

ecosystem instability, while also aiding in the prediction of long-term biotic responses to future environmental changes to safeguard existing biodiversity.

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Regular Poster Session 4 (Saturday, November 2, 2024, 4:30 - 6:30 PM)

Paleontology at the junior level: engaging adults in paleontological thinking in professional learning focused on inclusion, diversity, equity, and access, in formal and informal educational contexts

Vital, Demetrios

IDEAL Center, Science Museum of Minnesota, Minneapolis, Minnesota, United States

Adult participants in professional development (PD) facilitated by the IDEAL Center of the Science Museum of Minnesota (SMM) engaged in comparative anatomy and paleontological activities, in order to strengthen participants' capacities towards greater inclusion, diversity, equity, and access (IDEA) in their work.

In PD programs designed for two different professional sectors — one for formal K-16 educators, and one for informal science institution (ISI) staff — participants learned paleontology content through pedagogical structures designed to inclusively and equitably engage all participants in meaningful learning. Participant groups had sector-specific framing — K-16 educators focused on pedagogical strategies for disrupting oppressive systems in formal education, whereas ISI staff focused on strategies for growing IDEA within their organizational contexts — with extended discussion on systemic change necessary for

fields of formal and informal science education to become equitably inclusive of historically marginalized perspectives.

These program tracks included formal and informal evaluation. Participant reflection revealed growth in understanding paleontological concepts, as well as in participants' conceptions of how to build more inclusive professional and educational spaces.

The pedagogical design of the programming, including intent, structure, content, and foundational research, is described herein, with examples of participant self-reflection and evaluation.

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Regular Poster Session 3 (Friday, November 1, 2024, 4:30 - 6:30 PM)

A perplexing new periptychid mammal specimen from the lower Paleocene D1 sequence of the Denver Formation of Colorado (Corral Bluffs, El Paso County)

Vohs, Athena¹, Weaver, Lucas N.¹, Chester, Stephen G.², Lyson, Tyler³

¹Museum of Paleontology & Department of Earth and Environmental Sciences, University of Michigan, Ann Arbor, Michigan, United States, ²Department of Anthropology, Brooklyn College, City University of New York, New York, New York, United States, ³Department of Earth Sciences, Denver Museum of Nature & Science, Denver, Colorado, United States

Archaic ungulates ('condylarths') were among the most speciose group of mammals in the aftermath of the Cretaceous-Paleogene (K-Pg) mass extinction in North America. Corral Bluffs, an exposure of the lower

Paleocene D1 sequence of the Denver Formation in the Denver Basin of Colorado, is emerging as one of the most exceptional records of early archaic ungulates, yielding numerous well-preserved fossils from the first ca. 1 Ma of the Paleocene. Here, we describe a new archaic ungulate specimen (DMNH EPV.143118) from the upper Puercan 2 North American Land-Mammal 'age' at Corral Bluffs, ~100 m above the pollen-defined K-Pg boundary, represented by left and right dentary fragments, a right maxilla fragment, and an associated p1–2. We identify the specimen as a peripitychid based on: (1) premolars larger and more inflated than the molars, (2) molar cusps conical and appressed, and (3) lingual margin of upper molars slopes away from the protocone apex. Among peripitychids, DMNH EPV.143118 resembles the 'Anisonchinae' (*Anisonchus*, *Gillisonchus*, *Haploconus*, *Mithrandir*), a likely non-monophyletic group, in exhibiting: (1) a hypocone that projects lingually past the protocone apex (but not as prominent as in Conacodontinae), (2) absent protostyle, and (3) columnar and reduced paraconid. Among 'anisonchines', DMNH EPV.143118 shares several similarities with the upper cheekteeth (which are more diagnostic than the lowers) of *Mithrandir* and *Gillisonchus*, but also with those of a specimen (UCM 34166) referred to as *Alticonus* (?*Tinuviel*) *gazini*: (1) narrow stylar region, (2) M2 the most transverse molar, and (3) relatively pronounced pre- and postcingulae on the molars. DMNH EPV.143118 exhibits a mosaic of dental features that collectively differ from those taxa, however. It differs from *Gillisonchus* and *Mithrandir* but resembles UCM 34166 in: (1) lacking a deep groove separating the lingual faces of the hypocone and protocone, (2) paracone shifted buccally to metacone, (3) more pronounced parastylar and metastylar lobes and ectoflexus. However, DMNH EPV.143118 differs from UCM 34166 and resembles *Gillisonchus* and *Mithrandir* in: (1) P4 larger than M1 with a prominent protocone, (2) reduced para- and

metaconules, (3) protocone more closely appressed to para- and metacone. Thus, we hypothesize that DMNH EPV.143118 represents a new species. Future comparative and phylogenetic analyses will clarify its taxonomic affiliations and evolutionary relationships among 'anisonchines'.

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Regular Poster Session 3 (Friday, November 1, 2024, 4:30 - 6:30 PM)

New tyrannosaurid material from the marine Bearpaw Formation of Alberta sheds light on the turnover between Judithian and Edmontonian faunas in northern Laramidia

Voris, Jared T.¹, Therrien, François³, Coppock, Colton², Zelenitsky, Darla K.¹

¹Earth, Energy, Environment, University of Calgary, Calgary, Alberta, Canada, ²Royal Tyrrell Museum of Palaeontology, Drumheller, Alberta, Canada, ³Biological Sciences, University of Alberta, Edmonton, Alberta, Canada

A gap in the terrestrial faunal record of northern Laramidia exists from 74.5 Ma to ~72.5 Ma, between the Judithian and Edmontonian land mammal age faunas. This interval, informally referred to as the 'Bearpaw gap', coincides with the last major transgressive-regressive cycle of the Western Interior Seaway (WIS) that resulted in the deposition of the Bearpaw Formation (Fm) in Alberta, Saskatchewan, and Montana. This marine unit has yielded a rich and diverse marine fauna but has also produced occasional terrestrial vertebrate (dinosaur) remains. Prior description of three skeletons of the saurolophine *Prosaurolophus maximus* from the Bearpaw Fm of Alberta indicates