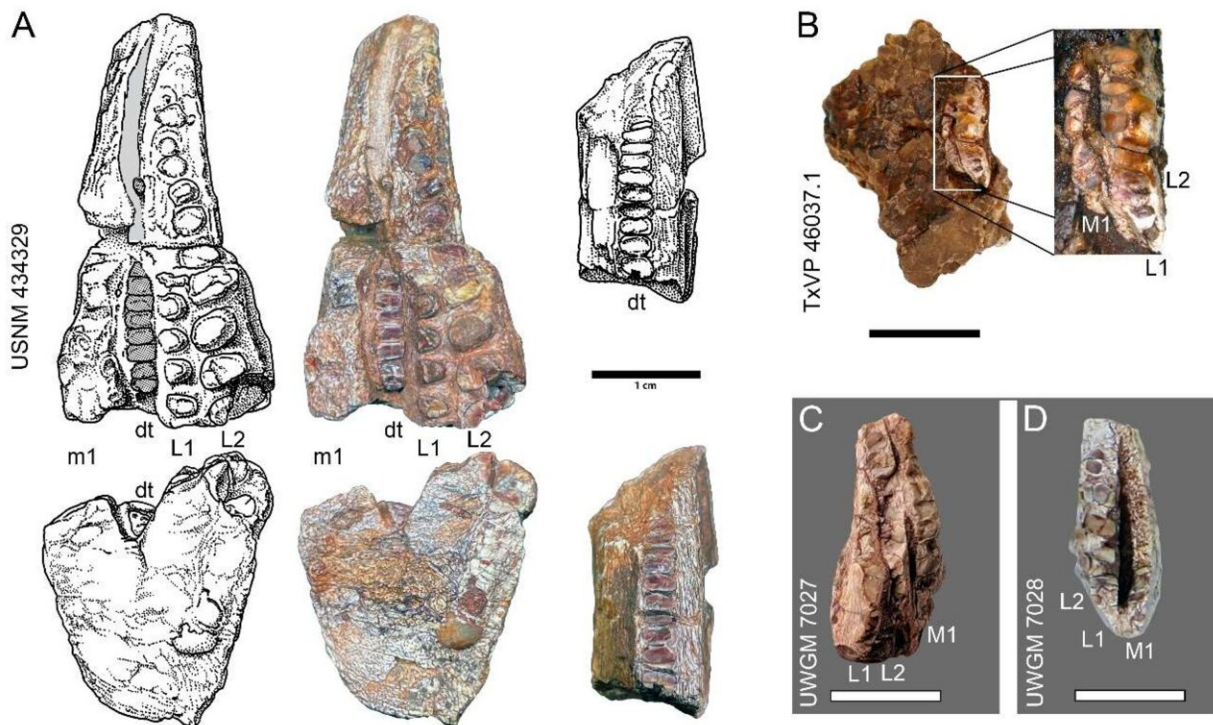


New rhynchosaur, named *Beessiiwo coowuse*, found in Wyoming

April 27 2023, by Justin Jackson



(A) The type specimen for *Beessiiwo coowuse* (USNM 494329); occlusal view (top left/center) and axial cross section (bottom left/center) of posterior maxilla, and occlusal view of dentary (top/bottom right). Note that the row of teeth medial to L1 and L2 is not M1, but a fragment of the dentary that remains slotted into the longitudinal groove of the maxilla. (B–D) Occlusal view of three left maxillae from Cottonwood Creek referred to *Beessiiwo coowuse*. Note the presence of M1 and absence of any additional medial rows. All scale bars = 1 cm. Illustration CC by Jim Morrison. Credit: *Diversity* (2023). DOI: 10.3390/d15040544

Once upon a time, in what is now Wyoming, the predecessors of birds, alligators, and dinosaurs roamed the range. A lizard-like creature with a beak that ate plants around 232 million years ago has been described in a paper published in the journal *Diversity*.

The new taxon, described in "A New Rhynchosaur Taxon from the Popo Agie Formation, WY: Implications for a Northern Pangean Early-Late Triassic (Carnian) Fauna," by University of Wisconsin-Madison researchers, was found previously, but the initial specimens' surface texture and morphological features were too eroded for comparative use.

Using the unique dental morphology of 12 new specimens allowed paleontologists to confirm it as a new Rhynchosauria. Five specimens contained enough morphological information to identify it as belonging to Hyperodapedontinae, a subfamily of rhynchosaur.

The taxonomic name of the new beast, Beessiiwo (Bah—se—wa) coowuse (ja' aw-wu sa), was created by the studies First Nation co-authors in the Arapaho language meaning "big lizard from the Alcova area" (Alcova being an area of central Wyoming), as the specimens were collected on lands of the Northern Arapaho. This big lizard was small by the standard of the big reptiles that would later dominate the landscape at about a half meter in length.

The fossils were found in the Popo Agie Formation of Wyoming, a layer of sediment deposited in the Triassic era in what would have been rivers or lake beds at a time when Wyoming was part of the Northern Pangean [supercontinent](#) hundreds of millions of years ago.

Finding the fossils, describing them and naming the new species may have been the easy part, as defining exactly where they fall into the Late Triassic Carnian lexicon of lizards proved a more complicated task. It was a time of significant early diversification, so overlapping definitions

based on past finds, which may be tens of millions of years apart, sharing traits from common ancestors but as evolutionarily distant as apes and monkeys, has resulted in numerous classification schemes falling in and out of favor.

Additionally, many diverse taxons of these related creatures lived in proximity, with overlapping territories and are occasionally found co-mingled in some sites, confounding even the most dedicated paleontologist. Beessiiwo coowuse was most similar to, and likely a sister species of, the recently described *Oryctorhynchus bairdi* found in Nova Scotia, Canada, but it was not an exact match. After attempting to fit Beessiiwo into any of the available categories, the researchers decided it was best to give it one of its own.

The authors also note that yet unknown early to late Triassic fauna are waiting to be discovered in Wyoming. Few places in North America have as much surface access to this truly ancient nonmarine continental strata, and the Popo Agie Formation extends from west-central Wyoming through northeastern Utah and parts of Colorado.

More information: Adam J. Fitch et al, A New Rhynchosaur Taxon from the Popo Agie Formation, WY: Implications for a Northern Pangean Early-Late Triassic (Carnian) Fauna, *Diversity* (2023). [DOI: 10.3390/d15040544](https://doi.org/10.3390/d15040544)

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