

FAUNAL DESCRIPTION OF THE MOUNT GALILI FORMATION, SOUTHERN AFAR DEPRESSION, ETHIOPIA – A PRELIMINARY REPORT

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Since 2000, the international PaleoAnthropological Research (PAR) Team under the leadership of Horst Seidler has been investigating the Pliocene sediments around the Mount Galili in the southern Afar Depression. The Pliocene sedimentary succession represents the eastern rift shoulder of the northernmost active segment of the Main Ethiopian Rift (Fig. 1).

In addition to abundant crocodile, fish and turtle remains, the majority of the collected fossils belong to large terrestrial mammals, whereas micro-mammals are lacking in the assemblage. Several mammalian taxa (fig. 2) have been recovered in the sedimentary deposits at Galili, not known from the Ethiopian Somali Region so far. These fossils include specimens that can be allocated to 13 mammalian families, including Bovidae, Giraffidae, Hippopotamidae, Suidae, Rhinocerotidae, Equidae, Hyaenidae, Felidae, Elephantidae, Deinotheriidae, Gomphotheriidae.

Besides these, primate remains of two families (Cercopithecidae and Hominidae) have been discovered. Several hominid teeth in the collection from Galili highlight the importance and fossil preservation potential of the southern Afar Depression. Results of first comparative analyses illustrate morphological affinities to *Australopithecus afarensis* and *A. anamensis*. After Macchiarelli et al. 2004 the geological and faunal context indicate an Early Pliocene age of specimen GLL33 (fig.1) representing a male individual of advanced age-at-death.

The fossil assemblage consists mostly of fragmentary cranial and mandible remains including teeth. Elephant and suid molars are common elements. Molar remains of *Anancus* sp. and *Deinotherium* aff. *bozasi* at Galili indicate a time correlation with some sites at Lake Turkana/Kenya, where they date back to 4.1 Ma. In addition to fossils like *Elephas*, *Anancus* and *Loxodonta*, which are C₄ grazers, *Deinotherium* is the only C₃ browser in the Lake Turkana Basin, whereas the modern elephant diet is dominated by C₃ plants. The majority of the bovid fauna consists of Tribes that are adapted to a more closed habitat, e.g. Tragelaphini.

The suid fauna is dominated by *Nyanzachoerus kanamensis*, also indicating a denser vegetation in the surrounding of the ancient lakes and rivers. The occurrence of a few suid remains attributable to the Notochoerine tooth type resemble a transitional stage between *Nyanzachoerus jaegeri* and *Notochoerus euilus*. These specimens show elongated and higher M3's as *Nyanzachoerus kanamensis* and therefore may indicate an environmental change towards drier conditions and less vegetation cover. Some fossil localities represent fluvial systems with significant sheet flood events whereas other successions indicate seasonable lacks of water. Based on our preliminary stratigraphy, biostratigraphic markers, like suids and elephants refer to a relatively short accumulation time span.

References

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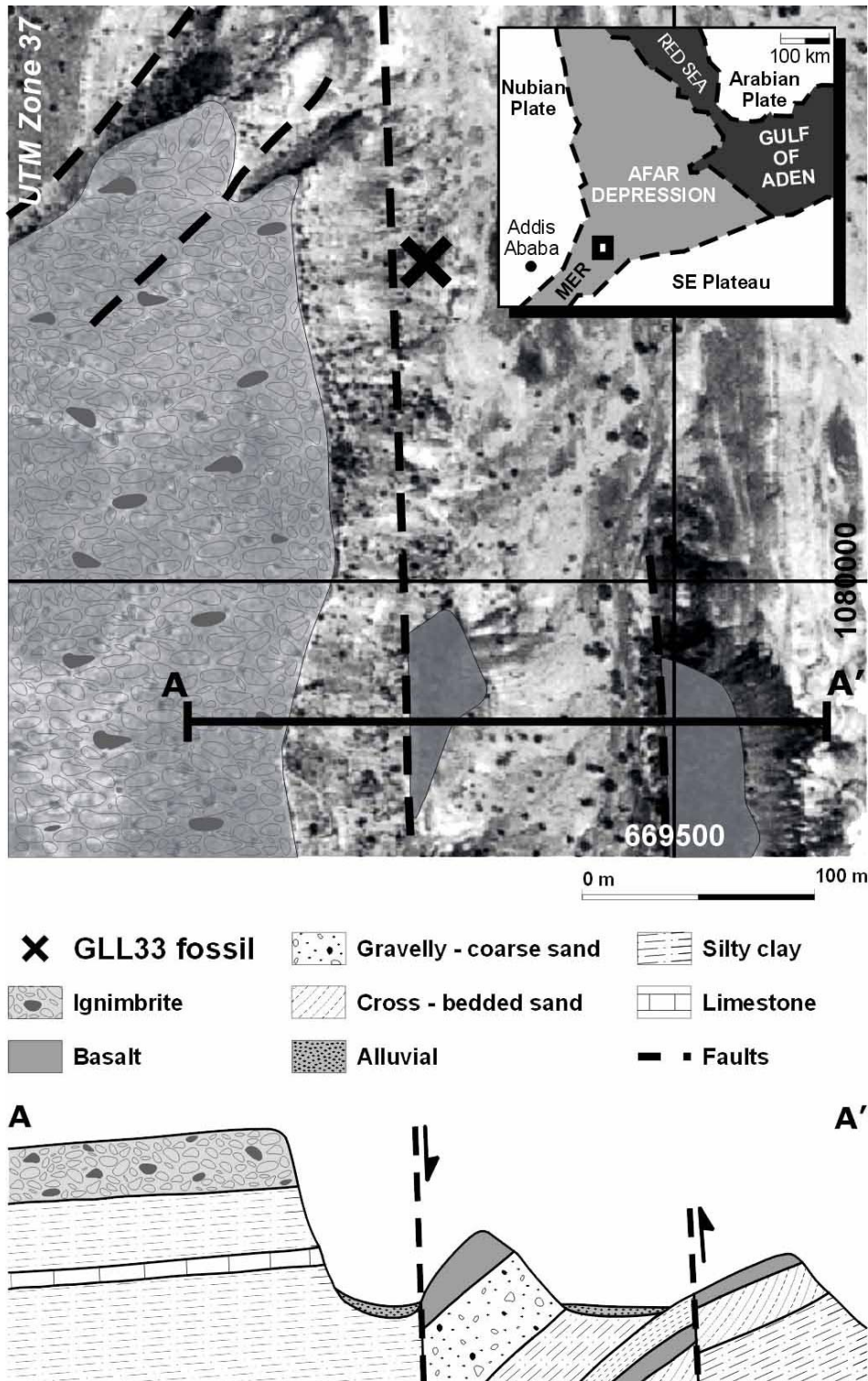


Fig. 1: Geological map and schematic cross-section at the excavation site of hominid tooth GLL33 in the southern Afar Depression (from Macchiarelli et al. 2004).

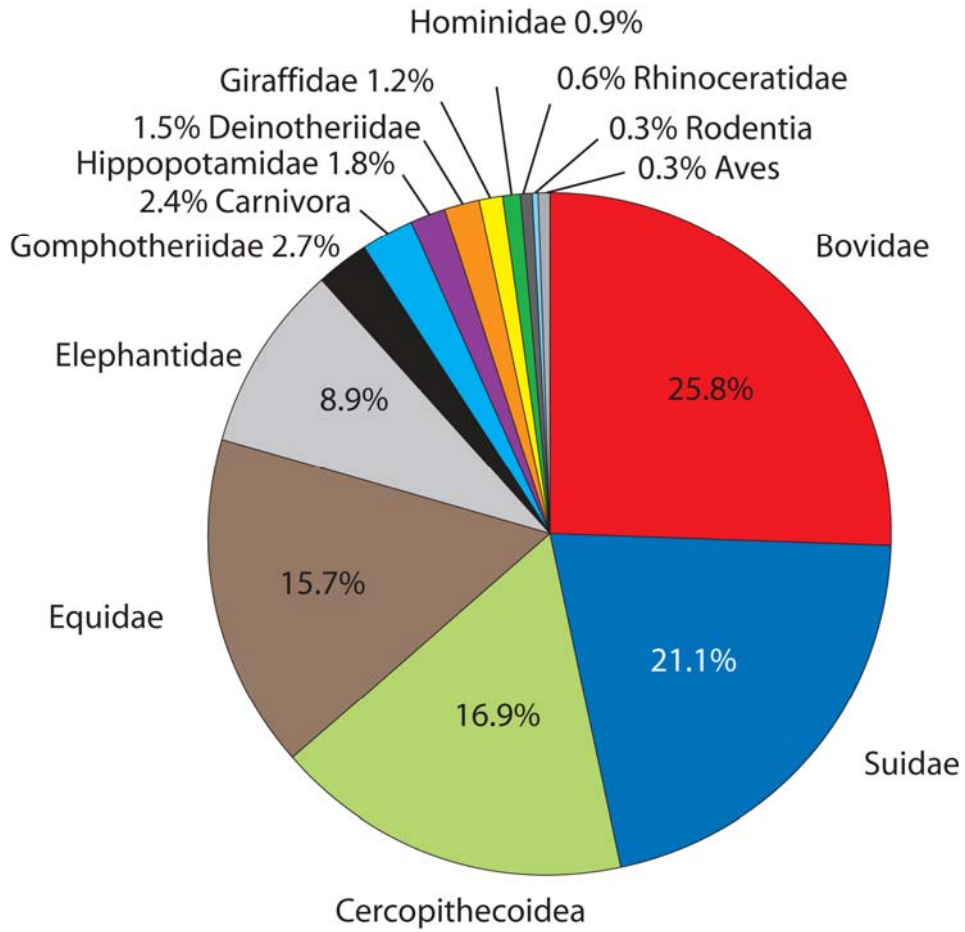


Fig. 2: Composition of the Galili fauna. Percentages of NISP, only specimens determined to the family level.

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