Mesowear Analysis of the Late Miocene Hipparion (Equidae, Perissodactyla, Mammalia) cheek teeth and Paleoenvironmental Change

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The tooth mesowear method to equids is a new approach of reconstructing ungulate diets and its paleoenvironments. We analyzed mesowear of Hipparion cheek teeth from the Late Miocene Namurungule and Nakali Formation from Northern Kenya. One taxon of fossil hominoid was found from the Namurungule Formation. On the other hand, many hominoid and catarrhine taxa were found from the Nakali Formation. The geological ages of the both formations are similar. We analyzed the difference of paleoenvironments of both formations by mesowear method to *Hipparion* upper and lower cheek teeth from the Namurungule and Nakali Formations. The occlusal relief of teeth is scored **high** or **low**, the cusp shape is classified as **sharp**, **round** and **blunt**.

In the occlusal relief of *Hipparion* teeth, more than half of the teeth from the Namurungule Formation were scored **high**, almost all the teeth from the Nakali Formation were scored **low**. In the cusp shape, the teeth from the both formations were classified as round to the top. Many of the teeth from the Namurungule Formation were classified as **blunt**, but none of them as **sharp**. The teeth from the Nakali Formation, however, were classified as **sharp** to the second and very rarely as **blunt**.

The following conclusions are reached: paleoenvironments of the Nakali Formation (9.9-9.8Ma) may be woodland environments, while those of the Namurungule Formation (9.6Ma) may be openland environments.