NEW PRIMATES (MAMMALIA) FROM GANDHERA QUARRY, EARLY EOCENE, BALOCHISTAN PROVINCE, PAKISTAN

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Fieldwork conducted in Balochistan, western Pakistan, led to the discovery of Gandhara Quarry in the upper part of the Ghazri Formation. Sequence stratigraphy indicates that the Ghazri Formation spans the early Eocene (Ypresian). Gandhara Quarry dates to approximately 50 Ma with the lower Ghazri stretching to approximately 54.5 Ma. Thousands of vertebrate specimens have been recovered from Gandhara, thirty of which represent euprimates, including at least two new adapiforms and one omomyiform. The best represented adapiform is a new species of the primitive cercamomine Panobius. Panobius differs from all other cercamomines except European Donrussellia in retaining paraconids on lower molars—differs from Donrussellia in lacking distinct paraconid and metaconid on p4, m1-2 with higher paraconids, higher para- and protocristids, and straight cristid oblique, and m1 with trigonid more open lingually. Another adapiform most closely resembles Eocene Anchomomys from Europe and Oligocene Bugtulemur from Dera Bugti, Pakistan. It differs from Anchomomys in being smaller, having a complete parastriktid closing off the trigonid, a stronger preprotoxystylid, higher and shorter entocristid and a relatively shorter and broader talonid. It differs from Bugtulemur in being smaller, having a more lingually angled cristid oblique, a preprotoxystylid, and a weaker protocristid and hypoconulid. Bugtulemur is a purported lemuriform, however its similarities to this new Gandhara taxon indicate that it may have had an adapiform ancestry, traceable to the early Eocene The Gandhara omomyiform is smaller than other known omomyiforms with the exception of enigmatic Altanius. It differs from Altanius in having upper molars with broader and deeper trigonid basins, more robust, bulbous, and marginally placed conules, having poorly developed pre-, postpara- and metacone cristid, protocone more anteriorly placed and lingually extended, lacking a postprotocingulid, and having a small but distinct circular hypoconule. This taxon is primitive in lacking an upper molar postprotocingulid but does not share much in common with other omomyids that lack this feature.

Poster Session I
THE CETACEANS FROM BAHIA INGLESA FORMATION (ATACAMA, CHILE): TAPHONOMIC APPROACH AND PALEOGEOGRAPHICAL IMPLICATIONS
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The cetacean fossils are abundant and diverse at the bonebed of Bahia Ingleza Formation (Northern Chile), a sequence of phosphatic beds belonging to upper Miocene. The cetacean taxa include very fragmentary baleen whales (Mysticeti indet.) and toothed whales (Physeteridae indet., Phocoenidae indet., Pontoporiidae: Plisopontus sp., Brachydelphis mazzaei, cf. Brachydelphis n. form, Pontistes sp.).

The most productive site is called “Mina Fosforita” where the bonebed is well exposed. The sequence of this deposit is part of a major transgressive-regressive cycle, in this site marked by the presence of coquina intercalated with sandstones culminating in the bonebed (different types of phosphatic conglomerates). Field observations revealed that the fossils are generally disarticulated and the long bones are all broken with a smooth and uniform surface. These taphonomic and lithologic features together with the presence of the bonebed layers, composed by a great abundance of fossils including approximately 70 taxa of vertebrates, indicate a reworking of the fossils, probably from a more ancient stratum. All the Neogene Pontoporiidae genera known and some new forms are recorded for the first time to the same site indicating major diversity for the clade. The Miocene record for Neogene Pontoporiidae from North Atlantic.

Poster Session II
BOVINAE (ARTIODACTYLA: BOVIDAE) FROM MIO-PLIOCENE DEPOSITS OF THE MIDDLE AWASH, ETHIOPIA

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Newly recovered fossils from Mio-Pliocene deposits of the Middle Awash, Ethiopia, constitute a diverse terrestrial vertebrate fauna that includes a significant proportion of bovids. This faunal assemblage derives from the Kuseralee Member of the Sagantole Formation (~5.2 Ma) and the Asa Koma Member of the Ada-Asa Formation (~5.5—5.8 Ma) and represents one of the most complete and best-dated assemblages of its age from the African continent.

Among the Bovinae, two bovines (Bovini) are present, a species of Simatherium from the Kuseralee Member, and a very primitive Ugandas-like species from the Asa Koma Member. A single, new, tragelaphine (Tragelaphini) species is also present in both the Kuseralee and Asa Koma Members. Known primarily from horn core material, this species exhibits a large range of variation but is generally intermediate in morphology between tragelaphines previously described from older (e.g. Lukeino) and younger (e.g. Apak Member, Lothagam) deposits. Boselaphines (Boselaphini) are also present, represented by more than one species, recording one of their latest African appearances in the younger Kuseralee Member. A new Tragoparax species is described which bears affinities to other contemporaneous African species of this genus as well as to older species from the Siwaliks of Pakistan.

The Middle Awash material provides new specimens crucial to the reconstruction of bovid evolution in Africa during the late Miocene and early Pliocene. The Middle Awash fossils provide insight into the polarity of characters traditionally used to differentiate the different bovid tribes, particularly in the case of the bovine and tragelaphine material. Additionally, the evolutionary dynamics of Bovinae in Eurasia and Africa are further elaborated. Evolutionary trends within Bovidae are analyzed in terms of large-scale global environmental changes, including the expansion of C4 grasslands, that took place in the late Miocene.