

consists of a single Cebus-sized monkey, Homunculus. New cranial, dental and postcranial remains reveal an arboreal quadruped with some leaping ability that had a diet of fruit and leaves. Extreme tooth wear suggests marked dietary seasonality as befits an animal that lived at >50° South latitude. Orbit- and the optic-canal size indicate diurnality and acute vision. The brain endocast shows a large visual cortex and small olfactory bulb despite the comparatively well-developed scroll bones in the nose.

Poster Session I

#### THE KANSAS BOE AND EVOLUTION—A TALE OF ADAPTATION, REVERSALS, AND THE FITNESS OF KANSAS SCIENCE CURRICULA

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Challenges to the inclusion of evolution in K-12 curricula continue to be made in a wide variety of states in the USA. One arena in which this debate has repeatedly occurred during the past several years has been the Kansas State Board of Education, with some outcomes favorable to anti-evolution forces and some to pro-evolution forces. Because different election results have driven these different outcomes, analysis of the reasons for these results can be instructive for those from other states facing similar challenges as well as for Kansans.

In 2005 the Kansas State Board of Education enacted Science standards hostile to the teaching of evolution on a 6-4 vote. Subsequent actions by the BOE taken on identical 6-4 votes have made it clear that opposition to evolution is only a part of the ideology motivating the current majority of the BOE.

In the August 7, 2006 primary 4 of the 6 BOE members who voted in favor of the Science standards hostile to evolution will face primary opposition. The results of this primary election and the November 7 general election are likely to determine the fate of evolution in K-12 curricula for many years to come in Kansas, and will serve as a bellwether for other states.

This presentation will analyze the results of the primary and will compare these results with previous BOE elections in order to identify successful strategies. It will look at the place of the pro-evolution anti-evolution issue in the primary and at how this issue can become part of a broader agenda. It is hoped that these lessons can be used in other states facing similar issues.

Poster Session II

#### REDISCOVERY OF WILBUR KNIGHT'S 1898 MEGALNEUSAURUS REX SITE. NEW MATERIAL FROM AN OLD PIT

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We report the rediscovery of Wilbur Knight's original 1895 excavation site of the large Jurassic pliosaur *Megalneusaurus rex* known only from the type specimen, present material includes both large humeri and corresponding articulated epipodials (2m limb length) but originally included vertebral and pectoral elements as well.

The site was found using old maps identifying the original shallow oil basin described by Knight. The triangular excavation pit, not much larger than the specimen itself is in the Wind River Basin near the original western border of Natrona County. No spoil piles were nearby but isolated rib scraps and parts of an epipodial were discovered on the surface surrounding the site. The preservation matches that of the mounted articulated paddle at the Geological Museum, Univ. of Wyoming. Additionally, the sandy, green-stained glauconitic matrix matches material mixed into the original plaster filler used by Knight to reconstruct the pliosaur limb.

We can now verify that *Megalneusaurus rex* was from the upper Redwater Shale Member of the Sundance Formation, within about 10m of the Windy Hill Sandstone, near the base of the Morrison Formation. The sandy matrix suggests that *Megalneusaurus rex* frequented shallower portions of the Sundance Sea during the regressive phase of deposition. Sections of the sandy matrix contained dense amounts of thousands of coleoid cephalopod tentacle hooklets, which may have been gastric contents of the pliosaur. This site rediscovery returns focus to the largest member of the Sundance marine reptile fauna.

Poster Session III

#### POSTCRANIA OF BRISTOL'S RED PANDA, *PRISTINAILURUS BRISTOLI* FROM THE LATE MIOCENE OF THE SOUTHERN APPALACHIANS

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The original description of Bristol's red panda, *Pristinailurus bristolii* from the late Miocene-Early Pliocene Gray Fossil Site of eastern Tennessee included an upper first molar (Holotype = ETMNH-360) and an additional referred canine (ETMNH-359). Continuing excavations at the site have yielded another canine and numerous postcranial elements affording a closer look at this unique carnivore. Tentatively identified elements include: an associated partial left front limb (distal humerus, nearly complete ulna, proximal radius, unciform, cuneiform, MC4, MC5, two proximal phalanges, one medial phalanx, and several sesamoids); an ulna; an associated tibia and calcaneus; several isolated astragali; isolated caudal vertebrae; and a metatarsal. Overall morphology of the elements is strikingly similar to that of the living red panda (*Ailurus fulgens*), however major limb elements average around 20-25% larger. Smaller elements are only slightly larger.

At least one major difference between the Gray taxon and the living form is worth noting. The medial phalanx from the associated front limb from Gray is significantly longer

with a large, raised distal articular surface compared to the living form (or other equal-sized carnivores). Living pandas have very large claws (for their body size), which are semi-retractable. Aside from the length and the distal articular surface, the morphology of the Gray medial phalanx is nearly identical to that of the living *Ailurus*, suggesting that *P. bristolii* also possessed semi-retractable claws, which were even more exaggerated in size and at the end of longer digits. Increased body size alone could not explain the difference in digit and claw dimensions, therefore an alternative explanation is required. Perhaps the less derived dentition of *P. bristolii* necessitated a more omnivorous (to even carnivorous) diet than in *Ailurus*. The highly curved and cat-like claws of *Ailurus* are ideal for climbing; however, it seems possible that *P. bristolii* used its digit/claw morphology in a more cat-like fashion, perhaps to capture and/or bring down small prey.

Wednesday 5:45

#### A NEW VERTEBRATE FAUNA IN LATE PLIOCENE OF KUNLUN MOUNTAIN PASS, NORTHERN TIBETAN PLATEAU AND ITS PALEOENVIRONMENTAL IMPLICATIONS

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Vertebrate fossils are exceedingly difficult to find on the high Tibetan Plateau due to a combination of factors such as low diversity and low productivity of paleocommunities, lack of suitable depositional environments, and lack of access to fossil localities. We report a late Pliocene fauna in the Kunlun Mountain Pass area. At an elevation of 4,786 m above the sea, it is the highest late Cenozoic vertebrate assemblage in the world so far known. Preliminary explorations during two field seasons have yielded a small collection of large and small mammals in a fluvio-lacustrine deposit in the lower member of the Qiangtang Formation, and the new fauna is paleomagnetically dated between 2.1-2.4 Ma.

Small mammals consist of cf. *Metasayimys* sp., *Chardinomys* sp., *Mimomys* sp., *Soricidae* indet., *Cricetidae* indet., and *Ochotona* sp. Of these, *Chardinomys* and *Mimomys* are known from the Pliocene of North China. Morphologically the Kunlun *Chardinomys* and *Mimomys* represent advanced forms of these genera, indicating a late Pliocene age and consistent with the magnetic results. The small mammal fauna also boasts possibly the latest occurrence of *Metasayimys* in Asia, a ctenodactylid rodent previously thought to be extinct in the late Miocene of Pakistan.

Large mammals are represented by a rhino, a hipparionine horse, one or two bovids, *Chasmaporthetes* sp., and *Plesiogulo* sp. Overall, the fauna is north China or central Asia in character, with the possible exception of *Metasayimys*. Although it currently consists of fragmentary material, the fossil assemblage presents an exceptional window of opportunity to peek into the past biota and environment of the high plateau. Preliminary analysis on the <sup>13</sup>C isotopes on herbivore enamels yielded a range of -5.4 to -9.0 per mil. In our limited sample, fossil teeth are consistently enriched in the heavy <sup>13</sup>C compared to modern herbivore teeth, suggesting that C4 grasses were an important component of local ecosystems in the late Pliocene.

Poster Session II

#### GEOLOGICAL AND GEOGRAPHICAL DISTRIBUTION OF BIRD-LIKE THEROPOD, *AVIMIMUS* IN MONGOLIA

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*Avimimus* is a bird-like theropod with specialized forelimb structure found from the upper Cretaceous bed in the Gobi desert, Mongolia. A holotype specimen of the genus was reported by Soviet-Mongolia joint paleontological expedition in 1980's. The locality of its discovery was assigned to a late Cretaceous (Djadokhta age) locality called Udan Sayr. Fossiliferous beds in the locality with mainly eolian origin yielded protoceratopid (Ceratopsia) and pinacosaur (Ankylosauria) in addition to multituberculate mammals and lizards.

Hayashibara Museum of Natural Sciences and Mongolia Paleontological Center Joint Paleontological Expedition found additional specimens of *Avimimus* from localities in southern Gobi region such as Shar Tsav and Yagaan Khovil. Shar Tsav yielded theropod footprints and trackways comparable in size with the animal, and Maastrichtian gastropod: *Mesolanistes*. Yagaan Khovil is located close to Udan Sayr and Dzamin Khond where a theropod genus *Oviraptor* was found. Bone fossils of a large theropod and an ornithomimid, footprints of a large ornithomimid, dinosaur eggshells (ovaloolithid and elongatoolithid forms), and thick-shelled large turtle were also found from the locality. Fossiliferous beds in those two localities are of fluvial origin and their fossil assemblages indicate that they are correlated with the Nemegt Suite. *Avimimus* fossils (mainly vertebrae and metapodials) were also found by the joint expedition from the Nemegt Suite of Bugin Tsav, western Gobi region where *Tarbosaurus*, *Saurolophus*, and *Nomingia* (Oviraptorosauria) were found.

In spite of intensive prospecting works by the expedition party, no bones of *Avimimus* were found from Udan Sayr which had been considered as the locality where the holotype of the genus was found. On the other hand, from Yagaan Khovil located close to Udan Sayr a several skeleton of the animal consisting of vertebrae, fore- and hindlimbs and sternum were abundantly found.