Geophysical Research Abstracts
Vol. 16, EGU2014-1281, 2014
EGU General Assembly 2014

Middle Pleistocene palaeoenvironments and the late Lower-Middle Palaeolithic of the Hrazdan valley, central Armenia

Keith Wilkinson (1), Daniel Adler (2), Samvel Nahapetyan (3), Victoria Smith (4), Darren Mark (5), Carolina Mallol (6), Simon Blockley (7), and Boris Gasparian (8)

(1) University of Winchester, Department of Archaeology, Winchester, United Kingdom (Keith.Wilkinson@winchester.ac.uk), (2) Department of Anthropology, University of Connecticut, 354 Mansfield Road, Unit 1176, Storrs, CT 06269, USA (daniel.adler@uconn.edu), (3) Department of Cartography and Geomorphology, Yerevan State University, Alek. Manukyan 1, 375049 Yerevan, Armenia (nahapetyan@ysu.am), (4) Research Laboratory for Archaeology and the History of Art, Dyson Perrins Building, South Parks Rd, Oxford, OX1 3QY, UK (victoria.smith@rlaha.ox.ac.uk), (5) NERC Argon Isotope Facility, Scottish Universities Environmental Research Centre, Scottish Enterprise and Technology Park, Rankine Avenue, East Kilbride, G75 0QF, UK. (d.mark@suerc.gla.ac.uk), (6) Departamento de Prehistoria, Antropología e Historia Antigua, Universidad de La Laguna, Tenerife, Spain. (cmallol@ull.es), (7) Department of Geography, Royal Holloway, University of London, Egham
, Surrey, TW20 0EX, UK. (Simon.Blockley@rhul.ac.uk), (8) Institute of Archaeology and Ethnology, National Academy of Sciences of the Republic of Armenia, Charents 15, 375019 Yerevan, Armenia. (borisg@virtualarmenia.am)

The palaeogeographic importance of the southern Caucasus in the Pleistocene as a region of population expansion and contraction between Africa, the Levant and Eurasia is well established as a result of recent archaeological works in the Republics of Armenia and Georgia. Not only does the area have a unique Palaeolithic record, but the presence of volcanic layers in association with archaeological sites and off site sequences means that there is the potential for both high precision dating and correlation. The Hrazdan valley, central Armenia is a case in point. Late Lower to late Middle Palaeolithic sites found as a result of systematic survey and then explored in excavations in 2008–2011 are associated with various volcanogenic strata. 40K/40Ar and 40Ar/39Ar dating in the 1970-2000s demonstrates the onset of volcanism in the adjacent Gegham range in the period 700–500ky BP, while recent 40Ar/39Ar dates on the latest lava from the Gutanasar volcano shows the latest effusive eruption to have occurred at c. 200 ky BP. Nine Middle Pleistocene lavas from the intervening period have been mapped in the Hrazdan valley in a 15km-long study area 12km north-east of Yerevan. Several of the basalts seal terrestrial strata, and thereby bury and 'fossilize' earlier landscapes. The most significant of these is sandwiched between basalts dating to 200 and 440ky BP, where a 135m-long exposure contains a palaeosol developing in floodplain alluvium and in situ archaeological material (Nor Geghi 1). Morphological and micromorphological examination of site strata suggest that hominin activity took place during a temperate episode, which 40Ar/39Ar dating of interbedded crypotephra suggests was MIS 9e. However, strata at other locales buried beneath the same 200ky BP basalt suggest that the landscape occupied by these hominids was a mosaic of river channels, floodplains and lakes. The fossilized MIS 9 landscape is not unique as further lacustrine deposits are buried beneath earlier Middle Pleistocene basalts, although earlier archaeological sites have yet to be found.