Mapping Evolution at the Early to Middle Pleistocene Transition – Exploration of the South-West of the Turkana Basin

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Résumé

Homo sapiens appeared 235,000 years ago (i.e., 235ka) in Africa in one of the many phases of a complex evolutionary process that gave rise to numerous hominin species. The Turkana Basin in the East African Rift, has yielded vast archaeological and palaeontological

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evidence documenting this process. Nevertheless, the archaeological potential of numerous areas of the basin is still overlooked. In this context, the Trans-Evol project leads interdisciplinary fieldwork in the southwestern Turkana Basin focusing on a key period for human evolution: the transition between the Early and the Middle Pleistocene (i.e., EMPT, 1.25Ma to 750ka). The EMPT is characterized by climatic and environmental changes that affected all ecosystems, including human populations as illustrated by behavioural innovations appearing at the time, such as the spread of a more complex Mode 2 technology, including typical Acheulean handaxes, to new regions of the world. It is difficult to assess whether these technical developments reflect biological diversification of hominin populations or more flexible technological responses to raw material availability and mobility. The African EMPT hominin fossil record as well as EMPT fauna-bearing Acheulean sites for which anthropogenic modifications were reported are scarce. Hominin populations of the time are therefore poorly understood, the Trans-Evol project aims at contributing to remedy this situation through the identification and excavation of new EMPT archaeological sites.
Since 2021, the project has been surveying an area of _˜150km^2 in the southwest of the Basin where 12 localities of interest have been identified. Among those, Kanyimangin and Kamilikol are of particular relevance to the project. Kanyimangin has yielded a large faunal sample and over 400 lithic artefacts which are consistent with an EMPT occupation of the site. The dating of this locality to 0.9-1.18Ma via biostratigraphy and magnetostratigraphy confirms that Kanyimangin is one of the few EMPT-aged sites in the region.
Kamilikol is located 10km further and has yielded a large sample of lithic artefacts, recovered both from survey and excavation, presenting clear characteristics of belonging to the Acheulean. No less than 70 of those artefacts are handaxes, making Kamilikol a unique archaeological site with no counterparts in West Turkana.

Mots-Clés: Turkana Basin, Early to Middle Pleistocene Transition, Hominins, Behaviour, Geochronology