

The holotype of the basal archosauromorph *Prolacerta broomi* revisited

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Prolacerta broomi is one of the most important of fossil reptiles. First considered as one of the earliest members of squamates, this basal archosauromorph has been used as a model for diapsid morphological evolution ever since its discovery, playing a pivotal role in hypotheses on the origin of diapsid reptiles. The holotype of *Prolacerta broomi* (UCMZ 2003.41R) is known from a mostly complete skull, but the original description is limited to the superficial features of the skull roof and palate. Since then, many other specimens of *Prolacerta broomi* have been recovered that potentially account for this limited access to anatomical information, but it remains unclear whether these aspects correspond well to the known material of the holotype. Here, the skull morphology of the holotype of *Prolacerta broomi* is revisited through the use of μ CT scans. The identifications of some cranial elements have been corrected, such as the left prefrontal and lacrimal, and several new elements are revealed, including the epi- and ectopterygoids, prearticular, coronoid, and braincase bones. The orbitonasal region is described in detail and significantly shows a contribution of the lacrimal to the dorsal alveolar canal. Finally, the addition of the holotype as an independent OTU in recently published analyses indicate conflicts with the current knowledge on *Prolacerta broomi* phylogenetic affinity and taxonomy. First, it points to potential taxonomic inconsistency since the holotype does not form a monophyletic group with other *Prolacerta broomi* OTUs in any of the analyses and, second, it suggests a more basal position for the holotype than that recovered in some studies, more basal than rhynchosaurs and close to the origin of Crocopoda. Together, these findings indicate areas of future research interest in the study of early evolving archosauromorphs.

Key words: Reptilia, Diapsida, Archosauromorpha, Crocopoda, Triassic, South Africa.

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