

Hershkovitz, I., Weber, G.W., Fornai, C., Gopher, A., Barkai, R., Slon, V., Quam, R., Gabet, Y., Sarig R. New Middle Pleistocene dental remains from Qesem Cave (Israel) *Quaternary International*, 398, 148-158. 2016.

Abstract: Ongoing fieldwork at the Middle Pleistocene site of Qesem Cave has resulted in the discovery of several new hominin teeth. These include a right upper deciduous canine (dc^1), a right lower first deciduous molar (dm_1), a right upper third premolar (P^3), a right lower second molar (M_2), a left lower third molar (M_3), and an incomplete tooth (represented only by a single root). The teeth come from different stratigraphic layers at the site and may cover a time span of up to 200 ka. These specimens represent different tooth classes than the previously reported teeth from the same site. The current study presents metric and morphological data on the new Qesem Cave teeth as well as a discussion of their taxonomic affinities. The deciduous teeth show some features which, tentatively, seem to depart from the general Neanderthal pattern. The P^3 and M_2 show relatively simplified occlusal morphologies and lack “mass-additive” traits. The Qesem Cave permanent teeth seem to largely conform to the recently defined Eurasian dental pattern. The relatively large M_2 shows a clear, continuous midtrigonid crest, but lacks a hypoconulid. The M_3 shows numerous accessory crests and furrows on the crown surface and also shows a nearly continuous midtrigonid crest. Thus, like the previously reported teeth from Qesem Cave, the new dental remains show some features that seem more consistent with fossils of early *H. sapiens* from the sites of Qafzeh and Skhul and some features which appear to align them with the Neanderthals. Given the uncertainties regarding the phylogenetic polarity of several of these features, a conclusive taxonomic diagnosis remains elusive and must await the discovery of additional, more complete remains from the site.