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LATE MIOCENE PALEOENVIRONMENTS OF HOMINOIDS -MESOWEAR ANALYSIS OF FOSSIL UNGULATE CHEEK TEETH FROM NORTHERN KENYA-

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The mesowear method is a new approach of reconstructing ungulate diets and their paleoenvironments. We analyzed mesowear of *Hipparion* and bovid upper and lower cheek teeth (P4-M3) from the Late Miocene Nakali (10-9.8 Ma) and Namurungule (9.6-9.3 Ma) Formations, Samburu Hills from Northern Kenya for reconstraction of paleoenvironments of both sites. The distance between both sites and geologic age of both formations is very close. Both sites have yielded the important Late Miocene hominoid fossils. *Samburupithecus kiptalami* was found from the Namurungule Formation, and *Nakalipithecus nakayamai* and several catarrhine taxa were discovered from the Nakali Formation.For tooth mesowear analysis, occlusal relief of buccul side is scored as high or low. Cusp shape is classified as "sharp", "round" or "blunt". For occlusal relief, many *Hipparion* teeth from Nakali show high, but many *Hipparion* teeth from Namurungule show low. Almost all bovid teeth from Nakali show high, but many bovid teeth from Namurungule show low. For cusp shape, many *Hipparion* teeth from Nakali show sharp, but many *Hipparion* teeth from Namurungule show blunt. No bovid teeth from Nakali show blunt. This leads conclusions that the paleoenvironment of the Nakali Formation may have been a woodland environment, while the Namurungule Formation may have been more open environment. This environmental difference between Namurungule and Nakali probably indicates the environmental change through geological age and/or the topographic difference between highland and lowland at the similar age. This result is supported by stable isotope analysis of ungulates tooth enamel and pollen analysis from both formations.

Keywords: Miocene, paleoenvironments, mesowear, ungulate