

BRAINCASE OF *ALMADASUCHUS FIGARII* (ARCHOSAURIA; CROCODYLOROMORPHA) A NEW INSIGHTS ON THE EVOLUTION OF CRANIAL PNEUMATICITY WITHIN CROCODYLOROMORPHA

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Almadasuchus figarii is a basal crocodylomorph recovered from the Upper Jurassic levels of the Cañadón Calcáreo Formation (Oxfordian–Tithonian) of Chubut, Argentina. The skull of the only specimen of the monotypic *Almadasuchus* was restudied using high-resolution microtomographies. *Almadasuchus* has an apomorphic condition in its skull shared with the closest relatives of crocodyliforms (*i.e.*, hallopodids) where the quadrates are sutured to the laterosphenoids and the otoccipital contacts the quadrate posterolaterally, reorganizing the exit of several cranial nerves (*e.g.*, vagus foramen) and the entry of blood vessels (*e.g.*, internal carotids) on the occipital surface of the skull. We also studied the internal anatomy of the specimen. The endocast is tubular, as in thalattosuchians, but it has a marked posterior step and a strongly projected floccular recess as in other basal crocodylomorphs. Internally, the skull of *Almadasuchus* is heavily pneumatized, where different air cavities invade the bones of the suspensorium and braincase, either on its dorsal and ventral parts. We studied cranial pneumaticity in the context of the basal members of Crocodylomorpha and found that: 1, prooticpneumaticity may be a synapomorphy for the whole clade; 2, basisphenoid pneumaticity (pre, postcarotid and rostral recesses) is a derived feature among basal crocodylomorphs; 3, quadrate pneumatization is acquired later in the history of the group; and 4, the rhomboidal sinus is a shared derived trait of hallopodids and crocodyliforms. Thalattosuchians exhibit a reduction on the pneumaticity of the braincase and this reduction needs to be evaluated considering the two phylogenetic positions proposed for the clade.

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THE REPRODUCTION OF TITANOSAURS FROM THE QUEBRADA DE SANTO DOMINGO, PRECORDILLERA OF LA RIOJA (NW ARGENTINA): INDICATIONS FROM STABLE ISOTOPES

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Titanosaur egg clutches have recently been discovered at the Quebrada de Santo Domingo locality (QSD), Precordillera of La Rioja (NW Argentina) in several levels of the Ciénaga del Río Huaco Formation (Late Cretaceous). They are found in two subsites located on either side of the valley, and their preservation greatly differs from one subsite to the other due to differential exposure to weathering. We performed stable isotope analyses ($\delta^{18}\text{O}$, $\delta^{13}\text{C}$, $\Delta 47$) as well as EDAX, CL, XRF and XRD on several eggshell fragments, associated geological material and a titanosaur tooth, to check for the preservation of the fossils and their potential as local palaeoenvironmental