ACTA PALAEONTOLOGICA POLONICA

# A unique dentary suggests a third genus of batrachosauroidid salamander existed during the latest Cretaceous in the western USA

James D. Gardner
*Acta Palaeontologica Polonica* 67 (1), 2022: 35-50 doi:https://doi.org/10.4202/app.00926.2021

An incomplete salamander dentary (AMNH FARB 22965) described herein from the upper Maastrichtian Lance Formation, Wyoming, USA, exhibits a puzzling suite of features. Four features—a prominent bony trough extending anteriorly and curving upwards along the lingual surface of the ramus, lack of an obvious Meckelian fossa or groove, an apparent gap in the tooth row, and a symphysial-like first tooth—are likely anomalies. However, the remaining features are interpreted as normal structures and suggest that AMNH FARB 22965 represents a new genus and species of batrachosauroidid, an extinct family of neotenic salamanders that were prominent components of Cretaceous to Neogene freshwater and floodplain paleocommunities in North America and Europe. The new taxon differs from other batrachosauroidids in a unique suite of dentary and dental features, most notably in having a lingual bony flange paralleling the posterior two-thirds of the dentary tooth row, a prominent and robust coronoid process bearing a grooved anterior face, and the anterior portion of the corpus dentalis behind the symphysis is broadly expanded ventrolingually. The presence of a third batrachosauroidid taxon in the Lance Formation was unexpected, considering that the formation has been well sampled and that its two previously recognized batrachosauroidids, namely *Opisthotriton kayi* and *Prodesmodon copei*, are known by abundant isolated bones, including dozens of dentaries, from numerous localities in the unit and elsewhere in the North American Western Interior. Known by a unique dentary from the Bushy Tailed Blowout locality, the taxon represented by AMNH FARB 22965 evidently was uncommon within the Lance Formation paleoenvironment.

**Key words:** Lissamphibia, Caudata, Batrachosauroididae, Cretaceous, Maastrichtian, Lance Formation, North America.

James D. Gardner [james.gardner@gov.ab.ca], Royal Tyrrell Museum of Palaeontology, Box 7500, Drumheller, Alberta, Canada, T0J 0Y0.

This is an open-access article distributed under the terms of the Creative Commons Attribution License (for details please see creativecommons.org), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.


Full text (810.5 kB)