EARLY HOLOCENE SITES OF THE REPUBLIC OF ARMENIA: QUESTIONS OF CULTURAL DISTRIBUTION AND CHRONOLOGY

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1. Introduction
Until recently, the earliest farming communities in Armenia were dated from the early 6th millennium BC. However, these sites are attributed to the Late Neolithic and display well established food-producing economies (Badalyan et al. 2007; Arimura et al. 2010). Thus, one of the main archaeological problems for the territory of Armenia and the whole southern Caucasian region is the reconstruction of the process of Neolithization. Unfortunately however, the archaeological sites dating to the terminal Pleistocene/Early Holocene required to establish such a reconstruction were very poorly represented. Happily, investigations within the last decade have revealed the very first terminal Pleistocene and Early Holocene sites in the country. These new findings, which build upon developments of the late 19th century, are opening new perspectives on the Neolithic Period. In general, the history of research into the Neolithic of Armenia can be divided into three stages:

The First stage (from the beginning of the 20th century–1960) is characterized by a period of surface collection, artifact definition, and chronological placement based on European Global Stone Age periodization schemes (J. de Morgan, A. Potapov, Y. Bayburtyan, S. Zamyatnin, M. Panichkina, S. Sardaryan).

The Second stage (1960–2000) is based on the discovery and research of certain Neolithic period archaeological sites such as the Aknashen-Khatunarkh (R. Torosyan) and Masis Blur (G.E. Areshian) settlements in the Ararat valley and the Hatis-10 open-air site, which is a large workshop near the outcrops of obsidian in the Kotayk Plateau (H. Ghazaryan). This research stage involved the study of stratified Neolithic materials and the definition of their local characteristics and
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 chronological position in comparison with the synchronous sites of the southern Caucasus and Near East.

The **Third stage (2000–2014)** is significant for the targeted systematic research of Neolithic sites through an established network of local and foreign specialists and, importantly, with usage of modern excavation and analytical techniques. It is during this stage that several Early Holocene sites were discovered across Armenia (B. Gasparyan). New and significant results were achieved in parallel while re-excavating three Late Neolithic settlements in the Ararat Valley – Aratashen, Aknashen-Khatunarkh (R. Badalyan), and Masis Blur (P. Avetisyan and G.E. Areshian).

Early Holocene sites were first detected in the Aparan Depression as a result of investigations by the Armenian-French joint expedition (directors: B. Gasparyan, Institute of Archaeology and Ethnography of the National Academy of Sciences of the Republic of Armenia and C. Chataigner, Maison de l’Orient et de la Méditerranée, Lyon), which, because of the general lack of such materials from previous work, provided a wealth of information about this period. While recent years have seen discovery of other Early Holocene sites in other regions of Armenia (Ararat, Shirak and Lori Depressions, Aghstev River Valley, etc.), it is those located in the limits of the Aparan Depression that display what appears to be a consistent cultural phenomenon within one geomorphologic unit. It is therefore these sites that form the framework of our discussion.

2. **Apnagyugh-8/Kmlo-2 cave**

Apnagyugh-8/Kmlo-2 is situated on the eastern side of the Aragats massif, in the middle stream of the Kasakh River valley at its junction with a small tributary. The absolute elevation of the cave, opened in a basaltic lava flow, is about 1700 m asl. Internal erosion caused most of the cave’s degradation, although earthquakes were probably responsible for the ultimate collapse of the entrance (Figure 1). The site was discovered in 2002 by an Armenian-French joint expedition during a systematic survey in the Kasakh River valley. A test trench revealed the presence in the cave of obsidian artifacts and faunal remains. The excavations started in 2003 and, over the next four field seasons, about 10 m² were excavated (Figure 2).

Wind-blown sediments were initially deposited on a mass of fallen rocks from the collapsed vault. The upper layer 1 lies sub-horizontally and corresponds to a Medieval occupation, which, unfortunately, has heavily disturbed the upper part of the archaeologically rich underlying prehistoric layers 2-5 (Figure 2). In these layers there are lumps of hardened floor full of obsidian artifacts and faunal remains, which is probably the only evidence of *in situ* prehistoric occupation in the cave.
With the exception of domestic sheep, the floral and faunal remains belong exclusively to wild species. It is important to note, however, that the stratigraphic position of the few sheep bones is tenuous since the earthquake-induced porch collapse may have caused some material to percolate down between the blocks of stone and ultimately come to rest more than 1 m deeper. The objects of the prehistoric layers are thus possibly mixed together and displaced.

C\textsuperscript{14} dates taken from different layers could be grouped into four occupational phases (Table 1). The first group points toward the 12th–10th millennia Cal BC, the second to the 10th–8th millennia Cal BC, the third to the 6th–5th millennia Cal BC and, finally, the last to the Medieval period.

Table 1
C\textsuperscript{14} dates from Apnagyugh-8/Kmlo-2 cave.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Code</th>
<th>Material</th>
<th>Date BP uncalibrated</th>
<th>Date AD/BC calibrated (2 sigmas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>LTL-5736A</td>
<td>charcoal</td>
<td>679 ± 50</td>
<td>1250 – 1400 AD</td>
</tr>
<tr>
<td>I</td>
<td>Ly-13663</td>
<td>charcoal</td>
<td>975 ± 30</td>
<td>1014 – 1155 AD</td>
</tr>
<tr>
<td>I</td>
<td>Ly-12512</td>
<td>charcoal</td>
<td>1095 ± 35</td>
<td>887 – 1017 AD</td>
</tr>
<tr>
<td>II</td>
<td>Ly-2761 (OxA)</td>
<td>burnt bone</td>
<td>5515 ± 30</td>
<td>4450 – 4326 BC</td>
</tr>
<tr>
<td>II</td>
<td>Ly-2817 (SacA)</td>
<td>charcoal</td>
<td>5555 ± 60</td>
<td>4520 – 4269 BC</td>
</tr>
<tr>
<td>II</td>
<td>UGAMS-4077</td>
<td>burnt bone</td>
<td>5610 ± 30</td>
<td>4499 – 4360 BC</td>
</tr>
<tr>
<td>II</td>
<td>Ly-2762 (OxA)</td>
<td>tooth</td>
<td>6640 ± 40</td>
<td>5631 – 5491 BC</td>
</tr>
<tr>
<td>III</td>
<td>UGAMS-6457</td>
<td>bone</td>
<td>8480 ± 40</td>
<td>7587 – 7498 BC</td>
</tr>
<tr>
<td>III</td>
<td>Poz-19666</td>
<td>bone</td>
<td>8500 ± 50</td>
<td>7596 – 7492 BC</td>
</tr>
<tr>
<td>III</td>
<td>UGAMS-6456</td>
<td>charcoal</td>
<td>8830 ± 30</td>
<td>8201 – 7759 BC</td>
</tr>
<tr>
<td>III</td>
<td>UGAMS-6455</td>
<td>bone</td>
<td>8980 ± 40</td>
<td>8286 – 7976 BC</td>
</tr>
<tr>
<td>III</td>
<td>UGAMS-6458</td>
<td>bone</td>
<td>9050 ± 40</td>
<td>8304 – 8226 BC</td>
</tr>
<tr>
<td>III</td>
<td>LTL-5735A</td>
<td>bone</td>
<td>9311 ± 50</td>
<td>8720 – 8420 BC</td>
</tr>
<tr>
<td>III</td>
<td>UGAMS-6459</td>
<td>charcoal</td>
<td>10020 ± 40</td>
<td>9794 – 9366 BC</td>
</tr>
<tr>
<td>IV</td>
<td>UGAMS-5797</td>
<td>bone</td>
<td>8790 ± 30</td>
<td>8165 – 7728 BC</td>
</tr>
<tr>
<td>IV</td>
<td>UGAMS-5798</td>
<td>charcoal</td>
<td>9420 ± 30</td>
<td>8778 – 8626 BC</td>
</tr>
<tr>
<td>IV</td>
<td>LTL-5737A</td>
<td>charcoal</td>
<td>9507 ± 60</td>
<td>9140 – 8640 BC</td>
</tr>
<tr>
<td>IV</td>
<td>UGAMS-4076</td>
<td>bone</td>
<td>9840 ± 30</td>
<td>9354 – 9252 BC</td>
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<tr>
<td>IV</td>
<td>AA-68562</td>
<td>bone</td>
<td>10024 ± 91</td>
<td>10012 – 9300 BC</td>
</tr>
<tr>
<td>IV</td>
<td>AA-68563</td>
<td>bone</td>
<td>10184 ± 93</td>
<td>10425 – 9446 BC</td>
</tr>
<tr>
<td>V</td>
<td>Poz-20231</td>
<td>bone</td>
<td>10900 ± 50</td>
<td>10976 – 10680 BC</td>
</tr>
<tr>
<td>V</td>
<td>Ly-6990 (SacA)</td>
<td>bone</td>
<td>10990 ± 60</td>
<td>11131 – 10732 BC</td>
</tr>
<tr>
<td>V</td>
<td>UGAMS-5799</td>
<td>bone</td>
<td>11310 ± 30</td>
<td>11344 – 11165 BC</td>
</tr>
<tr>
<td>V</td>
<td>UGAMS-5800</td>
<td>charcoal</td>
<td>11600 ± 30</td>
<td>11645 – 11363 BC</td>
</tr>
</tbody>
</table>
The lithic industry tends to confirm this partition into three early phases of occupation:

- The most frequent types of microliths are the backed bladelets and scalene (straight-backed and obliquely truncated) bladelets that recall those of the Late Upper Paleolithic tradition of Kalavan-1 and the Mesolithic sites of the 10th to 9th millennia BC in Georgia, for example at Kotias Klde (Meshveliani et al. 2007; Montoya et al. 2013);

- So-called “Kmlo tools”, which are defined as having lamellar parallel retouch, created by pressure flaking that forms a steeply-angled edge with a dentate outline. The position of retouche occurs on both the dorsal and ventral faces. The retouch often terminates before the proximal end, which has the form of a hook or two accentuated ridges (Figure 3). Similar tools are known from sites the Pre-pottery Neolithic (8th to 7th millennia BC) of both the Near East and north-western Caucasus. These tools are also present from at least the first half of the 9th millennium BC at Apnagyugh-8/Kmlo-2 cave (Figure 3);

- Transverse arrowheads are characteristic of the Late Neolithic and the Chalcolithic of a very large region, as they appear in the Near East at the end of the 7th millennium BC (Sabi Abyad in Syria) and spread then over the northern part of the Near East and into southern Europe (Copeland and Akkermans 1994; Wechler 2001). In Armenia, a large number of transverse arrowheads have been found at a late 5th millennium BC site (Tsaghkahovit-1 rock-shelter) located not far from Apnagyugh-8/Kmlo-2 on the northern flank of Mt. Aragats (Arimura et al. 2012).

Regardless of the cultural phase, all of the lithic artifacts of Apnagyugh-8/Kmlo-2 share some common features:

a) Obsidian is almost exclusively the raw material used: more than 6,000 pieces are in obsidian, other raw materials such as flint and dacite are quite few;

b) Cores are generally small; the main core reduction strategy was based on unidirectional knapping with direct percussion;

c) The microlithic component is predominant; some larges blades, more than 2 cm wide and 10 cm long, are present but very rare.

The site of Apnagyugh-8/Kmlo-2 demonstrates the presence of human groups at the beginning of the Holocene in the region of the Aragats massif. With a cave occupation and a tool kit of microlithic tradition, the culture represented at Apnagyugh-8/Kmlo-2 could be related to the Mesolithic. But a particular category of artifacts (the “Kmlo tools”), with abrupt and regular
pressure retouch, is reminiscent of both the “Çayönü tools”, present in northern Mesopotamia between the 8th and the 7th millennia BC and the “hook-like tools” of the “Paluri-Nagutny” culture which developed on the south-west flank of the Greater Caucasus and then on the high plateaus of southern Georgia in later periods (Grigolia 1977; Caneva et al. 1998). The relations between Kmlo-2 and these cultures will be the subject of a further study.

Further research should be especially focused on Early Holocene sites, which will enable a better understanding of the human occupation of Armenia in this period as well as the process of floral and faunal domestication in the southern Caucasus (Chataigner et al. 2012, p. 57).

3. Kuchak-1 rock-shelter

Kuchak-1 rock-shelter is located north-east of the village for which it is named at the northern bank of the Aparan Reservoir at an elevation about 1855 m asl. It is a small natural cavity (12 × 6 × 2 m) that was formed on the western edge of the Aragats Mountain. It lies at the junction of the Kasakh River and one and its tributaries on a weathered Upper Pleistocene andesitodacite flow. It is possible that a cave existed prior to the collapse of the entrance (Figure 4).

The site was discovered and studied in 2004 by an Armenian-French joint expedition. Systematic excavations at the site began in 2007. During the 2007-2010 seasons the expedition of the Institute of Archaeology and Ethnography (directed by B. Gasparyan) excavated an area around 60 m² under the shelter and on the slope in front of the rock-shelter. Test trenches were also set up on the opposite side of the modern road passing directly across the site to define the limits of the occupation (Figure 5).

The following stratigraphy of the geological horizons or layers were identified (from the top to the bottom, Figure 6):

Layer 1. Modern soil, overall thickness averages 0.35 m, which is subdivided into three horizons;

1a: Grayish brown (10YR 5/2) humus with limited sub-angular debris (first horizon of modern soil 0.20 m)

1b: Very dark brown (10YR 3/2) humus with sub-angular debris (second horizon of modern soil, 0.10 m)

1c: Dark grayish brown (10YR 4/2) humus with sub-angular debris and ash and charcoal (third horizon of modern soil, 0.06 m).

Layer 2. Second layer of humus, overall thickness averages 0.20 m, which is subdivided into:
2a: Grayish brown (10YR 5/2) humus including sub-angular debris and big blocks (pedogenesis), 0.08 m;
2b: Grayish brown (10YR 5/2) humus with sub-angular debris and big blocks, including limited alluvial pebbles and small sand (pit), 0.07 m;
2c: Grayish brown (10YR 5/2) humus with sub-angular debris, including limited alluvial pebbles and small sand (bioturbation pit), 0.05 m;

Layer 3. Brown (10YR 4/3) loam, including sub-angular debris, alluvial pebbles, and small sand (fluvial and aeolian sediments, 0.25 m);
Layer 4. Brown (10YR 4/3) humus and loam, including limited sub-angular debris (paleosol, 0.20 m);
Layer 5. Andesitedacite bedrock.

The total thickness of sediments in the excavated areas is between 0.20–1.01 m. The full sequence of deposition exists in only a few of the excavation squares (Figures 6 and 7: 2), as bedrock lies close to the surface along most of the excavated areas. The formation of Layer 1 probably occurred in the Late Holocene while Layer 2 was likely formed during the Early Holocene. Layer 3 most probably belongs to the Younger Dryas and marks a boundary between Pleistocene and Holocene of the Aparan Depression. The layer was formed in conditions of noticeable climatic displacements (from dry and cold to warm and humid) and rapid change of local paleoenvironment. The timing of formation of Layer 4 is Late Pleistocene, which is confirmed by the existence of late Middle Paleolithic artifacts. The excavations here recorded noticeable density of cultural remains from different periods.

Most of Early Holocene cultural remains originate from Layers 2 and 3. Layer 1 contains many pottery fragments from the Medieval Period (4th–13th centuries AD) and Late Bronze Age (15th/14th–13th centuries BC) in addition to trash and other indicators of recent activity. Unfortunately, the recent, Medieval, and Bronze Age activities disturbed most of the in situ deposition of the cultural remains of the Early Holocene. Early Holocene populations were also responsible for disturbing earlier occupations, as pits and other constructions passed into the Middle Paleolithic cultural remains in Layer 4. The stone construction discovered in front of the shelter is very poorly preserved and heavily damaged by recent activities. However, this is the earliest such phenomenon yet recorded in Armenia, which shows that artificial structures in front of caves date to at least the Early Holocene (Figure 7: 1). In sum, the stratigraphic position of the cultural remains is relatively clear and their distribution is in agreement with the geological stratigraphy of the site.

The lithic industry, represented by over 3,000 stone implements, originates mainly from
layers 2a to 4 and is a result of activity of Early Holocene and Middle Paleolithic populations. The artifacts are prepared mainly from obsidian. Implements from other types of raw materials (basalt, andesite, dacite, limestone, etc.) are rare and are represented by natural pebbles and cobbles, which served mainly as hammer-stones and retouchers. Two examples of serdolite beads and a fragment of “shaft-straightener” from andesitic basalt are also present among the materials. The obsidian implements of the Early Holocene period represent a single industry. Cores are knapped from obsidian pebbles of various sizes that were washed by the Kasakh River from the Tsaghkunyats sources. The class of cores are single-platform unifacial, double-platform unifacial, and discoidal as well, proto-prismatic and prismatic, which corresponds to the products of knapping (large and massive flakes and blades, small and thin bladelets of different shapes) and the tools based on them.

Among the tool assemblage retouched flakes and blades, scrapers, naturally backed knives, burins, notched and denticulated tools, harpoons, asymmetric and simple points, arrowheads, geometric microliths, and backed bladelets are all present. The most significant are the aforementioned “Kmlo tools”. They are manufactured on thick, elongated flakes with an application of steep lamellar retouch on the ventral side of the artifact with pressure technology (Figure 8). Other examples are well known from the synchronous sites of the Aparan Depression and other areas of Armenia (Chataigner et al. 2007, pp. 31-32; Arimura et al. 2009; 2010, pp. 77-80). It is interesting to note that in the Kuchak collection there are other categories of tools, mainly arrowheads, that are also formed with steep lamellar pressure retouch, which suggests that this technique was used for purposes other than the shaping of these “Kmlo tools” (Figure 8). It is important to mention that a limited number of poorly preserved faunal remains, among which wild sheep, goat, and roe dear were identified, were also found in situ (some inside of the construction)1.

4. Gegharot-1 open-air site

Gegharot-1 is an open-air site on the eastern suburbs of the eponymous village, on the southern slope of the Pambak Range at the elevation about 2127 m asl. The site was discovered in 2002 by an Armenian-French joint expedition during a systematic survey in the Kasakh River valley (Arimura et al. 2009, p. 19). It is located on the slope of small hill, which is a heavily weathered intrusive granite massif of Paleocene ege. In small ravines, spread on the right and left sides of the hill, peat-bog formations can be observed, some of which are covered with alluvial sediments composed of

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1. We gratefully acknowledge Prof.-Dr. H.-P. Uerpmann (University of Tübingen, Germany) and Dr. Guy Bar-Oz (Laboratory of Archaeozoology, Zinman Institute of Archaeology, University of Haifa), who identified the faunal remains.
weathered granite sand. The site itself probably occupied the top of the hill during the early stages of Holocene pedogenesis. Afterwards, as a result of slope activation, the occurrence of cultural remains were disturbed, and later buried at different levels of soil or on the eroded surface.

More than 100 lithic artifacts in total were collected from the surface and the eroded parts of the soil cover.

The lithic industry is based mainly on obsidian (around 90%) and the tools made of other raw materials (quartzite, basalt, dacite, flint) are unique. In the small collection of Gegharot-1 there are pieces quite similar to the ones from the Apnagyugh-8/Kmlo-2 industry – “Kmlo tools” (the most characteristic artifact of the collection, around 17 pieces), pressure detached bladelets, geometric microliths, end scrapers, and burins. The “Kmlo tools” (Figures 9-12) from Gegharot-1 are characterized as follows:

- Blanks: all pieces are made on simple large blades, around 20 mm wide and 8 mm thick.
- Abrasion trace: This is a common character among “Kmlo tools” from Gegharot-1. Abrasions typically occur opposite the retouched faced. In general, abrasion traces are well developed in a band but, in some cases, very slight abrasion traces also exist on the ventral face. The abrasion traces were created prior to the pressure retouche, as they are cut through by the latter.
- Edge modification: This is also a common character in Gegharot-1. The lateral edge is often modified by burin blow, and a spall removed from a “Kmlo tool” is present in the collection. Truncation of the end(s) is also often observed.

As mentioned above, the function of “Kmlo tool” is yet uncertain, but some were probably used for hard mineral working. In the collection there is a flake tool with traces of abrasion, which indicates that some mineral working was an important activity in Gegharot-1 (Figure 12: 2). Among the most interesting finds from Gegharot-1 is a small “shaft-straightener” made from serpentine, which, together with a similar find from Kuchak-1 rock-shelter, are the oldest examples of such artifacts from all of Armenia (Figure 12: 3).

There are limited finds of faunal remains from Gegharot-1 in the context of the lithic implements, represented by teeth of kulan or Equus hemionus (identifications of H.-P. Uerpmann).

Based on the techno-typological characteristics of the “Kmlo tools”, the Gegharot-1 collection can be attributed to the Early Holocene, possibly contemporary with the sites mentioned above in the Aparan Depression (Apnagyugh-8/Kmlo-2 cave, Kuchak-1 rock-shelter and the others).
5. Concluding remarks

The investigations of the last decade have brought to light the first known Mesolithic and/or Proto-Neolithic sites dating to the Early Holocene in Armenia. These sites are concentrated within the limits of the Aparan Depression and the Kasakh River valley (Apnagyugh-8/Kmlo-2 cave, Kuchak-1 rock-shelter, Gegharot-1, Ria-Taza-2, Aragats-1 and 2 open-air sites). Other such sites have been discovered on the southern slopes of Mt. Aragats in the Ararat Depression (Aruch-1, Vahagni-1, Satani-Dar, Ashnak-1 and Katnaghbyur-1 open-air sites), the Shirak Depression (Shirakavan-1, Aghvorik-1 open-airs), the Lori Depression (Kruglaya-Shishka-1 cave, Paghaghbyur-1 open-air site), the Aghstev River valley (Yenokavan-2 cave), and others, and “Kmlo tools” are common implements among the products of the lithic industries (Figure 13) (Gasparyan and Sargsyan 2003; Gasparyan 2007; Gasparyan et al. 2005; Yeritsyan et al. 2009). Preliminary investigations of those sites reveal the existence of very small, mobile groups of Early Holocene hunters and gatherers who occupied caves and rock-shelters in the river canyons as well as river terraces and plateaus in high mountain depressions. While rich with lithic assemblages that show the exploitation of various obsidian sources, the relatively thin cultural deposits of these sites lack rich bioarchaeological information. Nevertheless, the limited bioarchaeological materials, together with toolkit composition, suggest hunting of wild species (sheep, goat, deer, and kulan), fishing, and collecting wild plants. Signs of domestication and a food producing economy are largely absent, which precludes the placement of these Early Holocene sites in the frame of the Neolithic but, rather, necessitates their consideration as Mesolithic and/or Proto-Neolithic with a time range of 12,000–7,500 Cal BC (based on a preliminary set of radiocarbon dates). This provides a chronological problem and cultural gap between these Early Holocene sites and the Late Neolithic sites (the so-called “Aratashen-Shulaveri-Shomutepe” culture).

The lithic assemblages of the Early Holocene sites are characterized by a large number of geometric microliths (scalene, trapeze-rectangles) as well as very special tools with continuous parallel retouch on the lateral edges executed by pressure flaking technology. These unique artifacts, called “Kmlo tools”, mark the cultural specification of the time period. They have visual similarities with the so-called “Çayönü tools” known from the Near Eastern Pre-pottery Neolithic sites, but are different in many respects from the latter’s techno-morphological designing concept and appear in Armenia at least from the first half of the 9th millennium BC. The functional purpose of these “Kmlo tools” is not yet clear. Similar tools with secondary shaping have been found in Early Holocene caves and Neolithic settlements of the Caucasus and regions of the Near East dated to the 8th to 7th millennia BC (Mortensen 1970; Redman 1982; Fujii 1988; Bader 1989; Bader and Tseretelli
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As mentioned before, research on “Kmlo tools” shows that the working edges are very often removed or refreshed with the method of a burin blow, thus this kind of tool was rarely re-retouched and reformed into a previous shape of tools.

Although our investigations of these sites have provided the first evidence for terminal Pleistocene/Early Holocene sites in Armenia, many aspects in this period, such as subsistence economy and social organization, are still unclear. New excavations of “Kmlo type” sites, especially ones with richer bioarchaeological sequences, which are likely to be located in the northern karstic environments of Armenia that are conducive to the preservation of organic materials, are important future tasks for Armenian archaeology.

References


Figure 1
1. Main view of the Kasakh River at its junction with tributary where Apnagyugh-7 and 8/Kmlo-1 and 2 caves are situated.
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Topographic plan and stratigraphic section (2005 excavations) of Apnagyugh-8/Kmlo-2 cave.
Figure 3
Implements prepared with steep lamellar retouch from Apnagyugh-8/Kmlo-2 cave excavations (1-3: “Kmlo tools”; 4-5: Retouched blades).
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Figure 10
“Kmlo tools” from Gegharot-1 open-air site.
“Kmlo tools” from Gegharot-1 open-air site.
Figure 12
Implements from Gegharot-1 open-air site (1-2: “Kmlo tools”; 3: Small “shaft-straightener”).
Figure 13
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