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ABSTRACT BOOK



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Environmental reconstruction of the West Nile during the Mio-Pliocene transition based on mammalian faunas

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Recent surveys in the West Nile (Uganda) by the Uganda Palaeontology Expedition indicate that most of the sediments infilling the Albertine Graben in the region are of Miocene Age. They underlie a relatively thin but widespread layer of Pleistocene conglomerates and soils which are younger than a widespread lateritic ironstone horizon of Late Pliocene or Plio-Pleistocene age. Four major areas (Jupakombe, Marama, Gengere, Jupadwonga) comprising over two dozen biochronologically significant fossil occurrences have been identified. They contain Mio-Pliocene molluscs and mammals equivalent in age to late Pre-Obweruka, and Early Obweruka phases in the southern parts of the Albertine Basin. Four other localities (Pacego, Atara, Alwi-Atara, Alwi-Pateng) presumably of Lower Pliocene age yielded few age-diagnostic fossils. There is widespread evidence of an important phase of laterite pedogenesis which formed the Atara Ferricrete, pre-dating the Pleistocene deposits, which, in places, contain reworked blocks of this ferricrete.

Among the Mio-Pliocene localities, only two, Marama and Jupakombe, have yielded mammalian remains including a large deinotherid, *Deinotherium bozasi*, which is common in the Eastern Rift Valley in deposits ranging in age from ca 7 Ma to ca 1.8 Ma; thick-enamelled proboscidean (*Tetralophodon* ?); Hipparion sp. an equid with low-crowned cheek teeth; *Ceratotherium praecox* known also from East-African sites dated between ca 7.5 and 4.2 Ma. At Jupakombe 7, remains of *Stegodon* or *Primelephas* have also been found associated with the suid *Sivachoerus devauxi* suggesting an age of 7 Ma or older.

Some stable isotope analysis ($\delta^{13}\text{C}$ and $\delta^{18}\text{O}$) were also performed on mammalian dental enamel fragments for determining the diets and the ecophysiology and then reconstructing the environmental and thus the climatic conditions. The first results obtained on dental remains of equids, rhinocerotids, deinotheriids and gomphotheriids indicate the presence of tropical grasses and forested zones in the West Nile ecosystem in the Mio-Pliocene.

These discoveries are particularly important as they permit comparisons with the southern part of the Albert Basin, and between the Albertine Rift and the Gregory Rift in Kenya. Moreover, the deposits span a time period (late Miocene/early Pliocene) which is potentially interesting for understanding the dichotomy between great apes and humans. Finally, the area is close to the equatorial tropical forest zone of Africa and offers new possibilities for palaeontological surveys.

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