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Stone, J., Westover, K., and Kociolek, J. P. (2018). PP31C-1668: Analysis of a *Gomphonema* species from Pliocene sediments of the Baringo Basin. AGU Fall Meeting, Washington, D.C.

A 227-meter sediment core was collected as part of the Hominin Sites and Paleo-lake Drilling Project from the Baringo Basin (Kenya, Africa). These Pliocene sediments span approximately 1 million years (2.58-3.4 Ma) and alternate between lacustrine and terrestrial deposits. Because of their sensitivity to water chemistry and other environmental parameters, exploration of fossil diatom assemblages in ancient lake sediments provides a unique window into past lake environments and may provide some important insights into biogeographic and taxonomic relationships observed in modern species. Benthic diatoms rarely occur in most of the Baringo Basin lacustrine sediments, but when present they can provide important supporting information, particularly when ecological information about ancient planktonic species may be lacking. Here we compare features and morphological parameters of populations of a distinct but rarely observed Gomphonema species from the Baringo record against parameters of populations of a very similar brackish-water species, Gomphonema krammeri, observed from a core from Paleo-lake Mababe (Botswana, Africa). Morphometric analyses of the two populations suggest that the Gomphonema species observed in the Baringo record is likely a closely-related species that is new to science.