

# Getahovit-2. New evidence of an Upper Palaeolithic settlement in Northern Armenia



**Abstract:** The cave settlement at Getahovit-2 in Armenia has a proven record of human occupation from the Palaeolithic to the Middle Ages, making it the third prehistoric cave site, after Aghitu-3 and Kalavan-1, to be known from this region. The current excavation of an Upper Palaeolithic horizon, discovered in 2014, has yielded a radiocarbon date placing the site within the Last Glacial Maximum, thus filling a gap in the archaeological record between the middle and late Upper Palaeolithic (between 24,000 and 18,000 cal. BP). The short-term occupation by a group of hunters, revealed by the preliminary results, is interpreted with considerable likelihood as a stop during a hunting expedition. Work at the cave site has been resumed under the flag of a newly established Armenian-Polish research cooperation between the Institute of Archaeology and Ethnography of the National Academy of Science of the Republic of Armenia and the Faculty of Archaeology of the University of Warsaw.

**Keywords:** Upper Paleolithic, cave settlement, Tavush, Armenia

**Irena Kalantaryan<sup>1</sup>**  
**Marcin Białowarczuk<sup>2</sup>**  
**Michał Przeździecki<sup>3</sup>**

<sup>1</sup> National Academy of Science,  
Republic of Armenia

<sup>2,3</sup> University of Warsaw

**Acknowledgments**

Special thanks to Christine Chataigner for providing the details of the date, Agnieszka Szymczak for assistance with the language in the text and Nanar Kalantaryan for preparing the site plans.

We are extremely grateful to the Ijevan Wine-Brandy Factory for financial support.

## INTRODUCTION

The archaeological site of Getahovit-2 lies inside a small cave located at the northeastern end of the modern village of Getahovit, in a valley formed by the Khachaghbyur River (tributary of the Aghstev River) at an elevation of about 968 m asl (N 40°54'38.5", E 045°05'59.7"), between the modern villages of Yenokavan and Getahovit, in the Tavush region in the Republic of Armenia [Fig. 1]. The cave consists of two halls: the first one, open to the south, has an area of 64 m<sup>2</sup> and the second, smaller one, accessed from a narrow passageway.

The cave was discovered during surveys conducted by a joint Armenian–French expedition. Collaborative excavations were held between 2011 and 2017

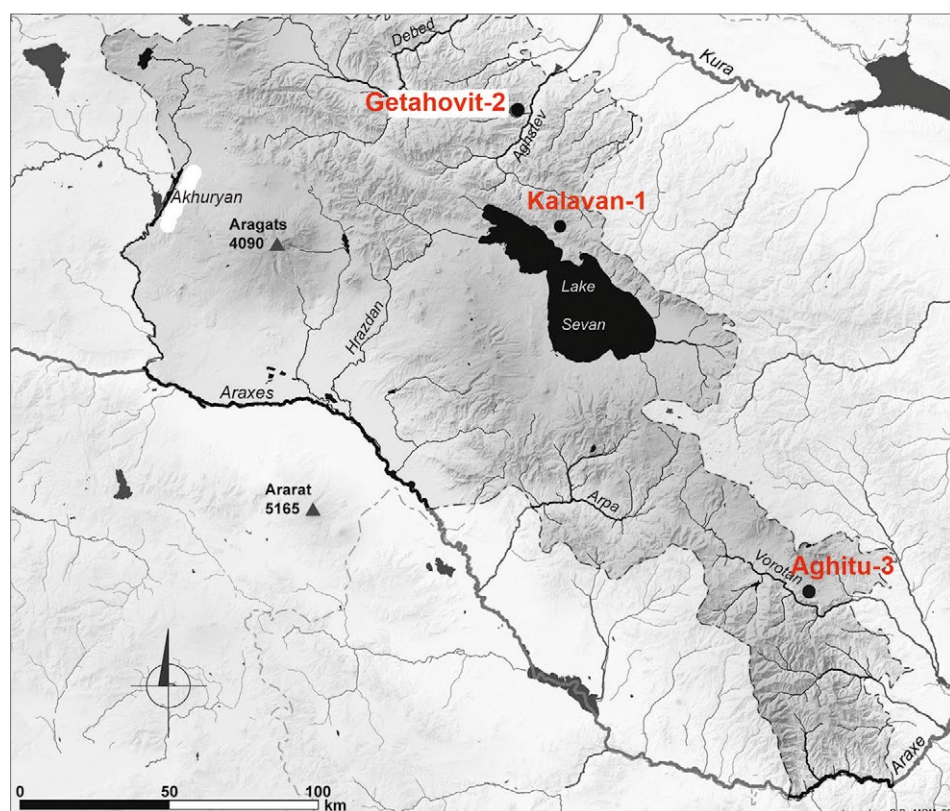


Fig. 1. Location of the Getahovit-2 site in the Tavush region of Armenia; above, view from the site to the Khachaghbyur River (Getahovit-2 Expedition | image processing M. Przedziecki; photo M. Białowarczuk)

by the Armenian–French joint project “Mission Caucasus” and in 2018 by the Institute of Archaeology and Ethnography of the National Academy of Science, Republic of Armenia, directed by Irena Kalantaryan.

A deep test trench made in 2014 by Christine Chataigner and I. Al Hussain reached the top of an Upper Palaeolithic horizon dated to the end of the Last Glacial Maximum. Exploration of this horizon was resumed in 2021, within the

frame of a newly established Armenian–Polish research cooperation program between the Institute of Archaeology and Ethnography of the National Academy of Science, Republic of Armenia and the Faculty of Archaeology of the University of Warsaw.

Remains of the first Upper Palaeolithic campsite to be uncovered in northern Armenia were revealed during the first season of this cooperation, which took place in the first half of September 2021.

## STRATIGRAPHY OF THE UPPER PALAEOLITHIC HORIZON

The Upper Palaeolithic horizon 1 (level 7), recorded as stratigraphic unit US 18, was uncovered in a deep test trench located in the southwestern part

of the cave [Fig. 2]. It lies directly below a sterile horizon (level 6), US 16, consisting of colluvial sedimentation due probably to gelifraction during a cold



Fig. 2. General view of the area inside the cave explored in the 2021 season; on the left, the deep test trench (Photo M. Białowarczuk)

period. The overlying, also sterile horizon (level 5), US 15, is a compact clayish layer of fluvial sediment, about 1 m thick, characteristic of a warm and wet climate (Chataigner et al. 2020: 3–4). Taken together, these geological sediments constitute a visible hiatus between the Palaeolithic horizon and later periods of occupation in this cave [Fig. 3].

US 18 is a thin layer of tightly compacted, red-brown clay, 2–3 cm thick. In the northern part of the explored area, it stretches over red, strongly eroded rock, US 17 (most probably bedrock). Rock debris limits it from the south and southwest. On the east there is a layer of rock rubble originally covering the entire surface of the cave at this level [see Fig. 3].

Numerous intrusions—heavily fragmented animal bones, lumps of charcoal and obsidian artifacts—recorded in this horizon, are due to human activity. Badly preserved, the bones take on the form of thin splinters, usually not exceeding 1 cm in length. Some of them are black and very brittle, apparently burned. Most of the fragments were clustered together with the lithic finds in two clear concentrations, at the northwestern and the central-western edge of Structure 247, which was located in the central part of the explored area [see below, Fig. 5].

Unique among the finds is a bone spear point, about 6.5 cm long. It was made of a fragment of a long bone belonging to an unidentified mammal. It is

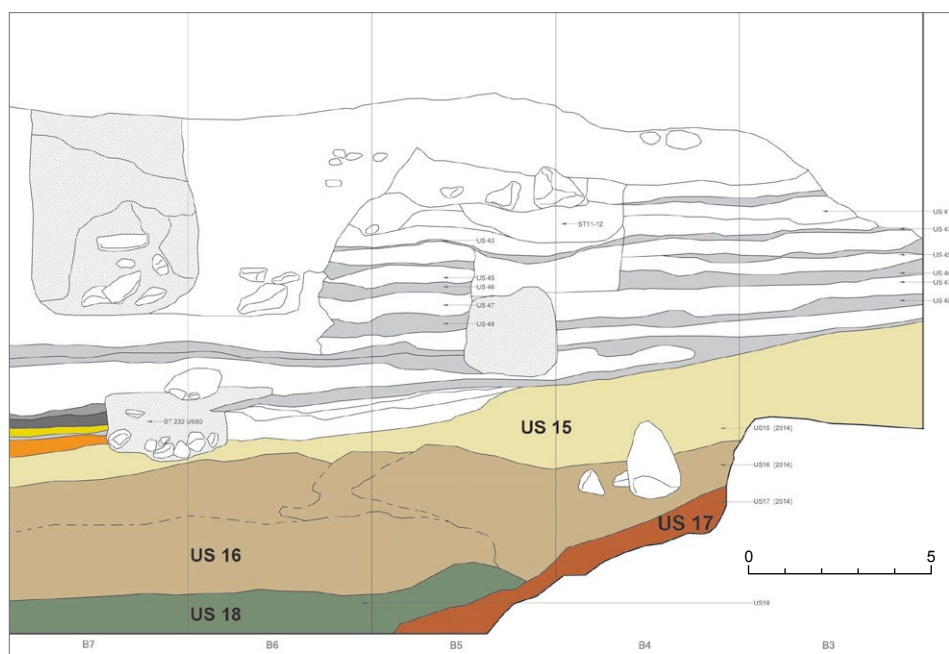


Fig. 3. Western cross-section positioning the Upper Palaeolithic horizon (US 18) in the stratigraphic record of the earlier Armenian–French excavation (Getahovit-2 Expedition | drawing and processing N. Kalantaryan)



slightly asymmetrical in shape, with an arched cross-section and three parallel cut marks in the lower part. Some minor, irregular cut marks visible on the surface seem to be of taphonomic origin [Fig. 4].



Charcoal was scattered sparingly over the explored area.

The Upper Palaeolithic provenance of this horizon was established by a French team at the end of their work in 2014, based on a limited assemblage of microliths and one radiocarbon date (sampled organic sediment in the top parts of Structure 247, square B6):  $19,770 \pm 70$  BP or 22,020–21,685 cal BC (Beta-393561; Kalantaryan and Ghanem 2019: 7; Zarikian and Kalantarian 2019; calibration of radiocarbon age to calendar years BC by Beta Analytics Inc. laboratory, using INTCAL13 calibration databases; Reimer et al. 2013).



Fig. 4. Three “cut marks” on a bone point viewed under 50x magnification; inset, the point found *in situ* (Getahovit 2 Expedition | inset photo M. Białowarczuk)

## STRUCTURE 247

The feature in question is a pit sunk directly into the occupation layer US 18

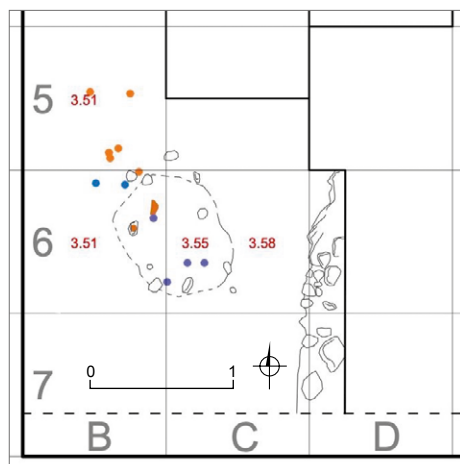
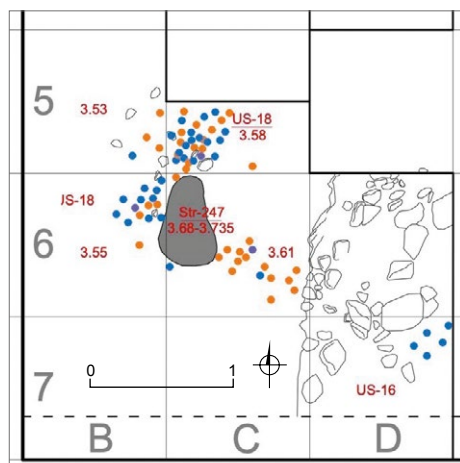


Fig. 5. Plan of excavated area on the level of the Upper Palaeolithic horizon reached at the end of 2014 season; numbers refer to levels in meters (Getahovit-2 Expedition/drawings and processing N. Kalantaryan)



(squares B6 and C6). Initially, it seemed to have a regular oval outline, roughly 1.00 m by 0.80 m [see Fig. 5], but this turned out to be the effect of the top layer being dragged out toward the southeast [Fig. 6 left]. The pit itself was pear-shaped and irregular, drawn out along a NE–SW line. In plan, it was 0.70 m long; its width ranged from 0.30 m in the northeastern part to 0.45 m at the southwestern end. It was trough-shaped in section, measuring 0.18 m at the deepest [Fig. 6 top right].

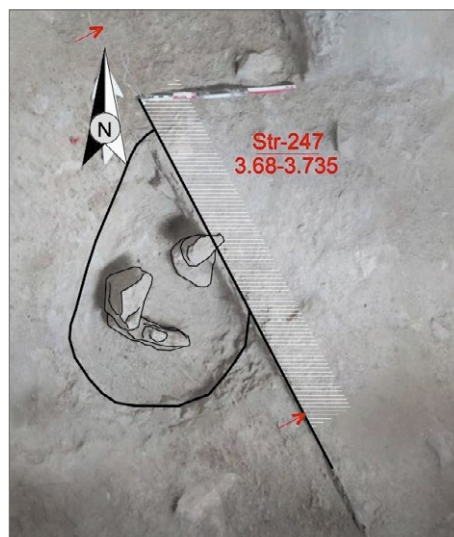
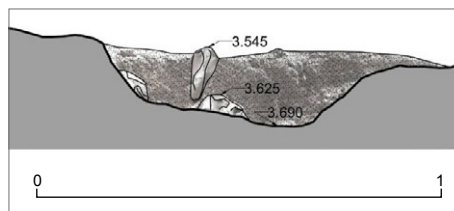


Fig. 6. Baking pit (Structure 247) with finds concentrated around it: left, plan of the excavated area with the location of Structure 247 (numbers represent the levels in meters); bottom right, view during exploration, with stones and clay lumps inside the pit; top right, cross-section of the pit (location marked with red arrows in the bottom photo); (Getahovit-2 Expedition/drawing and processing N. Kalantaryan)

The fill of the pit consisted of loose, gray soil with an abundant addition of small pebbles, fragments of burnt animal bones, ash and charcoal specks. Of particular interest are three lumps of clay with traces of burning, lying in the center of the fill [Fig. 6 bottom right], as well as four lumps of a limestone mass placed along the edge of the pit.

### INTERPRETATION

The fire-related character of the fill, particularly the presence of ash, charcoal, and burnt clay, indicates that Structure 247 should be interpreted as either a hearth or perhaps a single-use cooking or baking pit.

Heat and clay can be used in the process of meat preparation in a number of ways. The most popular one seems to be coating the meat with clay and baking it in the embers, or placing meat on hot lumps of charcoals or pebbles and covering it with a clay “lid”, thus creating a kind of earth oven. Structures of a similar kind were widespread in hunter-gatherer communities worldwide prior to the invention of pottery (Thoms 2009: 577–578) and are well documented by numerous ethnographic descriptions (e.g., Ellis 1997; Wandsnider 1997; Thoms 1998). Specialists analyses, to be completed on this structure, should help to confirm this provisional interpretation of its function.

## LITHIC SCATTER

Most of the 111 lithic artifacts recovered from the exploration of the horizon were found near the northwestern border of Structure 247. They were all made of two varieties of obsidian. The first variety is characterized by high transparency, a gray color and essentially uniform texture; the second one is weakly transparent, with a non-uniform, spotted texture.

Three main categories of lithics were distinguished based on techno-typological characteristics:

1. Debitage – blades or bladelets (18 specimens), crested blades (5), flakes (21), chips, diameter less than 5 mm (51), and a core (1) [Fig. 7:5];
2. Tools – backed bladelets (7) [Fig. 7:1-3, 8, 10], “micro-gravettes” (3) [Fig. 7:7, 9, 12], truncated pieces (2), and retouched blades (2) [Fig. 7:4];
3. Destructs – chunks (4).

Three splintered pieces formed a separate category [Fig. 7:6, 11, 13]. Several flakes should also be associated with the splintered technique.

Although the collection is not numerous, it provides important data relevant to obsidian use at the site. The presence of debitage and destructs proves that semi-products for tool-making were produced at the site. However, the process was rather *ad hoc* in nature and not intense as indicated by the small number of waste products, and just one core. In addition, the type (morphology) and very small size of the flakes suggest that they were associated with advanced stages of core reduction. This means that the pre-treatment of the core took place either outside or in another part of the cave. Judging by the core and debitage, the objective of the reduction process was



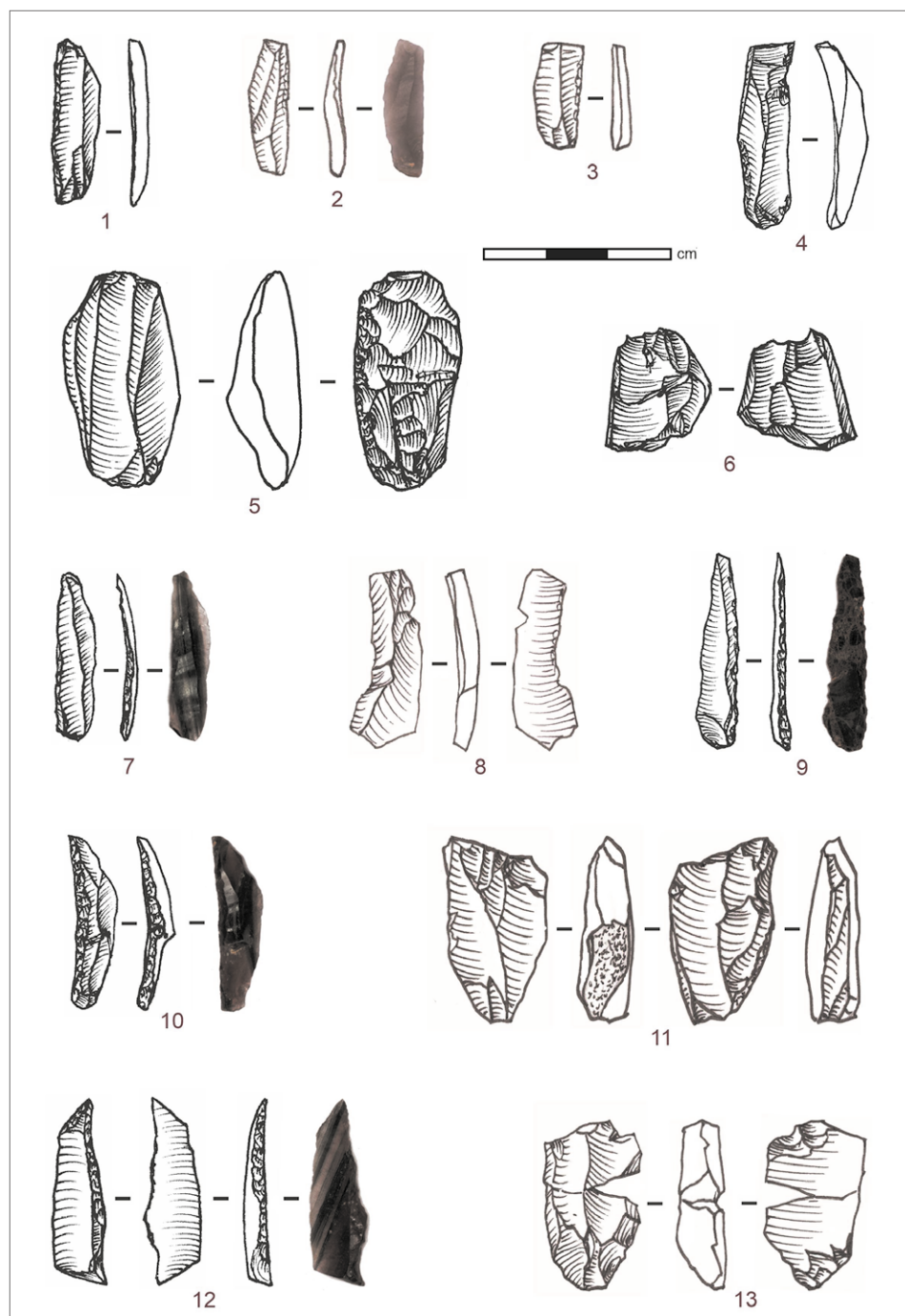


Fig. 7. Upper Palaeolithic obsidian assemblage: 1-3, 8, 10 - backed bladelets; 4 - retouched blade; 5 - core; 6, 11, 13 - splintered pieces; 7, 9, 12 - microgravettes (Getahovit-2 Expedition | processing M. Przedziecki)

to obtain microlithic, slender and regular bladelets with a straight or slightly bent profile; by steep retouching, they were converted into backed pieces, truncated bladelets or microgravettes.

The set of retouched forms in this collection points clearly to the production of hunting weapons, that is, points and burrs (microlithic inserts). Taking

into consideration the abundance of retouched forms related to the replacement/repair of inserts as arrow or spear points, and a simultaneous absence of household tools for cutting animal meat, hides or bones, the most likely interpretation of the function of this site is a short-term stop for a group of hunters during a hunting expedition.

## CONCLUSION

The importance of the Getahovit-2 cave discovery is threefold. First, it adds a new site to the extremely short list of Upper Palaeolithic traces from Armenia. So far, only two well-documented, indisputably Upper Palaeolithic sites have been recorded from this area: the Aghitu-3 cave in the south (Kandel et al. 2017; Bertacchi et al. 2021; Malinsky-Buller et al. 2021) and Kalavan-1 in the north of the country (Gasparyan, and Arimura 2014: 108–110) [for their location see Fig. 1].

Second, despite the limited area excavated (barely a few square meters), the Getahovit-2 cave has yielded a significant collection of artifacts characterized by an established planigraphy and stratigraphic position, supported by a  $^{14}\text{C}$  date.

Third, the excavations yielded unique remnants of a stratified hunter-gatherer stop, with a baking pit and traces of seasonal activity.

The lithic finds from the Getahovit-2 cave have morphological and typological parallels in the inventories from both the Aghitu-3 site (layer AH 3), dating to approximately 28,000–24,000 cal. BP, and the sedimentary unit 7 from Kalavan-1, dating to around 18,000–16,000 cal. BP (Gasparyan, Kandel, and Montoya 2014: 111–113; Kandel et al. 2017). In light of this data, Getahovit-2 fills the chronological gap in the known Upper Palaeolithic settlement in Armenia between 24,000 and 18,000 cal. BP. From this perspective, Getahovit-2 is one of two sites from the Last Glacial Maximum (LGM) in Armenia and opens up the opportunity to analyze the transition from the Middle Upper Palaeolithic to the Late Upper Palaeolithic (e.g., Gasparyan, Kandel, and Montoya 2014: 115), which will be one of the avenues of future research.

### Irena Kalantaryan

Institute of Archaeology and Ethnography  
National Academy of Science  
Republic of Armenia  
irenkalanterian@mail.ru

**How to cite this article:** Kalantaryan, I., Białowarczuk, M., and Przeździecki, M. (2022). Getahovit-2. New evidence of an Upper Palaeolithic settlement in northern Armenia. *Polish Archaeology in the Mediterranean*, 31, 13–24. <https://doi.org/10.37343/uw.2083-537X.pam31.14>

**Dr. Marcin Białowarczuk**

<https://orcid.org/0000-0002-5618-8343>

University of Warsaw

Faculty of Archaeology

[m.bialowarczuk@uw.edu.pl](mailto:m.bialowarczuk@uw.edu.pl)

**Dr. Michał Przeździecki**

<https://orcid.org/0000-0002-8605-3941>

University of Warsaw

Faculty of Archaeology

[m.przedziecki@uw.edu.pl](mailto:m.przedziecki@uw.edu.pl)

**References**

- Bertacchi, A., Gasparyan, B., Gruwier, B., Rivals, F., and Kandel, A.W. (2021). Upper Paleolithic animal exploitation in the Armenian Highlands: The zooarchaeology of Aghitu-3 cave. *Quaternary International*, 587, 400–414
- Chataigner, C., Gratuze, B., Tardy, N., Abbès, F., Kalantaryan, I., Hovsepian, R., Chahoud, J., and Perello, B. (2020). Diachronic variability in obsidian procurement patterns and the role of the cave-sheepfold of Getahovit-2 (NE Armenia) during the Chalcolithic period. *Quaternary International*, 550, 1–19. <https://doi.org/10.1016/j.quaint.2020.02.010>
- Clark, P.U., Dyke, A.S., Shakun, J.D., Carlson, A.E., Clark, J., Wohlfarth, B., Mitrovica, J.X., Hostetler, S.W., and McCabe, A.M. (2009). The Last Glacial Maximum. *Science*, 325(5941), 710–714
- Ellis, L.W. (1997). Hot rock technology. In S.L. Black, L.W. Ellis, D.G. Creel, and G.T. Goode (eds), *Hot rock cooking on the Greater Edwards Plateau: Four burned rock midden sites in west central Texas* (pp. 43–81). Austin, TX: University of Texas at Austin, Texas Archeological Research Laboratory
- Gasparyan, B., & Arimura, M. (2014). Stone Age of Armenia. A guide-book to the Stone Age archaeology in the Republic of Armenia. *Monograph of the JSPS-Bilateral Joint Research Project Center for Cultural Resource Studies*, Kanazawa University, Japan
- Gasparyan, B., Kandel, A.W., and Montoya, C. (2014). Living the high life: The Upper Paleolithic settlement of the Armenian highlands. In B. Gasparyan and M. Arimura (eds), *Stone Age of Armenia: A guide-book to the Stone Age archaeology in the Republic of Armenia* (pp. 107–131). Kanazawa: Center for Cultural Resource Studies
- Kalantaryan, I. and Ghanem, G. (2019). Preliminary results of the Getahovit-2 Cave excavations in 2018. *Aramazd. Armenian Journal of Near Eastern Studies*, 13(2), 1–33
- Kandel, A. W., Gasparyan, B., Allué, E., Bigga, G., Bruch, A. A., Cullen, V. L., ... and Weissbrod, L. (2017) The earliest evidence for Upper Paleolithic occupation in the Armenian Highlands at Aghitu-3 Cave. *Journal of Human Evolution*, 110, 37–68

- Malinsky-Buller, A., Glauberman, P., Ollivier, V., Lauer, T., Timms, R., Frahm, E., ... and Gasparyan, B. (2021). Short-term occupations at high elevation during the Middle Paleolithic at Kalavan 2 (Republic of Armenia). *PloS one*, 16(2), e0245700
- Reimer, P.J., Bard, E., Bayliss, A., Beck, J.W., Blackwell, P.G., Ramsey, C.B., ... van der Plicht, J. (2013). IntCal13 and Marine13 radiocarbon age calibration curves 0–50,000 years cal BP. *Radiocarbon*, 55(4), 1869–1887
- Thoms, A.V. (1998). Earth ovens and plateau root foods. In G.E. Gibbon (ed.), *Archaeology of prehistoric native America: An encyclopedia* (pp. 232–235). New York: Garland Publishing
- Thoms, A.V. (2009). Rocks of ages: Propagation of hot-rock cookery in western North America. *Journal of Archaeological Science*, 36(3), 573–591
- Wandsnider, L. (1997). The roasted and the boiled: Food composition and heat treatment with special emphasis on pit-hearth cooking. *Journal of Anthropological Archaeology*, 16(1), 1–48
- Zarikian, N. and Kalantarian, I. (2019). Hunting evidence from Eneolithic site of Getahovit-2 cave; Armenia. *International Journal of Archaeology*, 7(2), 24–29