revealed higher $\delta^{13}C$ values for *Cervalces* sp. than *A. alces*. We can infer from the $\delta^{15}N$ values that *Cervalces* sp. had a similar diet, with a greater proportion of aquatic plants than *A. alces* to account for the difference in their $\delta^{13}C$ values. New sampling, radiocarbon dating, and the incorporation of potential diet items into isotope mixing models is ongoing. These new data will help refine our understanding of cervid paleoecology in eastern Beringia during a period of dynamic climatic shifts.

Technical Session 7: Ungulates (Thursday, October 31, 2024, 8:00 AM)

Diets of late Neogene notoungulates from northwestern Argentina based on enamel microwear

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Mastication of items with different mechanical properties leaves distinctive marks (microwear) on tooth enamel. Dental microwear analysis (DMA) in fossils and extant species of known diet has proven to be a useful method for inferring diet of extinct species. These techniques have been widely applied in extinct mammals but not among South American native ungulates (SANUs). Notoungulates were the most abundant and diverse SANUs throughout the Cenozoic, but only two studies have used DMA to reconstruct their diets: one dealt with late Oligocene Bolivian species, the other focused on Early Miocene species from Patagonian Argentina. We examined three late Neogene taxa from Catamarca province, northwest Argentina (NWA): a toxodontid (*Xotodon*, n = 3), a mesotheriid (*Typotheriopsis*, n = 4), and a hegetotheriid (*Hemihegetotherium*, n = 4). Wear features were observed on M1/m1 epoxy casts using a stereomicroscope at 35× magnification and a 0.4 mm2 reading area. Wear marks were classified as scratches (fine/coarse) or pits (small/large) and standardized using MicroWeaR, an open-access R package for data acquisition. We used three dietary categories based on data from modern artiodactyls: browsers (*Camelus*, *Cephalophus*, *Tragelaphus*; n = 18), grazers (*Connochaetes*, *Hippotragus*, *Tetracerus*, *Kobus*; n = 34), and mixed feeders (*Gazella*; n = 14). We added three suiforms (*Potamocherus*, *Sus*, *Tayassu*; n = 12) and two vombatid marsupials (*Lasiorhinus*, *Vombatus*; n = 12) based on previous suggestions about notoungulate ecomorphology. Our modern mammal data are generally consistent with other studies: more scratches than pits correlates with tough food consumption (e.g., grasses), while fewer scratches correlates with brittle, soft foods such as leaves, fruits, and seeds. The suiforms are closer to grazers, while vombatids are between browsers and grazers. *Typotheriopsis* is close to *Camelus* and *Cephalophus*, suggesting browsing. *Hemihegetotherium* is close to *Vombatus*, suggesting a diet of grasses, sedges, and roots of shrubs and trees. *Xotodon* is close to *Connochaetes*, suggesting grazing. Our findings indicate a range of diets among Late Miocene to Early Pliocene notoungulates from NWA despite their similar hypselodont dentitions. They are also compatible with other studies that have used “taxon-free” methods of diet reconstruction in notoungulates and found little or no correlation with hypsodonty, at least among late Oligocene and younger species.

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