S15-P01 - δ13C record from Plio-Pleistocene lacustrine fish fossils from an HSPDP drill core from Tugen Hills, Kenya: Implications for fish habitats and the timing and extent of lake level fluctuations. International Paleolimnology Association-International Association of Limnogeology Meeting, Stockholm, Sweden June 18-21, 2018

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δ13C values of fish fossils from an HSPDP drill core from Tugen Hills, Kenya are used to infer fish habitats in response to lake level fluctuations during the Plio-Pleistocene in East Africa. This study offers insight on how regional environments responded to external climatic forcing such as orbital cycles, local insolation changes and global climate events. These data can also allow us to constrain the timing and extent of high-lake stands during the earliest appearance of Paranthropus sp. and Homo sp. as well as the important Plio-Pleistocene climate transition, when global climate began to cool and East Africa climate became drier and more variable. Modern δ13C values of fish bone and teeth from Lakes Turkana and Malawi provide a valuable modern analogue for understanding the paleolake. Initial δ13C values of the fish fossils (-20‰ to -26‰) show that fluvial fish are present along with pelagic species, but there are no obvious shallow lacustrine fish communities. This may suggest that there were open-water phytoplankton communities available as a food source even in the most arid phases of East African climate. Furthermore, the lack of shallow, benthic lacustrine fish communities may indicate that the rate of change from low-lake stands to deeper lake phases may have been fast enough to preclude shallow water species from becoming established at the core site. These results suggest that lake level responses to climate variability in the East African Rift may have been abrupt during the Plio-Pleistocene transition.