comparisons of fossil enamel to modern hair should be interpreted cautiously. Further, interpretations of paleoecological
preferences from solely enamel should be interpreted as a minimum estimate of dietary variability.

Poster Session IV (Saturday, October 17, 2015, 4:15 - 6:15)
COMPARING TOOTH MACROWEAR IN A JUVENILE AND ADULT SPECIMEN OF GORGOSAURUS LIBRATUS: CHANGES IN FEEDING BEHAVIOR THROUGHOUT ONTOGENY IN TYRANNOSAURIDS
BRADLEY, Gavin J., University of Alberta, Edmonton, Canada, T5J 1A3; GLASIER, James R., and the University of New South Wales, Sydney, Australia; CURRIE, Philip J., University of Alberta, Edmonton, AB, Canada

An understanding of how paleoecological processes can shed light on the behavior of extinct animals is of contemporary importance. More so than any other body of information, the condition of the bones of prey, the study of macrowear in the teeth of articulated carnivorous dinosaurs provides direct evidence of feeding behavior for a particular specimen over an extended period of time. Following recent speculations on the diet and social dynamics of tyrannosaurid dinosaurs, macrowear in the Gorgosaurus specimen FMNH PR 2081, one juvenile and one adult, were compared in order to document any changes in feeding strategies throughout ontogeny. Four major types of tooth wear were present in the two specimens: enamel spalling, longitudinal facets, tip wear, and barrel-shaped puncture marks. Enamel spalling is most likely reflective of traumatic feeding events or reduced enamel integrity due to continuous use after damage, and is presented in both specimens. However, the adult teeth were dominated by tip wear, in contrast to the juvenile teeth, which presented numerous examples of longitudinal wear facets. This is hypothesized to reflect an ontogenetic change in the feeding behavior of Gorgosaurus, from shearing and slicing of meat with high levels of tooth occlusion in young, to the more commonly accepted puncture and pull method in adults. This change is concomitant with an increase in bite force as the jaw grows throughout life, and may reflect a change in diet, and even ecological niches between generation. Juvenile and adult assemblages are very similar, the very least, it shows that juveniles and adults processed carcasses in different ways.

Poster Session IV (Saturday, October 17, 2015, 4:15 - 6:15)
A JUVENILE HYPACROSAURUS ALTISPINUS (DINOSAURIA: HADROSAURIIDAE) BONEBED FROM THE HORSESHOE CANYON FORMATION (UPPER CRETACEOUS) OF ALBERTA, CANADA
BRAMHILL, Katherine K., University of Alberta, Edmonton, AB, Canada; CURRIE, Philip J., University of Alberta, Edmonton, AB, Canada

The Bud Nelson Bonebed, a monodominant Hypacrosaurus altispinus bonebed, is located in southern Alberta, Canada in the Horseshoe Canyon Formation. Although the University of Alberta discovered it in 1965, it has not been described. Approximately 50 elements have been recovered from the site. The minimum number of individuals is four late juveniles and one sub-adult or adult, based on humeri. The material is assigned to H. altispinus using four well-preserved jugals: the ventral margin is acutely angular and there is a large mid-ventral constriction. Four dentaries and a surangular comprise the remainder of the known cranial material. Although details of the original collection are scarce, the material was found disarticulated. Cranial bones are represented by a dominance of right elements whereas postcranial elements show no dominance. Forelimb bones represent the highest proportion of elements, with the majority of these being humeri. Therspods are represented in the bonebed by shed teeth. The presence of puncture marks on some of the hadrosaur bones indicates scavenging.

The Bud Nelson Bonebed is significant for its high proportion of juveniles. Juvenile hadrosaur bonebeds are not common, especially for Hypacrosaurus altispinus which is typically found as isolated individuals or elements. There is only one other unpublished small bonebed that contains elements from this dinosaur and surprisingly the material also belongs to juvenile specimens. There is no evidence that the Bud Nelson assemblage represents a nesting ground. In contrast, three juvenile-dominated Hypacrosaurus stebingeri bonebeds are known from the Oldman Formation of Alberta and the upper Two Medicine Formation of Montana. These sites have eggs and baby remains as well as juvenile material at one of the sites in Montana.

The Bud Nelson Bonebed and the unpublished bonebed are the only evidence of communal or creche behavior in H. altispinus into the late juvenile stage. Adult-dominated Hypacrosaurus bonebeds are unknown but are common for other hadrosaurs, such as Edmontosaurus. This could indicate different behavior among hadrosaur taxa, or bias in preservation. The greater proportion of juveniles suggests that the Bud Nelson Bonebed represents a catastrophic mass death assemblage.

Poster Session III (Friday, October 16, 2015, 4:15 - 6:15)
NEW SPECIMENS AND MORPHOLOGY OF THE LOWER JAW OF THE LEPTOPTERYX RIDLEYI STATION (UPPER JURASSIC) FORMATION OF NORTHERN ARIZONA
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The Rattlesnake Formation of eastern Oregon is an early Hemphillian site (~7.5 – 7.05 Ma) recording a diverse mammalian fauna from a mixture of sagebrush steppe and woodland environments. The initial description of the Rattlesnake fauna was published in the early 1900s, and there have been few updates since then. Here we provide a comprehensive revision of the Rattlesnake carnivora fauna, including addition of several species, revised identifications of previously described taxa, and description of new fossil material from several noteworthy species. New additions to the fauna include a canid, Borophagus pugnator; a mephitid, Pliogale; an ischyrictine mustelid, Plionictis; a machairodont feline, Rhytidomodon; and a puma-like feline. Previously undescribed dentary material allows identification of Machairodus c. cataphractus. This new fossil material includes additional elements of the type specimen of Indarctos oregonensis, which were collected more than 100 years after its initial discovery. Also of significance are the earliest and first western records of the recently described Rhizonissodon, as well as the first taxonomic reassignment of taxa. The occurrence of Plionictis represents the first skunk described from the fossil record of Oregon. As has been noted previously, the Rattlesnake Formation contains some of the earliest North American occurrences of immigrant taxa from Asia, such as Simocyon, Indarctos, Plionictis, Lutraeus, and Machairodus. With a total of 14 species, the Rattlesnake fauna is the most diverse carnivora fauna of its age in North America. The diversity of carnivores present in the Rattlesnake Formation is likely due to the mosaic environment preserved at the site, climate shifts through time, and its geographical placement near carnivore dispersal routes.

Poster Session II (Thursday, October 15, 2015, 4:15 - 6:15)
NEW SPECIMENS OF THE THYREOPHORAN DINOSAUR SCUTELLOSAURUS LAWLERI FROM THE LOWER JURASSIC KAYENTA FORMATION OF NORTHERN ARIZONA
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Ornithischia originated during the Late Triassic but did not diversify until the Early Jurassic, after the breakup of the supercontinent Pangaea. The diversity of ornithischians in the Kayenta Formation is known largely from a small number of isolated teeth. Here we report a juvenile Scutellosaurus lawleri, the first ornithischian from the Kayenta Formation in northeastern Arizona. This specimen includes an ischyrictine mustelid, and osteoderms and rib fragments tentatively associated to ornithopods. The scutellosaurian material described here was collected in the Rattlesnake Formation during expeditions in 2000 and 2001. Scutellosaurus is a small ornithischian, about 1 meter in length, and may be a relative of the recently described Hesperosaurus. Scutellosaurus lawleri is the first ornithischian dinosaur material documented from the Lower Jurassic Kayenta Formation along the Adcirc Echis Cliffs of northern Arizona between 1997 and 2000 by field parties from the Vertebrate Paleontology Laboratory (TMM) at the University of Texas at Austin. Among this new material are two articulated associated skeletons of Scutellosaurus and TMMP 43663-1, and two isolated teeth that are referred to this species. The material is poorly known or not previously reported for the taxon, including the nasal, maxilla, lacrimal, postorbital, quadratojugal, squamosal, opisthotic, squamosal, ilium, and metatarsus. TMMP 43663-1 represents an individual of similar size as the holotype (SAM C 1715), while TMMP 43663-2 represents a somewhat larger individual. These specimens have both been compressed taphonomically, making their removal from the surrounding matrix in their field jackets difficult without risk of damage to the fossil bone. Both specimens were mechanically prepared until risk of damaging the fossil bone was too high, at which point the specimens were scanned at the University of Texas High Resolution X-ray Computed Tomography Facility. This approach results in three-dimensional volumetric models of individual bones generated by removing matrix from the surface of the fossil bone digitally, revealing otherwise obscured anatomy and even details not visible on the surface of the specimens. In addition to these associated skeletons, several dozen other fragmentary specimens of Scutellosaurus lawleri have been identified, which increases the known sample size for the taxon. Several relatively large isolated indeterminate ornithischian fossils have also been recovered, which may indicate that ornithischian diversity in the Kayenta Formation is greater than is currently understood.

Poster Session I (Saturday, October 17, 2015, 4:15 - 6:15)
CARNIVORA FROM THE RATTLESNAKE FAUNA (EARLY HEMPHILLIAN, LATE MIOCENE) OF OREGON
BREDEHOft, Kelsi, John Day Fossil Beds National Monument, Kimberly, OR, United States of America, 97848; SAMUELS, Joshua, John Day Fossil Beds National Monument, Kimberly, OR, United States of America

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