

Paper Number: 4166

Mio-Pliocene environmental changes in Southern Africa

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The recent discovery of Mio-Pliocene fossils in Etosha, Namibia, is important as it fills a geographic gap in the map of African palaeontology covering the period between 8 and 4 Ma. Recent surveys in the Ekuma River Delta revealed levels rich in upper Miocene and lower Pliocene fossils. During a field survey in 2007, a skeleton of a mammoth, *Mammuthus subplanifrons* was identified. The presence of this species confirmed the estimated age (Lower Pliocene) of the surficial deposits based on prior collections. Many remains of bovids, equids, rhino tooth fragments and fish were also recognized.

Isotopic analysis of the mammalian fauna is of major interest for reconstructing and understanding the Mio-Pliocene environments of the Western margin of Southern Africa. The stable isotope analyses reveal the existence of a mixed C3/C4 ecosystem, the only one known at this latitude for the period.

The comparison of these deposits with those in the Pliocene of the Cradle of Humankind in South Africa, yields new potential for research in southern Africa, since they lie in the chronological zone relevant to understanding our origins.

Indeed, in the area of Bolt's Farm, several fossiliferous loci have been discovered of which some are Pliocene in age. Waypoint 160 yielded an abundant microfauna containing diverse rodents which date the deposit to between 4.5 and 4 Ma, and makes it the oldest known in the Cradle of Humankind [1, 2, 3]. From a biostratigraphic point of view, the fossiliferous loci of Bolt's Farm are important because they constitute a link between the Mio-Pliocene fossil sites at Langebaanweg on the one hand and the Plio-Pleistocene sites of the Cradle of Humankind and Namibia on the other. The isotopic approach conducted on faunas from Bolts' Farm complements the dataset already obtained for other sites of the Cradle of Humankind.

References:

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