

porolepiform interrelationships shows that the new form is crownwards to Porolepididae, forming the sister group of Holoptychiidae. The new porolepiform from the Middle Devonian of South China highlights the worldwide distribution of the group and provides new evidence for understanding the character transition sequence during porolepiform evolution.

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A NODOSAUR TRACK (*TETRAPODOSAURUS*) FROM THE EARLY CRETACEOUS SYKES MOUNTAIN FORMATION OF WYOMING

Radermacher, Viktor J.¹, Makovicky, Peter¹, Suarez, Celina A.², Suarez, Marina³, Allen, Matthew³

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¹Earth and Environmental Sciences, University of Minnesota Twin Cities, Minneapolis, Minnesota, United States, ²Department of Geosciences, University of Arkansas, Fayetteville, Arkansas, United States, ³Department of Geology, The University of Kansas, Lawrence, Kansas, United States

Ankylosaurs were obligately quadrupedal herbivorous dinosaurs covered in thick protective osteoderms. Despite never achieving any ecological superiority, ankylosaurs still established themselves as modest medium-large bodied mainstays of Mesozoic ecosystems since their evolution in the Middle Jurassic. Nodosauridae, a particularly spiked clade of ankylosaurs, is commonly represented in the Early Cretaceous record of the Western United States by body fossils of *Sauropelta edwardsorum* in the Cloverly Formation of Wyoming and Montana. Here we report an intact three-dimensionally preserved cast of a symmetrical 400 x 400 mm track preserving four equally sized and spaced blunt digits, tapering to a subtriangular heel. A distinct mediolaterally continuous trough is present just behind the boundary defined by the digits. These observations allow us to confidently diagnose this as a right pedal cast of the ichnofossil *Tetrapodosaurus* – a trace originally made by nodosaurid ankylosaurs. This track was recovered from the western part of the Bighorn Basin in Wyoming from the bottom of the Sykes Mountain Formation (late Albian-early Cenomanian), just above its conformable contact with the underlying Cloverly Formation. Curiously, stratigraphically comparable strata from Virginia and British Columbia, Canada, lack nodosaurid body fossils but preserve nodosaurid trackways referred to the ichnotaxon *Tetrapodosaurus*. The Early Cretaceous fossil record of ankylosaurians in North America is marked by an ichnological record and a body fossil record (*Boreasopelta*, *Sauropelta*, *Tatankacophalus*) that are geographically disjunct. The track we report here is the first record of a nodosaur track in the Early to mid-Cretaceous of North America that coincides both geographically and in close stratigraphic proximity with nodosaur body fossils (*Sauropelta* and *Tatankacophalus*).

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CRANIAL ONTOGENY IN THE NOTOSUCHIAN CROCODYLIFORM *MIADANASUCHUS OBLITA* FROM THE UPPER CRETACEOUS MAEVARANO FORMATION, NORTHWESTERN, MADAGASCAR

Rakotozafy, Bakoliarisoa¹, Sertich, Joseph J.², O'Connor, Patrick M.³

¹Denver Museum Of Nature and Science, Denver, Colorado, United States, ²Colorado State University, Fort Collins, Colorado, United States, ³Ohio University, Athens, Ohio, United States

The diversity of Late Cretaceous vertebrates from Madagascar is known predominantly from the Maastrichtian Maevarano Formation, a unit of fluvial- and debris-flow deposited sedimentary rocks exposed in the Mahajanga Basin. Maevarano Formation crocodyliforms are particularly diverse, with six documented taxa. *Miadanasuchus oblita*, a medium sized (e.g., 3 m estimated adult body size) terrestrial carnivore, is hypothesized to be a member of Peirosauridae. As most peirosaurids are currently established on individual specimens, many presumed to be adult, our knowledge of ontogenetic shifts in morphology are extremely limited. The recovery of numerous partial-to-complete and size-diverse skulls of *Miadanasuchus* from the Maevarano Formation provide a unique opportunity for examining cranial ontogeny at both whole skull and individual bone levels. In this study, we investigate *Miadanasuchus* ontogeny from the perspective of body size and potential changes in ecological niche throughout life. Our sample includes hatchlings, juveniles, subadults, and adults, ranging in estimated skull length between 3 cm for the hatchling and ~30 cm for the largest adult form. Notable changes in morphology over this size range include: alteration of surface texture from relatively smooth to heavily sculpted, fusion of composite bones (e.g., the nasals), and moderate shape change in selected elements (e.g., frontal, parietal, squamosal, lacrimal, and dentary). The latter two categories of shape change are possibly related to functional dietary shifts through growth. For example, the fusion of the nasals in juveniles and adults likely relates to an increased need for biomechanical stability as acquiring larger prey items would result in higher loading through the rostrum during feeding. Changes of body size, along with concomitant shape changes in the skull and dentition through development, potentially reflects a combination of functional changes and habitat