

A New Investigation of the Taphonomy and Zooarchaeology of Bed II Olduvai Gorge, Tanzania

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This study provides a renewed investigation of the taphonomy and zooarchaeology of the Bed II assemblages from SHK, HWK Levels 3-5, MNK (Main), and BK. Although selectively excavated, SHK appears to have been accumulated by carnivores. HWK also reflects carnivore behavior, with hyenas the likely culprit. Previous interpretations (Monahan 1996) implicated hominids as a major agent of accumulation at MNK (Main). However, this analysis finds that MNK (Main) shows one of the strongest hyena signals of any Olduvai site and, further, that hominids played little or no role in the accumulation. Monahan's (1996) interpretation of BK as a primarily hominid accumulation is partially supported, although a slightly more complicated taphonomic history is suggested here. Overall, this analysis indicates that hyenas were more active in riparian woodlands during Bed II times relative to today (cf. Monahan 1996). This calls into question the riparian woodlands scavenging model (Blumenschine 1986), which is predicated in part on the inference that hyenas would preferentially avoid these habitats. Zooarchaeological data also indicate that Bed II assemblages in general show much stronger hyena signals than many Bed I assemblages, where felid signals are prominent. This probably reflects diachronic changes in trophic dynamics in the Olduvai Basin. An interesting pattern at all but one of the Bed II sites analyzed here arises—stone tools occurring with faunal assemblages that lack hominid-induced surface modifications. This same pattern is documented at many Bed I sites as well. This invites the alternative interpretation that many lithic assemblages from Beds I and II at Olduvai Gorge reflect battering activities not associated with carcass butchery.

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References:

- Blumenschine, R.J. 1986. *Early Hominid Scavenging Opportunities: Implications of Carcass Availability in the Serengeti and Ngorongoro Ecosystems*. British Archaeological Reports International Series 283, Oxford.
- Monahan, C.M. 1996. New zooarchaeological data from Bed II, Olduvai Gorge, Tanzania: implications for hominid behavior in the Early Pleistocene. *Journal of Human Evolution* 31, 93–128.

Long Distance Carcass Transport at Olduvai Gorge?

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The relative abundances of skeletal elements in Plio-Pleistocene archaeological sites have long been interpreted to represent selective transport of large prey, perhaps over long distances. Models from optimal foraging theory suggest that the degree of carcass transport selectivity can provide important insight into transport constraints, particularly transport distance. In this study we apply a quantitative method for examining skeletal element abundances to five bone assemblages from Bed I, Olduvai Gorge. Results indicate that within the subset of elements most likely to resist attritional processes, there is no evidence for preferential transport at any of the five study sites. These results are most consistent with site formation models favoring short-distance carcass transport. The patterning in Bed I contrasts strongly with later Middle Stone Age/Middle Paleolithic assemblages which provide clear evidence for highly selective transport, suggesting much longer transport distances.

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Integrated Stratigraphic Approaches: Evolving Perspectives on Time, Facies, and Paleoenvironmental Systems in the Plio-Pleistocene of the Turkana Basin, East Africa

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From the time of Charles Darwin, geological perspectives have played a major role in our understanding of evolutionary patterns and processes, and of their context. New tools and techniques in the geological sciences have augmented basic stratigraphic approaches, and allow for critical elaboration of details in geologic time and space, as well as for testing of relationships, correlations, and models. We report here an example of integrated stratigraphic analysis near the Plio-Pleistocene boundary, and its implications for age constraints on hominin fossils, depositional environments, and paleogeographic reconstructions in the Turkana Basin of East Africa. In the Turkana Basin, the Plio-Pleistocene Boundary (1.806 Ma) falls within a high-resolution stratigraphic interval spanning ca. 1.95–