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and the fly-specialist *Pipistrelle pipistrellus*. Analyses revealed a corresponding continuum of microwear textural parameters. Additional support for the interpreted trophic ecology of the two extinct taxa was gained through finite element analysis of gross tooth morphology gleaned from microCT fossil scans. This analysis indicated that *Morganucodon* molars were able to withstand greater loading forces than *Kuehneotherium*, whereas *Kuehneotherium* was specialized to consume more tractable foodstuffs.

Dental microwear has been applied widely to analyze the diet of extinct organisms, but the successful mapping of the microwear of these extinct early mammals onto that from extant animals with known dietary preferences suggest great promise for analyses based on 3D quantification and microtextural analysis.

Poster Session III, (Friday)

NEW LAMBEOSAURINE HADROSAURID FROM THE LATEST CRETACEOUS OF SPAIN (ARÉN, HUESCA, SPAIN)

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The European hadrosaurid dinosaur fauna of the Maastrichtian is characterized by the presence of basal hadrosaurids, such as *Telmatosaurus transylvanicus* or *Pararhabdodon isonensis*, and many disarticulated and isolated remains of undetermined species. In 1997 six sites close to the Cretaceous/Tertiary boundary with numerous remains of hadrosaurid dinosaurs were found in the locality of Arén (south-central Pyrenees, Huesca, Spain). These remains are located in coastal and non-marine deposits of the Aren and Tremp Formations. In the Blasi 3 site, a new hadrosaurid has been identified. This is the first species of hadrosaurid with a partial and articulated skull described in Europe; it is based on a partial, articulated skull, mandibular remains and postcranial elements, including vertebrae, girdle and limb bones. This new species is characterized by a very prominent frontal dome; nearly vertical prequadratic (squamosal) and jugal (postorbital) processes, and a deltopectoral crest of the humerus oriented anteriorly. Moreover, it possesses a unique combination of characters: short frontal (length/width approximately 0.5); midline ridge of parietal at level of the postorbital-squamosal bar; parietal excluded from the occiput; squamosal low above the cotyloid cavity. A phylogenetic analysis indicates that this new species is a relatively basal member of Lambeosaurinae and the sister-taxon to *Amurosaurus* and the *Corythosaurini-Parasaurolophini* clade. The phylogenetic relationships with other lambeosaurines suggest a paleogeographical connection between Asia and Europe during the Late Cretaceous.

Technical Session XVIII, Saturday 4:00

A NEW TITANOSAUR (DINOSAURIA: SAUROPODA) FROM THE LATE CRETACEOUS OF ROMANIA, AND A PLEA FOR NECESSARY STABILITY IN SAUROPOD SYSTEMATICS

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Titanosaur remains are common in the Upper Cretaceous continental beds of the Hateg Basin, Romania, but are usually represented only by isolated bones or, more rarely, by few associated skeletal remains. Customarily, these are referred to the sole species of the genus *Magyarosaurus* (*Magyarosaurus dacus*), despite historical suggestions concerning the presence of several different taxa. Due to the isolated and disarticulated nature of the titanosaur fossil record from Hateg, both the taxonomic status and osteology of *Magyarosaurus dacus* need a thorough revision. The discovery of a partial articulated titanosaur skeleton in the dark-colored floodplain deposits of Nalat-Vad seemed to offer a good opportunity to clarify the status of *Magyarosaurus*. Study of the preserved remains (dorsal and caudal vertebrae, dorsal ribs, chevrons, a partial pelvic girdle and pedal ungual phalanges) revealed the presence of several autapomorphies (including the presence of an accessory anterior centrodiaphyseal lamina in the posterior dorsals; the presence of amphiplatyan caudal vertebrae in the mid-region of the tail, intercalated within a procoelous series; and the presence of a caudo-lateral buttress on the iliac peduncle of the ischium), none of which was previously used to diagnose *Magyarosaurus*. Accordingly, the partial skeleton is referred to a new taxon of titanosaurian sauropods. Preliminary phylogenetic analysis of the new taxon, using different previously published character-taxon datasets (CTDs), yields divergent results as to its exact phylogenetic affinities, although in all these analyses it clusters within the derived titanosaurians. Moreover, analysis of the only CDT including both *Magyarosaurus* and the Nalat-Vad specimen places them in different titanosaurian subclades, thus supporting their taxonomic distinctiveness. The identification of this new taxon supports a higher titanosaurian diversity in the Hateg assemblage than previously recognized. The preliminary results of the cladistic analyses also suggest that development of a standard CDT to be used in different analyses should represent one of the major tasks for sauropod systematics.

Poster Session IV, (Saturday)

BIODIVERSITY OF IBERIAN EOCENE EQUIDS AND THEIR SIGNIFICANCE FOR EUROPEAN EOCENE MAMMALIAN EVOLUTIONARY AND PALEOBIOGEOGRAPHIC HISTORY

CUESTA, Miguel Ángel, University of Salamanca, Salamanca, Spain; BADIOLA, Ainara, University of Zaragoza, Zaragoza, Spain; CHECA, Lluís, Institut Catalá de Paleontologia, Sabadell, Spain; HOOKER, Jerry, Natural History Museum, London, United Kingdom

In Europe, the Middle and Late Eocene was a period of important change in faunal composition as a result of climatic shifts, the presence or absence of land bridges between the different areas of the European archipelago and several immigration waves. Here we report on the Eocene equoid perissodactyl faunas from the Iberian Peninsula and analyze their role in understanding European Eocene paleoenvironments and mammalian paleobiogeography. Eocene equoid faunas of the Iberian Peninsula were highly diverse. In the Western Iberian Bioprovince, including several central and western Iberian basins, five genera and sixteen equoid species, which are unknown in the south-Pyrenean basins, in north-eastern Iberia, or elsewhere in Europe have so far been described. This equoid faunal differentiation is also matched by lophiodont perissodactyls and primate and rodent faunas. Isolation from the Central European Island, albeit with intermittent faunal exchange with the rest of Europe and with other continents (probably Asia and possibly Africa), could have caused the endemism of these Iberian faunas, which seems to have existed from the late Early Eocene to Late Eocene. However, the dental adaptations observed in equoids from the Western Iberian Bioprovince suggest that the special paleoecologic conditions of this region were the main cause of the faunal differentiation of this bioprovince. The change from a complex forest habitat to a more open environment observed in the Late Eocene in several regions of Europe could have started in the Middle Eocene in the Western Iberian Bioprovince, influencing its faunal composition. The wide diversity of palaeotheriid equoids and the presence of the oldest representatives of some forms in Iberia suggest that some Middle Eocene palaeotheriid taxa could have dispersed into Central Europe from the Iberian Peninsula after the Iberian plate became connected to the Central European Island in the late Lutetian.

Technical Session II, Wednesday 10:45

EVOLUTION OF SERRATED CUTTING DENTITION IN HYBODONT SHARKS

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The first hybodont known with any certainty dates back from the Carboniferous, but they might have appeared as early as the Late Devonian. However they did not developed any cutting dentition before the end of the Jurassic with the genus *Priohybodus*, although this kind of dentition is widespread among their sister-group the neoselachian sharks. A comparative study indicates that cutting dentitions with serrated teeth appeared four times independently within the hybodont sharks over a rather short period of time, from the Late Jurassic to the Albian. Moreover, such a dentition occurred only in species spending at least part of their life cycle in fresh waters. Hybodont sharks with a cutting dentition seem to have independently evolved in Southeast Asia (*Mukdahanodus* and *Thaiodus*) and in the Africa-South America continent (*Pororhiza* and *Priohybodus*). *Mukdahanodus trisivakulii* is known from the Lower Cretaceous Sao Khua Formation of Thailand and, after a turnover in hybodont faunas, was apparently replaced in the Aptian/Albian ecosystem by *Thaiodus rucha*, which independently developed a very similar dentition. *Thaiodus* and *Mukdahanodus* belong however to two separate families. Similarly, the Gondwanan genera, *Priohybodus arambourgi* and *Pororhiza molimbaensis* appear very different from each other and are not closely related. Two main kinds of cutting dentition can be identified among hybodonts: high-crowned (*Priohybodus*) and low-crowned (*Mukdahanodus*, *Thaiodus* and *Pororhiza*). On the contrary, serrated cutting dentitions in neoselachian sharks are mostly made of high-crowned teeth. It is proposed that the reason why cutting dentition is so rare among hybodonts compared with neoselachians is because the former lacks the triple-layered enameloid of the latter. The development of these cutting dentitions in hybodont sharks is linked to a compaction of their enameloid microstructure, which appears to favor low-crowned dentitions.

Poster Session II, (Thursday)

TOOTH WEAR AND DENTAL PATHOLOGY IN SUBFOSSIL *LEMUR Catta* (MAMMALIA: PRIMATES) FROM ANKILITELO, MADAGASCAR: HOW EXTANT SAMPLES AID INTERPRETATIONS OF PRIMATE PALEOBIOLOGY

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The vertebrate fossil sample from Ankiliteilo, Madagascar preserves a wide range of extant and recently extinct primate species. This fauna dates to the late Holocene (~500 yr BP), and represents one of the latest faunal assemblages including both extant lemurs, and the recently extinct giant lemurs. Among the fossil representatives of extant lemurs at Ankiliteilo is a large sample of *Lemur catta*, the ring-tailed lemur. This species has been extensively studied in Madagascar for over four decades. Recent work at the Beza Mahafaly Special Reserve (BMSR), approximately 100km from Ankiliteilo, illustrates a pattern of frequent, severe dental wear and tooth loss. This pattern of dental pathology suggests that ring-tailed