ENAMEL MICROWEAR OF MODERN CAVIOMORPH RODENTS AND DIETARY INTERPRETATION FOR THE SANTACRUCIAN RODENT *NEOREOMYS*

TOWNSEND, K. E. and CROFT, D. A. Case School of Medicine, Cleveland, OH.

Modern caviomorph rodents are a spectacular example of adaptive radiation; they are unlike most other rodents in many respects and various species have been compared to deer, hyraxes, pygmy hippos, and rabbits. Despite this diversity, no study has examined morphological correlates of diet in the group as a whole. This lack of functional dietary information has precluded rigorous interpretations of caviomorph paleodiets, and thus the diets of extinct taxa are virtually unknown.

In this study, we examined the relationship between enamel microwear and diet in modern caviomorphs with the goal of interpreting the diet of the early Miocene rodent *Neoreomys*. A comparative dataset of nine microwear variables was compiled for 12 modern caviomorph taxa (87 specimens total). This dataset was used to construct a discriminant model of three broad dietary categories: fruit/seed, grass/leaf, and fruit/leaf consumers. The discriminant model resulted in 100% correct dietary classification of modern caviomorphs based on enamel microwear characteristics; gouges, large pits, and scratches were found to be most useful in characterizing diets. The model classified *Neoreomys* (N=6) as a fruit/leaf consumer, but with a low probability. The microwear profile of *Neoreomys* is characterized by low frequencies of gouges, large pits, and puncture pits, and low scratch counts, suggestive of soft fruit feeding. Unlike other "dasyproctids," which are known to consume seeds and fruits with tough pericarps, *Neoreomys* does not exhibit microwear consistent with hard fruit feeding. It also does not exhibit numerous scratches indicative of grazing.

Rodents are common in most Tertiary South American faunas and detailed paleobiological reconstructions of these animals are necessary for precise paleoecological analyses. Our initial investigations suggest that enamel microwear is a sound method for inferring diet among caviomorphs and that wider application of this method will significantly clarify trophic relationships among extinct South American herbivores.