argentina. Although it is frequently used in phylogenetic analyses, its position within basal Sauropodomorpha remains uncertain. Several characters of *Coloradisaurus* are shared with Massospondylidae: posterolateral process of the premaxilla and the anteroventral process of the nasal separated by the maxilla, dorsal margin of the postorbital with a distinct embayment between anterior and posterior processes, dorsoventral depth of the parasphenoid rostrum about equal to its transverse width, and four premaxillary teeth. *Coloradisaurus* shares with Plateosauridae and Riojasaurus Bonaparte a well developed external narial fossa, ascending ramus of the maxilla tapering dorsally, subtriangular antorbital fossa with a straight posterior margin, jugal ramus of the quadratojugal no longer than the squamosal ramus, basiptyergoid processes and the parasphenoid rostrum below the level of basioccipital condyle and basal tuberae, and serrations along most length of both carinae. Here we present new information on the skull of the type specimen of *Coloradisaurus*, which can be diagnosed by the following unique combination of characters: anteroposteriorly short posterior process of the prefrontal; antorbital fossa of the lachrymal restricted to its ventral third; jugal contributing to the antorbital fenestra; pterygoid wing of the quadrate occupying less than 70% of its total height; paraoccipital processes horizontally directed; anterior end of the dentary ventrally curved; strong medial embayment behind glenoid of the articular; maxillary and dentary tooth crowns lanceolate and distally recurved with nearly flat lingual surface; and all teeth with approximately equal height. The new information was tested through a phylogenetic analysis that enforces the position of *Coloradisaurus* in a monophyletic clade Massospondylidae, as the sister-taxon to *Lufengosaurus* + *Glacialisaurus*. This result evidences the widespread radiation of massospondylids and the restricted distribution and abundance of plateosaurids in southwestern Pangea during Late Triassic-Early Jurassic.

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