

The Alberta Palaeontological Society

On September 15, 2017 Selina Robson will give a short 15 minute presentation on Using Microwear to Study the Diets of Early Mammals.

Abstract:

Ingestion of abrasive foods and grit causes characteristic wear patterns on teeth. These microwear patterns can be used to distinguish between dietary groups, such as grazers and browsers, in both modern and extinct mammals. Microwear has been intensively studied in ungulates, primates, and rodents; however, few studies have examined microwear patterns in basal mammals. One such group of early mammals is the multituberculates. Multituberculates originated during the Jurassic and became extinct in the Oligocene, surviving the end-Cretaceous extinction. These small mammals were most likely the ecological equivalents of rodents, and many scientists have hypothesized that multituberculates were omnivorous based on their small body size and rodent-like dentitions. However, there are a few early Paleocene multituberculates that may have been large enough (approximately the size of a beaver) to be completely herbivorous. Microwear analysis provides a method to test this hypothesis. Comparisons of microwear between the large multituberculates and their smaller, closely related kin can reveal differences in their feeding strategies and further clarify the diets of early mammals.

Biography:

Selina Robson received her B.Sc. in geology and psychology from the University of Oregon in 2016. As an undergraduate, Selina volunteered in a vertebrate paleontology lab as a preparator, which quickly led to her discovering a love for paleontology research. She predominantly worked with extinct carnivores from Kyrgyzstan, and she described a Kyrgyz hyena fossil for her undergraduate thesis. Selina is now a Master's student at the University of Calgary, where she is studying the composition and structure of multituberculate dentine.