BITE MARKS ON A SKULL OF PSEUDOPALATATUS MCCAOLEYI
(ARCHOSAURIA: CRUROTARSI: PHYTOSAURIDAE) FROM THE
UPPER TRIASSIC BULL CANYON FORMATION, EASTERN NEW
MEXICO

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A 1.12 meter-long brachyrostral phytosaur skull (NMMNH P- 56187) from the Upper Triassic Bull Canyon Formation of eastern New Mexico is assigned to Pseudopalatus mccauleyi based on its poorly preserved, but apparently depressed supratemporal fenestrae, its subtriangular squamosal process, and completely crested rostrum. The skull is obliquely flattened, exposing the left side of the face and skull roof. The lachrymal - nasal area, bounded by the external nares, antorbital fenestra (aofe) and orbit, on the left side is punctured by three large holes, one immediately dorsal to the middle of the aofe and two more (paired?) posterior to the first and approximately halfway between the aofe and the orbit. Based on size and shape, these holes appear to represent bite marks, probably from another (possibly conspecific) phytosaur. The three marks thus form an “L” and probably represent two teeth from one side of the biting animal’s jaw and a one from the other, although the orientation of attack is not clear. The larger holes may mark wounds inflicted by the large teeth in the “bulb” of a phytosaur snout, with the smaller injury attributed to a smaller, more posterior tooth. The edges of the holes are smooth and rounded, evidently having healed.

The tooth marks measure: (1) 27 X 10 mm, (2) 25 X 13 mm, and (3) 16 X14 mm. The combination of elongate and approximately round punctures supports assignment of the bite mark to the ichnotaxon Heterodontichnites hunti. This is only the second bite mark on a phytosaur fossil of which we are aware. The other is in the palate of a large skull of Redondasaurus bermani (NMMNH P-31094) from the Redonda Formation of east-central New Mexico. This injury comprises three smaller (9 to 12 mm), approximately round punctures in a gently curved line that is 45 mm long. These punctures show healed edges and may have been self-inflicted. Thus, the Pseudopalatus bite mark is the first unambiguous evidence of a phytosaur suffering an attack from another phytosaur of which we are aware.


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