dorsally and ventrally to form a shovelled-shaped structure, and its unusual phalanges are hoof-shaped. The specializations of the jaws and dentition indicate that the reptile may have been adapted to a way of bottom-filter feeding in water. It is obvious that such delicate teeth are not strong enough to catch fish, but were probably used as a barrier to filter microorganisms or benthic invertebrates such as sea worms. These were collected by the specialized jaws, which may have functioned as a shovel or pushdor (the mandible) and a grasper or scratcher (the rostrum). A detailed phylogenetic analysis suggest that A. unicus is a sauropterygian, most probably related to the Pholidocidae.

Poster Session II (Thursday, November 6, 2014, 4:15 - 6:15 PM)

**TYPE OF MESOWEAR UTILITY BY EXTANT RUMINANTS WITH WELL-DOCUMENTED ECOLOGICAL FEATURES**

YMADA, Eisuke, The University of Tokyo, Tokyo, Japan; KUBO, Mugino, The University of Tokyo, Tokyo, Japan

Dietary composition of herbivores is closely related to the vegetational condition they live in. Therefore, dietary reconstruction of fossil ungulates provides important paleoecological information. Fossil teeth, especially, have been thought of as a main source of paleodietary reconstruction because it is possible to preserve them. In this study, a method used to reconstruct diets based on facet development on the occlusal surface of cheek teeth, has been mainly applied to reconstruct the paleodiet of extinct squamate group with a global distribution. Xenopeltis unicolor is a small squamate species that contains marine fossil remains such as marine invertebrates and Japanese serow (*Capricornis crispus*). The cranial morphology has not been considered in this study. Fossil teeth, especially, have been thought of as a main source of paleodietary reconstruction. Mano et al. (2009) found significant (*p* = 0.023) differences in mesowear patterns among extant ruminants. These differences are correlated with ecological specialization among the taxa studied. For instance, mixed feeders. These results were concordant with the quantitative dietary analyses. Mixed feeders. These results were concordant with the quantitative dietary analyses. Some results suggested that mesowear is under strong influence of dietary variation, providing further confidence for mesowear analysis as a paleodiet reconstruction method.

Romer Prize Session (Thursday, November 6, 2014, 8:00 AM)

**RESOLVING THE LOCOMOTORY ANCESTRY OF THEANCIENT SNAKE: LISTENING TO WHAT THE EAR TELL US**

YL, Hung Yu, American Museum of Natural History, New York, NY, United States of America, 10024-5192

Major evolutionary transitions often involve dramatic locomotor specialization, as seen in the transitions from tetrapterous to dipnoan snakes, and birds. The debate over the origin of another such group, the snakes, has long centered on whether they first evolved a limbless condition in a terrestrial fossorial or an aquatic habit. For the few stem snakes that are known, empirical data needed to reconstruct their locomotory ecology have remained numerous. Previous studies indicated that species with greater diet variation were more different from one another. The new specimen preserves portions of both girdles, pes, including the first known machaeroidine tarsals. This study also reported from this locality, indicating a faunal change at the end of the Neogene. The fossil record shows that several species are found at Moa localities in southern Peru (Pisco Formation) and northern Chile (Bahia Inglesa Formation). Fossil penguins of the extant genera (*Spheniscus* and *Pygoscelis*) is reported from both units. The new specimen preserves portions of both girdles, pes, including the first known machaeroidine tarsals.

**CENOZOIC MARINE BIRD COMMUNITIES IN THE SOUTHEAST PACIFIC OCEAN: NEW LOCALITIES AND FOSSILS ADDRESS WHETHER THE HISTORY OF MARINE CURRENTS IS THE ONLY EXPLANATION OF RANGEBROADENING**

YUR-YÁÑEZ, Roberto, Universidad de Chile, Santiago de Chile, Chile; SOTO-ACUÑA, Sergio, Universidad de Chile, Santiago de Chile, Chile; GUSTSTEIN, Carlos, Universidad de Chile, Santiago de Chile, Chile; RUBILAR-ROGERS, Diego, Museo Nacional de Historia Natural, Talca, Chile; SALLABERRY, Michelle, Universidad de Chile, Santiago de Chile, Chile

Neogene marine vertebrate localities are abundant along the western margin of South America. Recent fieldwork has recovered several new fossil birds from different localities in the Atacama Desert, Northern Chile. These fossils raise questions about the differences between fossil bird communities and extant diversity. The fossil record shows that several bird species are found at Moa localities in southern Peru (Pisco Formation) and northern Chile (Bahia Inglesa Formation). Fossil penguins of the extant genera (*Spheniscus* and *Pygoscelis*) is reported from both units. The new specimen preserves portions of both girdles, pes, including the first known machaeroidine tarsals.

**SABER-TOOTH ORIGINS: A NEW SKELETAL ASSOCIATION AND AN INCOMPLETE MAMMALIAN REMNANT**

ZACK, Shawn, University of Arizona College of Medicine Phoenix, Phoenix, AZ, United States of America, 85004

Machaeroides is a clade of highly derived, saber-toothed hypercarnivorous eutherians that diverged from the late Eocene to middle Miocene of North America. The group is notable for representing the first appearance of a saber-tooth morphology among carnivorous mammals. Because of their highly derived craniodental morphology, machaeroides affinities have long been unclear. Consensus has focused on two Paleocene carnivore groups, oxynotids and lamadorids, whereas machaeroides has not been possible to securely establish a relationship to one or the other group. Because material has been very limited, postcranial morphology has not been considered in studies of machaeroides affinities.

Poster Session II (Thursday, November 6, 2014, 4:15 - 6:15 PM)

**A NEW MARINE VERTEBRATE OUTCROP FROM THE LATE CRETACEOUS (CAMPANIAN) OF SOUTHEASTERN ANATOLIA, TURKEY**

YILMAZ, Ismail Omer, Department of Geological Engineering, Middle East Technical University, Ankara, Turkey; HONGOR, Izzet, Department of Geologic Engineering, Middle East Technical University, Ankara, Turkey; TUNOGLU, Cemal, Geological Engineering Department Betyepe, Hacettepe University, Ankara, Turkey; VINCIENT, Peggy, Sorbonne Universités CR2P CNRS-MNHNP-UPMC, Museum National d'Histoire Naturelle, Paris, France; HOUSSEY, Alexandre, CNRS UMR 7179, Museum National d'Histoire Naturelle, Paris, France

The Cretaceous succession in southeastern (SE) Anatolia (Turkey) consists of formations included in four stratigraphical Groups, characterized by carbonate, partly clastic and evaporite facies. These deposits are of particular economical importance as they host some main oil and gas reservoirs in SE Turkey. In Mardin-Madznet region located in the SE of Anatolia, just near the Syrian border, several stratigraphical units of the Cretaceous sequence rest unconformably above Paleozoic rocks, among which the Karabogaz Formation (early-middle Campanian). This formation, overlain unconformably by the Cretaceous deposits of the Late Campanian, is characterized by an alternance of calcareous and marly levels with cherts and includes important phosphate deposits that had been mined in this region for many years. It is the equivalent of the phosphatic Sohiane Group of Syria, which has yielded many marine vertebrate remains. The Karabogaz Formation contains such as planktonic foraminifera, fish teeth and scales, as well as marine reptile teeth and indeterminate bone fragments. The marine reptile teeth can confidently be identified as belonging to the Mosasauroidea, a successful squamate group with a global distribution during the Late Cretaceous. The remains indicate that both some different mosasauroidean clades are represented. This is the first time that marine vertebrate remains are found and identified in this area of Turkey. They add to our knowledge of the Arabian Platform Late Cretaceous marine vertebrate faunas.