

## **Abstract:**

Lemudong'o is located on the western margin of the southern Rift Valley approximately 100 km west of Nairobi (Fig. 1), an area deeply incised by three major permanent river systems. Stratified lavas, air-fall and water-laid tuffs, alluvial, and fluviolacustrine sediments, and paleosols of Late Miocene to Late Pleistocene age crop out over a w25 50 km area. Wright (1967) reconstructed three paleolakes and shoreline facies, assumed to be Plio-Pleistocene in age, in the vicinity of an isolated Basement Complex inselberg. Radio-metric dating demonstrates the paleolake deposits exposed at Lemudong'o are Late Miocene in age. During archaeological surveys and excavations in this region in 1995-96 (Kyule et al., 1997) and 1999-2002 (Ambrose et al., 2000; 2002; Hlusko et al., 2002), 55 new archaeological sites (Acheulean, Middle Stone Age, Later Stone Age, Neolithic and Iron Age), and several paleontological occurrences were discovered. Here we describe the preliminary results from research at the Late Miocene fossil site of Lemudong'o. The most productive Late Miocene paleontological site in the area is exposed in Lemudong'o Gorge, GvJh15, and GvJh32 (Figs. 2 and 3). Lithologic units include paludal (marsh) and Lake Margin claystones, lacustrine diatomaceous silts and claystones, and coarser alluvial deposits with interstratified tuffs. Similar exposures occur within tens of kilometers, though their correlation to the Lemudong'o strata is not yet confirmed, and fossils are scarce and taxonomically non-diagnostic. Lemudong'o Gorge is a fault-controlled, deeply incised gully system bounded on the east by the Enkoria fault (Wright, 1967). Fossiliferous sediments are exposed at two localities approximately 500 m apart. Locality 1 (Lemudong'o 1, GvJh15, coordinates: 1(18.19S, 35(58.74E, approximate elevation 1600-1620 m) was discovered in 1994, and is located in the upper reaches of the main gully. It contains the higher levels of the depositional sequence, and the main fossiliferous horizons. Locality 2 (Lemudong'o 2, GvJh32, coordinates: 1(17.98S, 35(59.04E) was discovered in 1999 and includes lower strata and a poorly-exposed horizon with sparse, generally non-diagnostic fossil material. No significant unconformities occur in the main sedimentary sequence.