

The diets of hypsodont notoungulates from Salla, Bolivia, inferred from mesowear

D.A. CROFT¹ y D. WEINSTEIN²

The diversity of high-crowned (hypsodont) mammals – especially notoungulates – in Oligocene faunas suggests open habitats (e.g., savannas) were present in South America 10-15 million years earlier than in other continents. The lack of extant notoungulates precludes directly examining the correlation between hypsodonty and diet/habitat in this clade, but methods such as microwear and mesowear analysis provide a quasi-independent test of hypsodonty and, potentially, the presence of open habitats. We studied mesowear in three very hypsodont notoungulates from Salla, Bolivia (Deseadan SALMA) using Florida Museum of Natural History collections: the “archaeohyracid” *Archaeohyrax* (N=16), the mesotheriid *Trachytherus* (N=19), and the interatheriid “Salla New Taxon B” (N=21). Buccal cusps of M2 or other molars were scored for relief (high or low) and shape (sharp, rounded, or blunt). The percentages of individuals of each taxon displaying high, sharp, and blunt cusps were used to infer diet using hierarchical cluster and discriminant function analyses based on comparative data from 66 modern ungulates. *Archaeohyrax* is classified as a grazer in all analyses. *Trachytherus* is classified as a grazer (compared to 27 “typical” ungulates) or a mixed feeder (compared to all ungulates). The interatheriid is classified as a mixed feeder (compared to 27 “typical” ungulates), but clusters with various small browsers/mixed feeders when compared to all 66 modern ungulates. Together, mesowear data imply at some open habitat feeding in all of these notoungulates; this parallels interpretations based on tooth crown height and is compatible with the presence of open habitats in Bolivia during the late Oligocene.

¹Dept. of Anatomy, Case Western Reserve University, 10900 Euclid Ave., Cleveland, Ohio, 44106-4930, USA. dcroft@case.edu

²Dept. of Biology, Case Western Reserve University, 10900 Euclid Ave., Cleveland, Ohio, 44106-7080, USA. deborah.weinstein@case.edu