Geophysical Research Abstracts, Vol. 9, 04858, 2007
SRef-ID: 1607-7962/gra/EGU2007-A-04858

Lithostratigraphy and sedimentology of the hominid-bearing Pliocene Mount Galili Formation, southern Afar Depression, Ethiopia

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The aim of this poster is to present the lithostratigraphy and sedimentology of the new ∼135 m thick fossil bearing Mount Galili Formation. Since 2000, the Paleoanthropological Research team (PAR) recovered over 1400 fossils from fluvial and lacustrine sediments, including four hominid teeth and a proximal femur. These hominid remains have been assigned to the genus *Australopithecus* (WEBER et al., 2001; MACHARELLI et al., 2004)

The type area of the Mount Galili Fm. is located approximately 100 km NE of the city Awash station, east of the National Road No. 8, in the district of the village Gedamyto (9˚44.101´N/40˚27.368´E). The Awash River lies 35 km to the west.

The unit has been subdivided into the Dhidinley, Godiray, Shabeley Laag, Dhagax and Caashacado member separated by volcanic horizons (URBANEK et al., 2005; HUJER, 2006).

Based on both preliminary Ar/Ar dating and biostratigraphical comparisons with other East African sites, most of the Mount Galili Fm. was deposited between 4.5 and 3.73 Ma. The deposits of each member show a distinct cyclicity, starting with fine-grained lacustrine sediments overlain by fluvial deposits. This coarsening-upward trend results from tectono-magmatic activity preceding deposition of the volcanic layers.

Lacustrine basin sediments consists of multi-coloured, poorly sorted massive mudstones. The occurrence of dolomite and zeolite in these sediments indicate alkaline, slightly brackish water. Micritic limestone layers and diatomites were deposited during lake-highstands. The lacustrine sediments yield abundant fish, crocodile and hip-

popotamus fossils.

Clayey silts to silty sands and sandstones were deposited at lake margins. Pedogenic carbonates developed during lowstand periods on top of the clayey silts. Gastropod-limestone consisting of *Bellamya, Cleopatra and Melanoides* indicates swampy conditions. The small size of the specimens also points to a slightly brackish water environment. Several mammal fossils were recovered from lake-margin sands.

Fluvial channel sediments consist of fine- to medium-coarse-grained, well- to moderately sorted sands and sandstones. Several point-bar sequences were found in these sediments, starting with through and planar cross-bedded sands, grading up into fine-grained, ripple-bedded sands. The uppermost layers show root structures. The cross-bedding predominately indicate north and eastwards directed transport directions. Floodplain sediments consist of bedded siltstones and fine-grained sandstones. Pedogenic carbonates precipitated on floodplain areas during dry periods.

The majority of the fossils, including the hominid remains, were recovered from fluvial and floodplain deposits of the Dhidinley and Shabeley Laag members.

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