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Past experiences and new achievements

edited by

Aram Kosyan, Pavel Avetisyan,
Arsen Bobokhyan and Yervand Grekyan

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ARCHAEOPRESS ARCHAEOLOGY

Association for Near Eastern and Caucasian Studies in collaboration with the Institute of Archaeology and Ethnography (National Academy of Sciences of Armenia)

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Editorial

The current volume of 'Aramazd: Armenian Journal of Near Eastern Studies' is dedicated to the 25th anniversary of the Republic of Armenia and summarises the studies conducted in Armenia in the field of archaeology (1991-2016).

The choice for focusing on this comparatively short period is conditioned by fundamental political, social and economic transformations which influenced the Armenian science after 1991. The disintegration of the USSR had a considerable impact on the functioning of the National Academy of Sciences, universities and different institutions. The abrupt decrease in subsiding the science was resulted in the loss of active scholarly personnel (emigration, de-specialisation, etc.). Nevertheless, the institutions listed above had succeeded to keep the majority of scientific potential intact. Moreover, due to the normal generational change quite a substantial number of youngand skillful specialists replaced older ones, many of the latter's still active. Thus, today is apparent the fusion of older traditions with newer ones.

The process of the formation of new archaeological and historical schools in Armenia proceeds well mostly thanks to the integration of Armenian scientific institutions and individual specialists with their international counterparts and colleagues. The results of this cooperation appear to be beyond any expectation. This regards first of all archaeology. The functioning of joint expeditions in different archaeological sites (Armenian-American, Armenian-German, Armenian-Italian, Armenian-Belgian, Armenian-French, Armenian-Polish, Armenian-Israeli, etc.), international projects and regular participation in international conferences in Armenia and abroad helped Armenian archaeologists and historians to actively contact with specialists of their fields. It is worth to mention the role of the Institute of Archaeology and Ethnography and Yerevan State university in the preservation of traditions of Armenian archaeological school.

As to the good traditions established during the second half of the 20th century in the field of Assyriology (including Assyriology proper, Hurritology, Urartology, Hittitology), despite some difficulties, the recovery is apparent. Currently Armenian Assyriologists, centered at the Institute of Oriental Studies, deal mostly with two fields – Urartian and Hittite studies.

It is impossible to bypass the role of 'Aramazd: Armenian Journal of Near Eastern Studies' in the further development and advance of Armenian archaeology and ancient history. Since its foundation in 2006 the journal serves as a bridge for the cooperation between the scholars within and outside Armenia, an Armenian voice in the international scientific arena.

Contributions included in this volume cover a significant time span, from Lower Palaeolithic to the Middle Ages. The articles mostly are of Summarising character

('Study of the Stone Age in the Republic of Armenia', 'Neolithic and Chalcolithic in Armenia', 'Project ArAGATS', 'The Vayots Dzor Project', 'Comprendre l'évolution de l'Arménie entre la fin de la période ourartéenne et le début de celle Achéménide : Une collaboration entre les équipes française et arménienne. Beniamin et Erebuni (1999-2019)', 'The Achievements of Medieval Archaeology in the Past Fifty Years', 'Ervandashat: résumé d'une étude archéologique de 2005-2014', 'Excavations at Metsamor in seasons 2013-2018'), etc., which summarise the archaeological surveys conducted by joint international expeditions and partly by Armenian archaeologists.

The volume introduces also the bio-bibliography of several outstanding representatives of Armenian archaeologists of the past whose activities enhanced the establishment and development of Armenian archaeological school.

The editorial board of AJNES expresses its gratitude to all participants who did not fail to submit their contribution in completing this volume.

Aram Kosyan
Editor-in-Chief

17 April 2019

Foreword:
The present and the perspectives of Armenian archaeology

About 150 years have passed since the first attempts of archaeological research in Armenia. During this period of Armenian archaeology much time had gone to the formation of theoretical and practical grounds and today we can say with confidence that a unique archaeological school had come into existence, which has established firm contacts with various similar centers throughout the world.

The last two and a half decades should be considered as important stage in the development of Armenian archaeology. The main features of this phase are:

1. Creation and development of a new paradigm, methods, field research programmes and directions, as a result of generation change.
2. Large number of international joint projects and expansion of the scope of field research.
3. An unprecedented amount of data obtained from radiometric, archaeometric and biometric analyzes.

In particular, the projects undertaken by the Institute, as well as the cooperation of the Institute with many international scientific centers, are considered a significant new stage in the integration of Armenian archaeology into the wider scope of contemporary South Caucasian and Near Eastern studies. The main result of this joint work is the creation of an important scientific network contributing to the reconstruction of historical processes in this vast area, encompassing Armenia and the South Caucasus on the whole.

Based on the recent findings and their analysis, our understanding of the early stages of habitat change, the earliest agricultural and pastoralistic societies, the chronology and processes of the first state-formations have significantly changed. A new periodizational and chronological scheme of the Neolithic period, Copper and Bronze Ages have been put into circulation, composed of new data and approaches.

Specifically, the main purpose of the investigation of the Palaeolithic archaeological sites was to record the presence of both early human and human (homo sapiens sapiens) beings in the region and to discover what kind of conditions existed for human life, specifically when and which eco-shelters were used by human beings in Armenia for subsistence.

The planned fieldwork has expanded not only the geography of the investigated Palaeolithic sites in Armenia, but also their chronological scope and nature. The fieldwork (surveys and systematic excavations) included the basins of Debed and

Dzoraget, the valleys of Aghstev and Getik rivers, the Akhuryan river gorge and the Shirak valley, the Hrazdan and Kotayk gorges, the valleys of Metsamor river, the Qasakh gorge, the Aparan valley, the north-eastern part of Ararat valley, the southern slopes of Mount Aragats, the Arpa river gorge, the Vorotan river gorge and valley. The results of these investigations, the first pre-Cheulian and Acheulean open-air sites with undamaged stratigraphic contexts were discovered that gave substantiated evidence of the earliest habitation in the territory of the Republic of Armenia.

The earliest human societies inhabiting the territory of Armenia organized their activities in the coastal parts of the lower Pleistocene palaeolakes (Aghavnatun-1, Nurnus, Aparan concavity and open-air sites of the Tashir Plateau), along riverbanks, on the surfaces of upper terraces or in the nearby caves (Haghtanak-1, 3, Ayrum-2, Areni-1, Nor-Geghi-1), as well as in the immediate vicinity of raw materials (Mushakan-1, Metsavan-1 and the open-air sites of Hatis mountain). The newly discovered Nor-Geghi-1 open-air site in the middle stream of the Hrazdan River is of great importance with its stone industry complex. Here for the first time Lower Palaeolithic Acheulean stone making industry has been identified. The site, being the first stratified one of the late Middle Pleistocene Period in the territory of the Republic of Armenia, as a result of its reliable context for the dating, depicts the period of the transition from the Lower Palaeolithic Acheulean tradition to the Middle Palaeolithic Mousterian in the territory of Armenia. Significant progress has also been made in the study of Middle Palaeolithic and the Upper Palaeolithic traditions.

Fundamental data has been obtained in the field of study of early agricultural-pastoralistic societies. The stratigraphic and radiocarbon data obtained during the excavations at Arastashen, Aknashen (Ararat Valley), Godedzor (Angeghakot, Vorotan gorge), the Areni-1 cave provided insights into the issues of chronology and periodization of the Neolithic and Copper Age periods. During the excavations at Aratashen, Aknashen and Masis Blur cultural layers dated to the end of the 7th and the first half of the 6th millennium BC were revealed. These represent the earliest Neolithic settlements in the region of the upper Araxes River.

Since 2007, excavations at Areni-1 cave opened new perspectives for the study of the Copper Age. Radiocarbon dates, obtained from different laboratories allow us to date the upper horizons of Areni cave to the last quarter of the 5th and the first quarter of the 4th millennium BC. This newly discovered site (upper layers) is probably one of the earliest manifestations of the late Chalcolithic in the region. Very interesting data for the final phase of the chalcolithic period was recorded during the excavations at Nerkin Godedzor.

During the mentioned years, a new system of periodicization and chronology of the Bronze and Iron Ages was developed, having a thoroughly updated source database. Through extensive study, biometric and archaeometric analyzes of existing materials, new data have been obtained to identify the patterns and features of public developments of the mentioned periods. The chronological frameworks of the 'archaeological cultures' of the Bronze and Iron Ages, their spatial distribution, and the intertwining of social, multicultural phenomena and dynamics of development

observed in the context of the transformation of archaeological cultures have been clarified.

Also the database of the archaeological investigation of the Van Kingdom was essentially increased. Particularly the significant results were recorded in Yeghegis valley. Recent data indicates that in addition to the Ararat Valley, the Kotayk Plateau and the Sevan coastal zone, we also have a dense network of castles built throughout the Kingdom of Van along the entire length of the road from Yeghegnadzor to Sevan. Among these was excavated the Getap Fortress. The structures and materials found during the excavations have significantly supplemented the investigation of the final stage of the Urartian period.

Excavations and studies of unearthed materials are in progress in the recently discovered Solak-1, Urartian castle-fortress in the Kotayk region. Significant results have been obtained during the excavations of the Lori Berd necropolis. During the continuous excavations the well-known 'Royal tombs' were re-dated from the end of the 3rd millennium BC to the Achaemenid period. The presence of such high-ranked persons under the Urartian, Median and Achaemenid rule indicates on the extremely interesting social and political developments in the northern regions of Armenia. The unearthed materials are unique evidence for the understanding of the process of the crossing of Urartian, Scythian, Achaemenid and 'local' cultures.

Summarizing the main results of the investigation during the last 25 years, we should state that the archaeological expeditions of the Institute has covered more than 70 sites which essentially updated the source database for the study of the earliest and ancient, as well as Medieval periods of the history of Armenia.

Pavel Avetisyan
Director of the Institute of Archaeology and Ethnography, NAS, RA
Yerevan, 10 December 2019

Study of the Stone Age in the Republic of Armenia (Part 1 – Lower Palaeolithic)

Boris Gasparyan, Daniel S. Adler, Keith N. Wilkinson, Samvel Nahapetyan, Charles P. Egeland, Philip J. Glauberman, Ariel Malinsky-Buller, Dmitri Arakelyan, Makoto Arimura, Roberto Dan, Ellery Frahm, Hayk Haydosyan, Hayk Azizbekyan, Artur Petrosyan and Andrew W. Kandel

Introduction

The area encompassing the modern Republic of Armenia lies within the Armenian highlands and is situated at the very core of a dynamic corridor between Africa and Eurasia. As such, Armenia proves critical for understanding the initial stages of human settlement and the formation of ancient civilisations in the Near East and beyond. Stone Age artefacts have been known to exist within the territory of Armenia since the end of the 19th century, and they indicate that the area attracted a variety of Stone Age populations, from early hominids to early complex societies of the Chalcolithic. Presented work is the first attempt to summarise the results and achievements of the Stone Age archaeology in Armenia which is counting its history more then a century.

This article is composed from four parts. Part 1 is introducing the background on Palaeolithic research in Armenia during the end of 19th and the whole 20th century, as well as the latest achievements of the Lower Palaeolithic study recorded through the passed 20 years. Part 2 will be devoted to the similar progress recorded for the Middle and Upper Palaeolithic. Part 3 will present the review of the Armenian Neolithic-Chalcolithic research, including the latest results of the excavations and discoveries. And finally, Part 4 will be focused on the history of study of rock-art and the development of the archaeological science as a whole with a brief discussion of the future plans and perspectives.

Background on Palaeolithic research in Armenia

The first collections of lithic artefacts in Armenia were assembled by the French archaeologist Jacques de Morgan near sources of obsidian and adjacent areas (Mt. Arteni, southern fringes of Mt. Aragats, Hrazdan and Kasakh river valleys) at the end of the 19th century (Figure 1).[1] The next stage of study of Stone Age in Armenia started in 1933, when geologist A. Demyokhin, who studied mineral springs in the

[1] De Morgan 1909: 189-204; Potapov 1928: 1-12; Bayburtyan 1937: 206-208; Piotrovskij 1949: 27f.

middle reaches of the Hrazdan River, discovered a small group of stone artefacts in Arzni containing typical Late Acheulian handaxes and Neolithic blades (Figure 2).[2] Those discoveries stimulated the further study of the Palaeolithic period in Armenia by placing them into a systematic context. From 1944-1949, S. Sardaryan (Armenian SSR Academy of Sciences), S. Zamyatnin and M. Panichkina (Academy of Sciences of the USSR and Leningrad State Hermitage) surveyed the middle reaches of the Hrazdan River canyon (Arzni, Nurnus, Chatkeran, Ashirabat, Tezhrabak, Argel) and Mt. Arteni (Satani-dar, Areguni blur, Yerkaruk blur), re-visiting the areas previously investigated by Morgan and Demyokhin. They assembled a large collection of Palaeolithic and Neolithic-Chalcolithic artefacts from numerous open-air sites which were located in close proximity to obsidian raw material sources. Based on detailed typological description of the surface collections, Sardaryan, Zamyatnin and Panichkina identified several thousands of lithic artefacts produced from obsidian and dacite, dividing them into chronological groups or complexes which they thought reflected the Palaeolithic epochs that existed in Western Europe and globally. While each scholar offered a slightly different interpretation of whether earlier or later phases of a given complex was present, they placed the finds within the Stone Age sequence of Armenia, which included Chellean and Acheulian for the Lower Palaeolithic, Mousterian for the Middle Palaeolithic, Aurignacian, Solutrean and Magdalenian for the Upper Palaeolithic, Azilian and Tardenoisian for the Mesolithic, and finally, Neolithic and Chalcolithic,[3] (Figures 3-8).

Between 1950 and 1969, a new wave of study conducted by different scholars (M. Hasratyan, A. Aslanyan, K. Karapetyan, V. Lyubin. S. Balyan, Y. Sayadyan, B. Yeritsyan and others) recorded numerous Lower, Middle and Upper Palaeolithic sites across Armenia. These sites differed from those previously known in their exploitation and types of utilised raw materials, altitude, location and preservation. For example, in 1953 geologist A. Aslanyan discovered the Jajur Lower Palaeolithic open-air site in the Shirak Depression of northwestern Armenia,[4] in 1958 geomorphologist S. Balyan and V. Lyubin discovered Verin Talin open-air site on the southern slopes of Mt. Arteni with surface collection of Acheulo-Mousterian obsidian and basalt implements,[5] in 1959 L. Barseghyan reported finding limestone Acheulian handaxes near the cave of Gheasi-kar on the slopes of the Papakar Range in Noyemberyan district of northeastern Armenia,[6] and in 1965 geologist H. Sargsyan discovered the first Acheulian handaxe in the basin of the Urut River near the village of Privolnoe on the Tashir Plateau of northern Armenia.[7] Palaeolithic occupation in the Aparan Depression of central Armenia was recorded by

[2] Bayburtyan 1938: 195, 216; Zamyatnin 1947: 19; Panichkina 1950b; Demyokhin 1956: 11-13.
[3] Zamyatnin 1947: 15-25; *idem* 1950: 127-139; Panichkina 1946: 55-60; *idem* 1948: 67-80; *idem* 1950a: 66-73; *idem* 1950b: 12-14, 23-80, 98-101, Tables V-X; *idem* 1951: 76-86; *idem* 1952: 19-30; *idem* 1953: 9-38; Sardaryan 1954: 16-19, 43-100, 127-168, 169-171; *idem* 1967: 37-60, 76-93; *idem* 2004: 28-86; Klein 1966: 3-14.
[4] Aslanyan 1956: 14-19; Lyubin 1961: 66.
[5] Lyubin, Balyan 1961: 67-72.
[6] Barseghyan 1959: 396f.
[7] Gasparyan *et al*. 2005: 17f.

the discovery of the Lusagyugh open-air site by S. Barkhudaryan with surface collection of Acheulo-Mousterian obsidian implements in 1969.[8] Among Middle and Upper Palaeolithic discoveries the most important were: the find of a Mousterian point by M. Hasratyan during the excavations of a cave situated in the canyon of the Zorzor River, a tributary to the Vorotan (Syunik Region of southern Armenia) in 1950,[9] the find of a Mousterian point made from green jasper by A. Aslanyan on the slope of Mt. Kaylik (Gilik) of the Papakar Range (Noyemberyan District of northeastern Armenia) in 1952,[10] Gilik open-air site discovered in 1967 by B.G. Yeritsyan at the same location (Yeritsyan 1970a), (Figure 9); and finally, Hatsut-1 Upper Palaeolithic open-air site discovered by B. Yeritsyan in 1967 (Noyemberyan district of northern Armenia) on the northwestern slopes of the Gugarats Range (Figure 10).[11]

In 1958 continuing the tradition of the Leningrad school, V.P. Lyubin (Institute of Archaeology of the Academy of Sciences of the USSR) conducted new surveys and studies in the areas of Mt. Arteni and Mt. Gutanasar of the Hrazdan-Kotayk Plateau (Kaghsi, Mantash and Verin Talin) in the frame of the Caucasian expedition of the Institute of Geography of the Academy of Sciences of the USSR.[12] The most significant discoveries by Lyubin were made between 1958-1963 on the slopes of Mt. Gutanasar in close proximity and directly on obsidian outcrops where numerous Acheulo-Mousterian open-air sites of Jraber (I-X), Fantan (I-II) and Kyondarasi (I-IV) were discovered (Figure 11).[13] Trying to study the materials of the Acheulo-Mousterian open-air sites of Armenia, Lyubin was the first researcher to combine the methods of technological analyses, formal typology and experimental archaeology developed by S.A. Kulakov and A.E. Matyukhin. He concluded that most of the Late Acheulian open-air sites of Armenia lying in close proximity or directly on obsidian outcrops represented long and short-term specialised workshops for specific types of blank production.[14] Lyubin also made the first attempts to analyze the materials of the Caucasian Palaeolithic from the regional perspective, discussing general questions such as site formation, environment, climate, chronology and social behavior.[15]

A new wave of systematic study of Palaeolithic sites in Armenia began with the expedition for the study of the Stone Age sites of Armenia based on the decision of the Presidium of the Academy of Sciences of the Armenian SSR in 1967 headed by Professor H.A. Martirosyan. During two years of intensive investigations (1967-1968) the expedition was able to study the canyons of Hrazdan, Azat and Ughtakunk

[8] Petrosyants 1988: 37.
[9] Hasratyan 1985: 168.
[10] Sardaryan 1954: 109, 114, 119, Table XXX/2a.
[11] Yeritsyan 1970a: 88-90. Despite limited publication, the lithic collection from Hatsut-1 (Figure 10) looks similar to the materials from Kalavan-1 (see below).
[12] Lyubin, Balyan 1961: 67-72.
[13] Lyubin 1961: 59-67; *idem* 1984: 61-62, 76, Figure 19; *idem* 1989: 88-92, *idem* 1998: 136-153; Kulakov 1991; Lyubin, Beliaeva 2006a: 347-364; *idem* 2006b.
[14] Lyubin 1965: 7-75; *idem* 1978: 23-32; Kulakov 1991; Matyukhin 1981: 12-17; *idem* 2001: 15-31.
[15] Lyubin 1970: 19-42; *idem* 1972: 19-29; *idem* 1981: 12-16; *idem* 1984: 45-93; *idem* 1989: 7-142; *idem* 1998.

rivers (tributaries of the Araxes River), the southern, eastern and western slopes of Mt. Aragats, the eastern slopes and highlands of the Gegham Range, and the slopes of the Areguni and Vardenis Ranges overlooking Lake Sevan. While recording numerous Bronze and Iron Age fortress-settlements and graveyards, as well as petroglyphs in the foothills and alpine zones, the expedition studied dozens of caves in Voghjaberd, Geghadir, Ayrivank, Garni, Ughtakunk and Daraband. Special efforts were spent on the study of the Hrazdan River gorge and the surroundings of Mt. Hatis, bringing to light many Stone Age open-air and cave sites from the different periods (Lower to Middle Palaeolithic, Mesolithic, Neolithic) among which Jndrakhach, Nurnus I and II, Arzni, Abovyan, Getamej, Kaputan I, Hatis, Akunk, Aramus, Geghashen, Yerablur (Figure 12), Tacharabak, Kamaris, Nor-Nork open-air sites and groups of caves in Karmir Blur, Shengavit, Kanaker and Zovuni are listed. The most important finds made by the members of the expedition was the discovery of the Yerevan and Lusakert group of Middle Palaeolithic caves in the Hrazdan River gorge.[16]

In 1967 systematic excavations of Yerevan and Lusakert caves started under direction of B.G. Yeritsyan (Institute of Archaeology and Ethnography of NAS RA) which were continued with several breaks until 1990. Between 1970-1990 the main focus of Palaeolithic studies was concentrated in the Hrazdan River canyon and adjacent areas of the Hrazdan-Kotayk Plateau (slopes of Mt. Gutanasar and Hatis) making it the 'center of gravity' of such studies in Armenia. Excavation of sites with well-preserved bioarchaeological data yielded hundreds of thousands of well-preserved lithic assemblages, faunal remains and geoarchaeological data, changing in principal the understanding and evaluation of the Middle Palaeolithic of Armenia and also producing the first radiometric dates (Figures 13-15).[17] Between 1970-1976, in parallel with Lusakert, small scale excavations were conducted in numerous caves – Karmir Blur, Kanaker, Hamo, Zovuni, Karashamb, some of which yielded Palaeolithic finds.[18] In addition, many new open-air sites were discovered and studied in the middle reaches of the Hrazdan River starting from Arzakan to Arzni and along the boundaries of the Hrazdan-Kotayk Plateau (Argel-1, Argel-2, Zar, Radiokayanin kits gyugh, Kaputan). At some previously known sites (e.g., Jraber, Nurnus, Hatis) additional collections and studies were implemented.[19] Further publications also report the discovery of several sites with Upper Palaeolithic material collected from the Hrazdan River gorge and the Hrazdan-Kotayk Plateau (e.g., Argel, Jraber, Nurnus 1-4, Hatis, Yerablur, Aramus).

[16] Martirosyan 1968: 308-313; *idem* 1969: 191-208; *idem* 1970: 384; *idem* 1974: 25-28; Karapetyan, Yeritsyan 1969: 171-176; Yeritsyan, Semyonov 1971: 32; Azizyan 1982: 162-172; Karapetyan 1983a: 75-84; *idem* 1983b: 85-94.

[17] Karapetyan 1977: 110-117; *idem* 1978: 52-60; Ghazaryan 1979: 98-110; *idem* 1993: 79-85; Lyubin 1984: 65, 90 (Figure 33), 91 (Figure 34); *idem* 1989: 64-67, Figure 20; Golovanova, Doronichev 2003: 71-140; Yeritsyan 1970b; *idem* 1970c: 385; *idem* 1971: 1-10; *idem* 1972: 53-60; *idem* 1975: 12-50; *idem* 1976a: 509; *idem* 1976b: 14-17; Yeritsyan, Semyonov 1971: 32-36; Yeritsyan, Ghazaryan 1977: 498f.; Yeritsyan, Korobkov 1979: 519f.; Yeritsyan, Tadevosyan 1986: 432; Yeritsyan, Gasparian 1996: 33; Pinhasi *et al*. 2008: 812, Table 3.

[18] Azizyan 1979: 277-283; *idem* 1982: 162-172; Azizyan *et al*. 1975: 477; Chagharyan *et al*. 1972: 492; Yeritsyan, Ghazaryan 1977: 498f.

[19] Yeritsyan, Ghazaryan 1977: 498f.; Yeritsyan, Korobkov 1979: 519f.; Yeritsyan 1991: 5-7; Yeritsyan *et al*. 1996: 125-131; *idem* 1998: 164-169.

However, these generally lack site descriptions, as well as the corresponding lithic materials.[20] Compared to the rich Upper Palaeolithic occupations documented in the caves of Georgia (Imeretian culture) and the Northern Caucasus (Gubs culture), the Upper Palaeolithic discoveries of Armenia did not receive much attention, nor were they discussed in detail in the summary publications of the Soviet era. Moreover, some scholars hypothesised that the Armenian highlands were not inhabited during the Last Glacial Maximum due to its high-altitude environment and cold climate.[21] Others researchers shared a different opinion, and suggested that the Upper Palaeolithic of Armenia derives from the Middle Palaeolithic, resulting from the further evolution, innovation and transformation of the Middle Palaeolithic into the typological and morphological variants of the Upper Palaeolithic (e.g., end scrapers, points and burins). Based on research at the caves of Yerevan-1 (Units 1-2) and Lusakert-1 (Units A-B), the final stages of development showed tool forms more characteristic of the Upper Palaeolithic starting to predominate (>47% at Lusakert-1, excluding microliths). Meanwhile those tools were shaped by the technological traditions characteristic of the Middle Palaeolithic.[22] However, further investigations and multiple visits to the areas of these collections have demonstrated that the open-air sites described by Panichkina, Sardaryan and others are probably Neolithic-Chalcolithic workshops located near obsidian raw material sources. In the case of Yerevan and Lusakert caves, it is not certain whether Upper Palaeolithic occupation occurred during the formation of the upper parts of the strata, despite the nature of some of the finds, because the sediments have a colluvial origin, comprising sediments originating from above the cliff and from cliff collapse. This means that Units A and B of Lusakert-1 are not *in situ*, and there is little potential for obtaining reliable absolute dates on the archaeological material from these strata.[23]

Starting in 1983 H.P. Ghazaryan (Institute of Archaeology and Ethnography of NAS RA) investigated a series of open-air sites situated between the villages Akunk and Zar on the southern slopes of Mt. Hatis in direct proximity to obsidian raw material sources. As a result, ten open-air sites were discovered and studied – Late Acheulian (Hatis-1-4 and 6-9), Mousterian (Hatis-5) and Neolithic (Hatis-10). The special methodology, spectrum of scientific questionings and scale of investigations of the Hatis open-air sites constituted a new step in the history of study of the Stone Age of Armenia[24]. The main focus was concentrated on the study of Hatis-1, yielding rich collection of 420 handaxes among a total of 2100 finds, one third of which are finished

[20] Tadevosyan 1986: 3f.; Yeritsyan *et al.* 1996: 125-131; *idem* 1998: v.
[21] Bader 1984: 272-301; Lyubin 1989: 7-142.
[22] Yeritsyan 1970b: 25-26, Yeritsyan, Tadevosyan 1986: 432; Tadevosyan 1985: 5f.; *idem* 1986: 3f.; *idem* 1991: 7f.; *idem* 1998: 24f.; *idem* 2008: 11-16; Fourlobey *et al.* 2003: 5-18; Adler *et al.* 2012: 26.
[23] Adler *et al.* 2012: 27 (The first 'true' Upper Palaeolithic sites of Armenia, which have only been recently uncovered and evaluated, are presented below).
[24] By defining the boundaries of each open-air site studied, collecting all find materials including knapping waste and exhausted cores without on-site selection, piece plotting the finds and their typological distribution, Ghazaryan was able to establish more accurate interpretations of the open-air scatters, identifying, for example, raw material testing and collection sites, seasonal workshops, and combinations of workshops with long or short-term settlement.

tools. While attributing the industry of Hatis-1 to at least two phases of the Late Acheulian, Ghazaryan did a test trench at the site, trying to record *in situ* materials. Based on his publication, the thickness of the five lithostratigraphic layers in the trench measured 1.3-1.5m, and bedrock was not encountered. All the layers were dense with obsidian implements including bifaces that were identical to the ones collected from the surface. In general, the assemblages from each layer are homogeneous.[25] The scale of the investigations of the Hatis open-air sites[26] constituted a new step in the history of study of the Stone Age of Armenia (Figure 16).[27]

In 1990 another Late Acheulian site was documented by G. Areshian in the limits of the Aparan Depression, on the left bank of the Kasakh River, between the villages of Kuchak and Vardenis, where obsidian implements (handaxes, Levallois cores, Levallois points, side scrapers, notched tools, knives) were collected. Areshian proposed that this occupation might be related to the shore of a Pleistocene lake formed in the Aparan Depression during the last interglacial. Further investigations of Palaeolithic sites in the Aparan Depression confirmed this prediction.[28]

During the last decade of the 20th century (1990-2000) after collapse of the Soviet Union, when the Republic of Armenia declared its independence, because of lack of funding, intensive study of Palaeolithic sites of Armenia, and the Stone Age as a whole, ceased. Work was implemented through a new strategy of small-scale surveys and reconnaissance investigations, having the aim to re-examine the location, geomorphological and cultural distribution of previously known sites and discover new and perspective landmarks for future investigation. Such kind of works were implemented by B. Gasparyan in the Hrazdan River gorge and its tributaries, Hrazdan-Kotayk Plateau (Hatis 11-21, Zar 1-10, see Figure 17), the northern flanks of the Ararat Depression (Mushakan, Voskevaz, Agarak, Aghavnatun, Tsaghkalanj, Dalarik, Mt. Arteni and its environs, see Figures 18-20), the Shirak Depression (Aghvorik or Yeni-Yel, Tavshut) and the Tashir Plateau of the Lori Depression (Stepanavan, Metsavan, Siskyatskaya, Pechka, see Figure 21), the Kasakh River basin and the Aparan Depression (Mulki and Aparan). These surveys yielded important records from the Palaeolithic as represented by numerous sites and single finds.[29] Mapping of finds represented by implements made of obsidian, basalt, dacite and flint showed their possible relationship to the shore lines of lakes that existed in those areas during the Pleistocene, traces of which were confirmed by lacustrine deposits. Most of the data that resulted from this work served as the basis for future investigations and was brought to life through international cooperation and joint projects in the beginning of the 21st century. In summary, the Palaeolithic record of Armenia continued to be based on large numbers of unstratified open-air localities. Therefore, subsequent

[25] Ghazaryan 1985: 3-5; *idem* 1986: 433f.; Yesayan 1992; Lyubin 1998: 150.
[26] Ghazaryan 1986: 433f.; *idem* 1991: 3f.; Lyubin 1998: 154, Figure 87.
[27] Unfortunately, most of the research implemented by H. Gazaryan at Hatis remains unpublished.
[28] Areshian 1991: 4f.
[29] Gasparyan 1998: 15f.; *idem* 2007a: 130-133; *idem* 2007b: 24-29; *idem* 2010; Gasparyan, Sargsyan 2003: 58f.; Gasparyan *et al.* 2003: 30-37; *idem* 2004: 49f.; *idem* 2005: 17-27; Kalantaryan, Melkonyan 2005; Yeritsyan 2010: 242-250; Yeritsyan, Tadevosyan 2005: 12-16; Yeritsyan, Gasparyan 2010: 151-153.

investigations focused on finding *in situ* sites which were required to gain a deeper understanding of the initial stages of habitation in this region.

Summarising the overview of the study of the Palaeolithic sites in Armenia we can say that while Soviet-era archaeologists reported numerous monuments in the country,[30] much of this research was published in either Armenian or Russian and is based on a very limited number of well-documented and well-excavated stratified sites. For these and other reasons, the Armenian Stone Age was poorly known to Western scholars and has not contributed significantly to recent regional and pan-regional syntheses.

Recent investigations

While a great many 'missing links' in our knowledge still exist, a new wave of research is now beginning to lay a robust theoretical, chronological, and paleoenvironmental foundation for understanding the Armenia's Stone Age occupations. This is due largely to the establishment of international cooperation and long-term joint missions with systematic projects. Since 1999, the Institute of Archaeology and Ethnography of the National Academy of Sciences of the Republic of Armenia has conducted studies of Stone Age sites with eleven such joint expeditions: one Armenian-French, four Armenian-American, two Armenian-German, one Armenian-American-British-Irish, one Armenian-Austrian, one Armenian-Italian, and one Armenian-Japanese.[31] The goals of these projects are twofold: first, to apply modern archaeological and analytical methods to the study of Armenia's Stone Age sites and, second, to train the next generation of Armenian scholars through their direct involvement in the projects. The efforts of these expeditions have illuminated the Stone Age occupations in the Kasakh River canyon and the Aparan Depression, the Hrazdan River canyon and the Hrazdan-Kotayk-Plateau, the Ararat Depression in central Armenia, the Aghstev River canyon and its tributaries, the Akhurian River basin and the Shirak Depression, the Debed River basin, the Lori Depression and the Tashir Plateau in northern Armenia and, finally, the Arpa and Vorotan River canyons in southern Armenia. This cooperation has increased our knowledge of the chronological and cultural distribution of Stone Age sites in Armenia.

Palaeolithic Period

Among the most important goals of the collaborative projects is to search for and excavate stratified Lower Palaeolithic archaeological sites. As a result, a series of *in situ* Pre-Acheulian and Acheulian sites have been discovered in the Debed River valley (Armenian-American-British joint expedition, co-directors B. Gasparyan,

[30] *E.g.* Piotrovskij 1949; Zamyatnin 1947: 15-25; *idem* 1950: 127-139; Panichkina 1950b; Sardaryan 1954; *idem* 1967; *idem* 2004; Lyubin 1970: 19-42; *idem* 1984: 45-93; *idem* 1989: 7-142; *idem* 1998; *idem* 2006b; Martirosyan 1969: 191-208; *idem* 1971: 384; Yeritsyan 1970b; *idem* 1975: 12-50; Ghazaryan 1986: 433f.; 1991: 3f., and many others.

[31] Sagona 2010: 143-157; Avetisyan, Bobokhyan, 2012b: 7-20; Gasparyan, Arimura 2014b: 13-33.

IAE, C. Egeland, University of North Carolina at Greensboro, D. Adler, University of Connecticut, Storrs, K. Wilkinson, University of Winchester), in the Hrazdan River canyon (Armenian-American-British-Irish joint expedition in the framework of the Hrazdan Gorge Palaeolithic Project, co-directors B. Yeritsyan and B. Gasparyan, IAE, D. Adler, University of Connecticut, Storrs, K. Wilkinson, University of Winchester and R. Pinhasi, University College Cork), the Ararat Depression (Armenian-German joint expedition, co-directors B. Gasparyan and P. Glauberman IAE, and A. Maliskiy-Buller, MONREPOS Archaeological Research Centre and Museum for Human Behavioural Evolution, Mainz), the Arpa River Valley (Armenian-American-Irish joint expedition, co-directors B. Gasparyan, IAE, R. Pinhasi, University College Cork and G. Areshian, Cotsen Institute of Archaeology, UCLA, Armenian-Italian joint expedition implementing the so-called Vayots Dzor (VDP) and Kotayk Survey Project (KSP), co-directors B. Gasparyan, A. Petrosyan, IAE, R. Dan, International Association of Mediterranean and Oriental Studies (ISMEO), Rome, the Shirak Depression (Armenian-French joint expedition, co-directors C. Chataigner, Maison de l' Orient et de la Mediterranée, Lyon, and H. Khachatryan, Shirak Regional Museum) and the Aparan Depression (Armenian-French joint expedition, co-directors C. Chataigner, Maison de l' Orient et de la Mediterranée, Lyon, and B. Gasparyan, IAE). New data on Acheulian occupations, especially those located in the vicinity of obsidian and dacite raw material sources, have emerged as well. The Aghavnatun group of sites in the Ararat Depression and the Hatis (Armenian-Austrian joint expedition, co-directors H. Avetisyan, Yerevan State University, B. Gasparyan, IAE and D. Schaefer, University of Innsbruck) and Jraber groups in the Kotayk plateau are particularly noteworthy.

Important progress was recorded during the 2018 fieldwork implemented by the Vayots Dzor Project in the Arpa River Valley with the excavation of Areni-2 cave, located on the right bank of the river, just opposite Areni-1. First test excavations were conducted here in 2007 and since 2016, they have become systematic. This relatively small karstic cave (about 1.5m wide) has a single narrow gallery about 14m long under cover. Since 2016, an area of around 25 m^2 has been opened, with excavations inside the cave and on its front platform. The layers containing cultural remains were mainly present close to the entrance of the cavern and on the front platform. Neolithic and Chalcolithic finds come from Units 4 to 7, which were partly destroyed by later (Medieval period) occupations. The lowermost layer (Unit 11) yielded *in situ* finds of pebble implements (cores, choppers, spheroids, pebbles with traces of knapping, hammerstones, irregular flakes), appear to be Pre-Acheulian in nature and Lower Pleistocene faunal remains (Figure 22). Similar findings manufactured from pebbles washed by the Arpa River (basalt, limestone, sandstone, granite) were discovered while excavating the front slope of Areni-1 cave (Figure 23). However, stratigraphic observations showed that those implements did not appear to be *in situ*, with a position between the slope colluvium and the Chalcolithic occupation horizons. Meanwhile the excellent state of preservation of the artefacts from Areni-1, coupled with the existence of small flakes and debris, and refitting have shown that the initial source of those implements is nearby and that they are washed only a very short distance. Such a potential location can be the platform-like area near the entrance

of the cave, which, based on geomorphological observations around the cave might represent a Lower Pleistocene terrace of the Arpa River. This record suggests that Areni-1 and Areni-2 represent the two can be the first cave sites with traces of the earliest human occupations in Armenia, to be confirmed by future excavations and dating.[32] Furthermore, presence of the Acheulian phase in the area is confirmed by a finding of limestone handaxe southwest of the village of Yelpin near abundant flint sources (Figure 24: 1-1a).

Another recently discovered area with a concentration of Lower Palaeolithic open-air sites is located in northern Armenia in the Debed River Valley and its main tributaries which are Pambak and Dzoraget. The modern Debed River passes through the northern ranges of the Lesser Caucasus and is contained within northeastern Armenia's Lori Depression. While archaeological research has been conducted intermittently along the Debed and its tributaries since the late 19th century,[33] it is only within the past decade or so that systematic work on the area's Palaeolithic record has emerged. Based on predictive modeling,[34] a 2009 reconnaissance survey conducted by the Lori Depression Paleoanthropological Project (LDPP) in the Debed Valley with particular attention on the Lower Palaeolithic, recovered 437 artefacts from a total of 23 open-air scatters. All phases of the Palaeolithic are represented among the finds, although nearly 70% of the diagnostic material is attributed to the Middle Palaeolithic. Of particular interest for the Lower and Middle Palaeolithic records are the Haghtanak sites. The four Haghtanak sites lie between 500 and 512m asl and are situated to the north and east of the Debed. Like most of the Debed sites, a majority of the diagnostic material (70%) shows Middle Palaeolithic affinities. With a total of 117 surface artefacts including diagnostic and undiagnostic pieces, Haghtanak-3, which overlooks the Debed from atop a basalt plateau, is the richest single site in the survey area. Most of the artefacts were probably unearthed by the commercial geological trenches that dot the surface. They furthermore reveal that several meters of artefact-bearing sediments cap some parts of the plateau. The LDPP's archaeological trenching, which has recovered additional artefacts reminiscent of Oldowan chopper forms and an attractive handaxe flaked from limestone,[35] (Figure 24: 2-2a). Ongoing systematic excavations in Haghtanak-3 since 2011 revealed at list two layers containing Lower Palaeolithic implements. The lower layer resting on basaltic bedrock, which is preliminary dated to 2.1 Ma,[36] includes cores, knapping products and chopper forms made of local pebbles washed by the Debed (basalt, dacite, tuff, limestone, sandstone, flint) (Figure 25). The upper layer, which is richer in similar finds, also includes handaxes and bifacial forms. Dating of the site and analysis of the lithic assemblages is in progress; meanwhile it is clear that Haghtanak-3 counts among the important sites reflecting the earliest occupation in the Southern Caucasus region.

[32] Gasparyan 2014: 183-187; Gasparyan *et al.* 2014: 37-64.
[33] Yeritsov 1882: 84-93; de Morgan 1889; *idem* 1909: 189-204.
[34] Egeland *et al.* 2010: 89-98.
[35] Egeland *et al.* 2011; *idem* 2014: 370-386.
[36] Lebedyev 2015.

The Armenian-Russian team, which since 2003 is working in the northern Armenian Tashir Plateau on the southern slopes of the Javakheti Range in the area adjacent to Dmanisi, also recorded a series of Acheulian open-air habitation sites near the lacustrine deposits of the Lori Depression.[37] Recent claims have been made for Early Pleistocene lithic artefacts from the sites of Karakhach (1.94–1.75 Ma or older) and Kurtan (<1.43 Ma).[38] However, questions exist concerning the authenticity of the published lithic artefacts from Karakhach and their stratigraphic relationship to the dated samples. Likewise, the lithic artefacts from Kurtan, some of which are unambiguously the result of human agency (Figure 26), are not stratigraphically associated with the dated ash that was sampled from the opposite wall of the quarry. Finally, based on Presnyakov *et al.* (2012) it would appear that neither site has undergone detailed geoarchaeological analyses that would provide the critical data necessary to assess the stratigraphic context of the lithic artefacts or the taphonomic processes that affected their final distribution within the excavated sediments. Until these major issues are resolved it will remain impossible to interpret the meaning of these artefacts and their relevance to debates on the earliest occupation of the Southern Caucasus.

Another open-air site, Dashtadem-3 in northern Armenia, was studied by the same team and represents the best excavated and documented site of its kind. The site is reported to contain bifaces and Levallois artefacts within a thin deposit (<1m thick) of homogeneous 'humusised brown loamy soil' sitting on porphyritic andesite bedrock. The excavators argue that these artefacts are *in situ* and contemporaneous, and based on techno-typological analyses they attribute them to the Late Acheulian.[39] However, in the absence of direct chronometric estimates and detailed geoarchaeological analyses it might alternatively be suggested that the artefact accumulation at Dashtadem-3 resulted from discrete hominin activities, separated perhaps by tens of thousands of years, that were repeatedly eroded, sometimes down to the underlying bedrock and later incorporated into a thin deposit of sediment. Subsequent pedogenic processes, perhaps dating to the Holocene produced the impression of a 'stratified' site in which bifaces, Levallois technology, and pottery appear to be archaeologically contemporaneous, when in fact it represents a geological palimpsest.

Since 2000 the Armenian-French team has conducted surveys in several points of the Shirak Depression (northwestern Armenia), which are Aghvorik, Tavshut, Sizavet, Tzoghamarg, Ghazanchi-Hovasar, Shirakavan, Beniamin and the others, located near lacustrine deposits and raw material sources. Numerous finds of Pre-Acheulian and Acheulian implements were systematically collected directly near those deposits in the Shirak Depression which yielded rich collections of Quaternary fauna. Most impressive finds were collected in Aghvorik (once known as Yeni-Yol), while looking for new evidence of Lower Palaeolithic sites near the obsidian and dacite outcrops

[37] Dolukhanov *et al.* 2004; Aslanian *et al.* 2006; 2007: 142-154, Lyubin 1998: 136-168; Lyubin, Beliaeva 2006a: 347-364; 2006b; 2010: 107-126
[38] Presnyakov *et al.* 2012: 928-938
[39] Kolpakov 2009: 3-31

on the northern side of that depression. A rich record of implements characteristic of Acheulo-Mousterian sites includes some artefacts which can even be attributed to the Early Acheulian with thick bifaces and trihedral pieces (Figure 27). However, these sites lack reliable contextual information.[40] New interesting finds of Acheulian handaxes were collected by the expedition of the Shirak Regional Museum during the excavations of Haykadzor Medieval cave complex in the Akhurian River canyon from 2001-2002 (Figure 27: 6). Those finds are presumed to be related to Middle Pleistocene lacustrine deposits underlying the tuff lavas in the proximity of the cave.[41]

The next area targeted by the Armenian-French joint expedition for Stone Age study was the Aparan Depression situated on the eastern slopes of Mt. Aragats in central Armenia. The region contains the Kasakh River valley, where the archaeological sites are situated between 1800 and 2800m asl. Between 2001 and 2009 detailed surveys undertaken by the team recorded 73 open-air sites and scatters with rich collections of lithic artefacts. In spite of the high altitude, the region presents factors propitious for Pleistocene occupation: abundance of an excellent raw material (obsidian), natural structures for human occupation with a geomorphology favorable for human settlement, paleo-lakes and the omnipresence of water. Density of the sites, their distribution in the landscape and the quality of the lithic artefacts discovered reveals a presence of several phases of the Middle Palaeolithic, Neolithic and Chalcolithic, while Upper Palaeolithic is completely missing.[42] The Lower Palaeolithic artefacts are represented mainly by handaxes and bifacial forms, as well as a handful of choppers, all made from obsidian and non-obsidian (limestone, quartzite, dacite, basalt) raw materials, which as a rule, appear in the context of lacustral sediments as chance finds (Figures 28 and 29). Study of lacustral sediments and reconstruction of paleolake environments in the Aparan Depression, in conjunction with the rich Palaeolithic record of the area, allow the authors to conclude that hominin occupations were organised mainly around the shores of the Pleistocene lakes. Human settlement was based on the rich aquatic life supporting resources, as well as obsidian raw materials, and strongly connected to regional volcanism, glaciation and tectonic shifts.[43] Further study of the areas with Lower Palaeolithic finds is required to localise their original places of bedding and study their detailed context.

The same situation is recorded for the Ararat Depression, where, as mentioned above, numerous Lower Palaeolithic implements were found around hypothetic shores of the Pleistocene paleolake (Figures 18-20). Recent investigations were able to discover a pair of unique and important Lower Palaeolithic sites in the area. The Aghavnatun group of Palaeolithic sites (Aghavnatun-1-3), located on the southern margin of Mt. Aragats overlooking the Ararat Valley at the point of its junction with the main valley, was chosen for test excavations. The area of the site is formed by the Lower

[40] Fourlobey *et al.* 2003: 7; Gasparyan 2007a: 130-133; *idem* 2007b: 24-29; *idem* 2010: 159-183; Khachatryan *et al.* 2013: 22-25.
[41] Yeganyan, Khachatryan 2002: 119-122; Gasparyan 2007b: 24-29; *idem* 2010; Khachatryan *et al.* 2013: 22, Image 6.
[42] Colonge *et al.* 2013: 109-140.
[43] Gasparyan *et al.* 2003: 30-37; *idem* 2004: 49f.; *idem* 2016: 20.

to Middle Pliocene dacite, basalt and andesitic-basalt lava flows that are interspersed with the tuffs and tuff lavas of Mt. Aragats. The Late Pleistocene andesitic-basalt lavas bypassed the area of the site without covering it. The southernmost limits of the tuff cover, starting from the foothills of Aragats, gradually changes into the Ararat Depression. The beds of the tuff covers are cut through by shallow valleys and canyons where, on both sides of the dried-up river beds among sections of redeposited loose sediments, around 160 lithic implements made from low quality dacite were collected. Dacite raw material is present in the area in the form of massive pebbles, boulders, and rolled slabs. The majority of the artefacts collected from the surface are massive cores and flakes without any traces of secondary modification, and pebble tools – unifacial and bifacial choppers and picks. Bifacial tools are present as well, including thick and massive handaxes without traces of additional thinning of the working profiles (Figure 30). In general, the Aghavnatun-1 complex of stone implements is distinguished by its massive and archaic character. It is most likely that the site results from the activity of a small group of an Early Acheulian population occupying the banks of a river draining into the Pleistocene lake of the Ararat Depression and settling down directly on the surface of the tuff plateau. The majority of the implements from Aghavnatun are well preserved and the presence of small flakes and irregular pieces and unfinished products opens the possibility of finding *in situ* cultural remains in an undisturbed context.[44] This hypothesis was confirmed by 2009 excavations of the Aghavnatun-1 site, when *in situ* Early Middle Palaeolithic occupation (see below) in a paleosol layer resting on the surface of volcanic ash and pyroclastic material was discovered. During the 2014 campaign, another paleosol layer uncovered beneath the thick pyroclastic material and on the top of the dacite bedrock revealed the first *in situ* Acheulian implements. Aghavnatun-1 appears to be a multilayer Palaeolithic open-air site with at least two phases of Middle Palaeolithic and an Early Acheulian phase. Future excavations will provide a crucial piece of data for the regional prehistory.

Another very important discovery was the Acheulian cave-site of Dalarik-1, which was found during the 2018 excavation season of the Armenian-Japanese joint expedition working in the Mastaraheghegheghat River canyon (a tributary of the Araxes River) in the eastern Armavir Province of Armenia.[45] The site is located in the canyon of the Mastaraheghegheghat River, which was formed at the contact between different Pleistocene lava flows on the southernmost margin of Mt. Aragats. Test excavations of the front platform of the small cavern, situated in a basaltic flow, 2 by 2m in size revealed 130 lithic implements and faunal remains appeared very close to the modern surface. Among the lithics, large and small size handaxes, bifacial and unifacial forms and side scrapers made from basalt, dacite and obsidian flakes were recognised (Figures 31-32). In fact, Dalarik-1 is the first Acheulian cave-site in Armenia, whose further study will help to enrich the chronometric data and define its place in the chronology of Armenia and its regional Lower Palaeolithic.

[44] Gasparyan 2010: 159-183; Gasparyan *et al.* 2014: 37-64.
[45] Arimura *et al.* 2018: 1-18, 184.

The Hrazdan River canyon and the Hrazdan-Kotayk Plateau still remain the focus of Palaeolithic study in Armenia. During the last decade impressive progress was made in the study of Acheulo-Mousterian sites located in close proximity or directly at the obsidian raw material sources in the area of the Hrazdan-Kotayk Plateau and the Hrazdan River canyon. Especially new efforts in re-examining the Hatis group of Palaeolithic open-air sites were undertaken by the American-Austrian team.[46] A rich record of handaxes and bifaces here include some artefacts which can even be attributed to the Pre-Acheulian and Early Acheulian represented by choppers and large bifaces made from dacite and basalt (Figure 33). A large number of tools together with cores and production waste suggest two hypotheses about the Hatis group of Lower Palaeolithic sites. They may be considered as a series of workshops located in close proximity or directly at the obsidian raw material sources, but could also be main camps which functioned based on the interface of rich life supporting resources and obsidian-dacite raw materials, spread along the paleo-lake shores. Another interesting Late Acheulian open-air site studied and test excavated in 2013 was Jraber-17, also located directly at the obsidian sources, which yielded a rich collection of handaxes on the surface (Figure 34), with a potential of *in situ* finds confirmed by a handaxe discovered in a test trench (Figure 34: 1).[47]

Between 2008-2017 the Armenian-American-British-Irish joint expedition in the framework of the Hrazdan Gorge Palaeolithic Project discovered new potential localities and sites for future investigation in the areas of Kaghsi, Alapars, Fantan and Lusavan (nowadays Charentsavan) of the Hrazdan-Kotayk Plateau. Perhaps one of the most significant findings was the discovery and study of the open-air site of Nor Geghi-1, which is a stratified, open-air site along a former river channel and is tentatively ascribed to the late Middle Pleistocene. Nor Geghi-1 was discovered in 2008 when obsidian artefacts were found eroding from a 135-m-long section exposed on the western wall of the Hrazdan Gorge (1375m asl). The archaeology of the site is contained within alluvial sediments sandwiched between an upper (Basalt 1) and a lower (Basalt 7) lava flow. The $^{40}Ar/^{39}Ar$ technique was used to date Basalt 7 (441 ± 6 ka) and Basalt 1 (197 ± 7 ka), thereby bracketing the stratified alluvial sediments between late MIS 12 and the end of MIS 7. The five stratigraphic units recorded between the basalts (from bottom to top, Units 5 to 1) form a normally bedded sequence of fine-grained sedimentary beds, with a minor proportion of sands and gravels toward the base. The artefacts are concentrated within Unit 2 but appear to be distributed randomly across the exposed stratigraphic section, documenting the variable technological behaviors of the site's late Middle Pleistocene occupants between perhaps MIS 11 and MIS 9e. Based on $^{40}Ar/^{39}Ar$ dating of sanidine grains from cryptotephra obtained from the uppermost 5 cm of Unit 1, its age is 308 ± 3 ka. The sediments were completely decalcified in antiquity, so that no faunal remains are preserved.[48]

[46] Gasparyan 2010: 159-183.
[47] Gasparyan, Arimura 2014b: 13-33, Gasparyan *et al.* 2014: 37-64.
[48] Adler *et al.* 2012: 21-37; *idem* 2013: 15; *idem* 2014a: 1609-1613; *idem* 2014b; *idem* 2016: 24f., Gasparyan *et al.* 2014: 13-33.

The Nor Geghi-1 lithic assemblage is produced entirely on obsidian, and all stages of reduction and manufacture are represented (Figure 35). The procurement of obsidian from a variety of local and non-local sources suggests that hominins at Nor Geghi-1 were exploiting large, environmentally diverse territories. The assemblage contains an unexpected mix of techno-typological elements often associated with either the Late Acheulian (e.g., ovate and triangular bifaces; large, thick flakes; Mode 2) or the Early Middle Palaeolithic (e.g., truncated faceting, denticulates, Levallois blades; Mode 3). As this is the first stratified, late Middle Pleistocene site in Armenia, and in fact, the broader region as a whole, Nor Geghi-1 holds great potential for our understanding of the earliest phases of the Middle Palaeolithic, specifically in terms of the new technological and perhaps cultural adaptations that accompanied the local transition from the Lower to the Middle Palaeolithic. Preliminary data suggest that Nor Geghi-1 represents the oldest directly dated appearance of a late Middle Pleistocene transitional industry with Levallois technology recovered from a secure archaeological context. Comparisons with contemporaneous data from Africa, the Levant and Europe indicate that this technological transition occurred quite early in Armenia and the Southern Caucasus. While the hominin species involved in this local technological transition cannot be identified due to a lack of fossil material, it is possible to argue that the intercontinental transition from Mode 2 to Mode 3 technologies occurred intermittently within different geographically dispersed hominin societies already adept at complex knapping procedures and was not predicated on the demic diffusion of a particular species armed with Mode 3 technology.[49]

In addition, the record from Nor Geghi-1 is opening new possibilities for the cultural and chronological interpretation of many Acheulo-Mousterian open-air sites located in the vicinity. The first Soviet scholars, including Zamyatnin, Panichkina and Sardaryan, interpreted these sites by separating the collections into two different chronological-cultural groups or phases – Late Acheulian (handaxes) and Early Mousterian (small handaxes and Levallois products). The next generation of Soviet researchers including Lyubin, Yeritsyan and Ghazaryan preferred to use the term Acheulo-Mousterian without providing such divisions of the surface materials, but also without considering them as transitional. Meanwhile the view from Nor Geghi-1 is telling us that this might be a single transitional industry. If so, the recently discovered and preliminarily studied open-air site of Jraber-17 may represent the same assemblage combination as in Nor Geghi-1 with coexistence of Mode 2 (bifaces; large, thick flakes) and Mode 3 (tools manufactured on the bases of Levallois blades). This stratified and securely dated late Middle Pleistocene site (> 300 ka) in the Hrazdan River canyon is elucidating our understanding of the transition from the Late Acheulian to the Middle Palaeolithic in Armenia as local technological replacement of bifaces and handaxes by implements produced through the Levallois method.[50]

[49] Adler *et al.* 2009: 125f.; *idem* 2012: 21-37; *idem* 2013: 15; *idem* 2014a: 1609-1613; *idem* 2014b; *idem* 2016: 24f.; Gasparyan 2010: 159-183.

[50] Gasparyan 2007b: 24-29; *idem* 2010: 159-183, Egeland *et al.* 2010: 89-98, Adler *et al.* 2012: 21-37; 2014a: 1609-1613; *idem* 2014b; *idem* 2016: 24f.; Gasparyan *et al.* 2014: 37-64.

Summarising this review, we stress that recent international collaborative projects with the aim to record stratified Lower Palaeolithic archaeological sites in Armenia are providing the first noticeable results. *In situ* Pre-Acheulian and Acheulian sites have been discovered in the northern, central and southern parts of the country – in the Debed and Arpa Rivers valleys, the Ararat, Lori and Shirak Depressions and the Hrazdan-Kotayk Plateau. New data on Acheulian occupations, especially those located in the vicinity of obsidian and dacite raw material sources, have emerged as well. Perhaps the most significant findings have been made by studying the Arpa River valley and the Mastarahegheghat River canyon in the Ararat Depression, as these are related to the discovery and study of Areni-2 and Dalarik-1, the first Pre-Acheulian and Acheulian cave-sites in Armenia. Another very important site is the Late Acheulian-Early Middle Palaeolithic open-air site of Nor Geghi-1 in the Hrazdan River canyon. Until recently, the current state of Palaeolithic research in Armenia was based almost entirely on surface or shallow sub-surface concentrations recovered from ancient river terraces or hillsides across the country. Presumably these early but undated sites are dominated by choppers, bifaces, cleavers, and 'archaic' cores and flakes made almost exclusively on dacite, basalt, and limestone, while assemblages attributed to the Late Acheulian are reported to contain evidence of Levallois technology alongside biface production, and occasionally the routine exploitation of obsidian.[51] While bypassing questions about the discussion of the Armenian Lower Palaeolithic from the regional perspective or their comparison with other sites, we stress that the vast majority of known Lower Palaeolithic sites in Armenia appear to have been affected in varying degrees by the dynamic interplay between a variety of accretional and erosional forces. As such they represent useful taphonomic case studies, but are of limited value for the interpretation of past hominin behavior. Most archaeologists working in the region recognise these interpretive limitations and are aware that such sites contain mixed archaeological materials traditionally associated with distinct 'cultures' and time periods. Meanwhile, even the excavations, study and publication of the results of the newly discovered stratified Lower Palaeolithic sites will require years of intensive efforts. With their exceptional stratigraphic and geoarchaeological contexts, these sites will help to reconstruct the ancient environmental patterns, as well as different aspects of hominin activities and enrich the local and regional chronological sequence of the Palaeolithic.

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[51] Lyubin 1989: 7-142; Lyubin, Belyaeva 2006a: 347-364; *idem* 2006b; Doronichev 2008: 107-157; Doronichev, Golovanova 2003: 77-107; *idem* 2010: 327-344; Kolpakov 2009: 3-31; Gasparyan 2010: 159-183; *idem* 2014: 183-187.

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Map 1. Stone Age sites of the Republic of Armenia mentioned in the text.

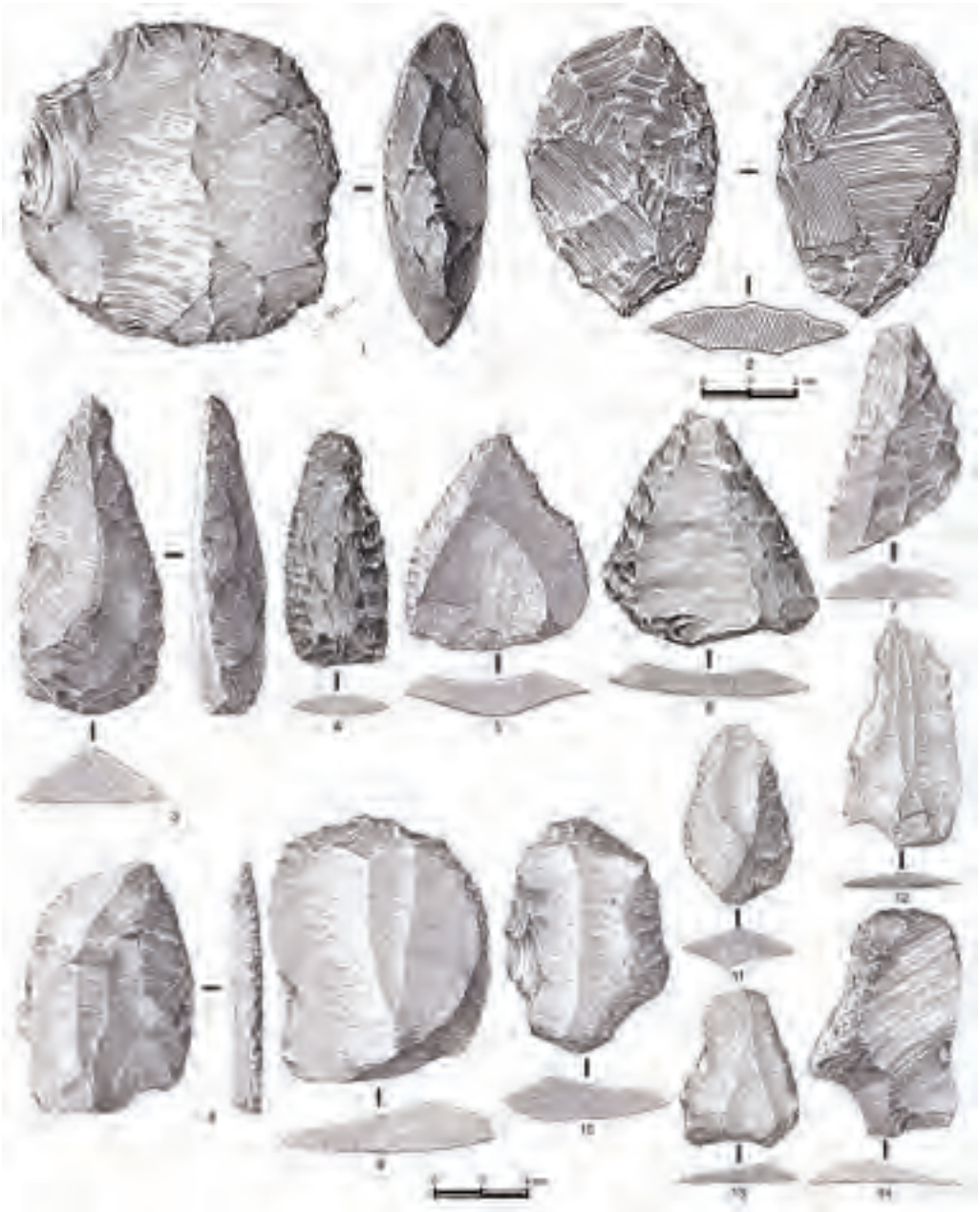

Figure 1. Middle Palaeolithic obsidian artefacts collected by Jacques de Morgan on the southern slopes of Mt. Atragats (Mt. Arteni) and the Kasakh River valley at the end of the 19th century (after De Morgan 1909).

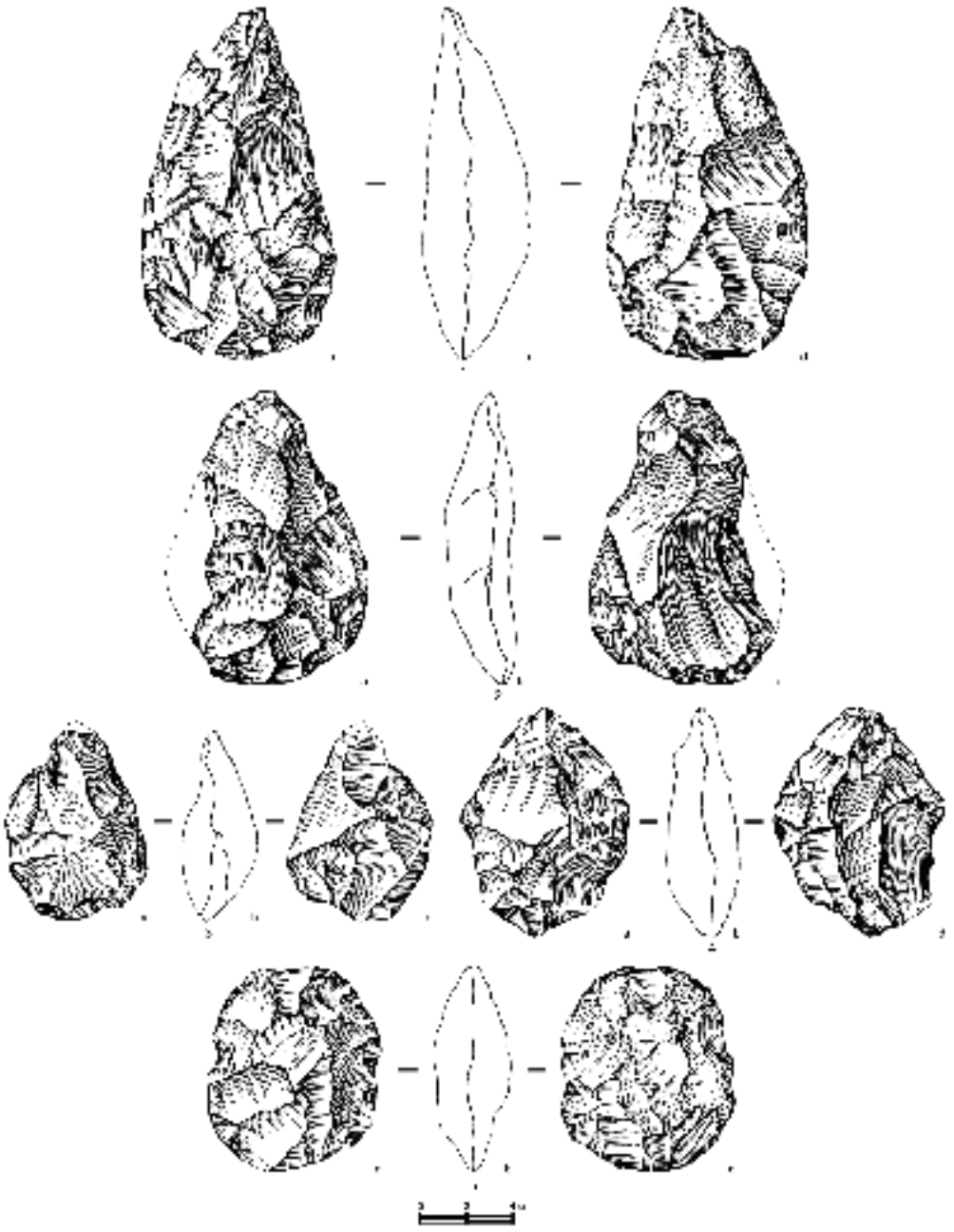

Figure 2. Late Acheulian obsidian handaxes collected by geologist A. Demyokhin in Arzni near the mineral springs in the middle reaches of the Hrazdan River in 1933 (after Panichkina 1950b).

Figure 3. So-called Chellean and Early Acheulian obsidian handaxes collected by S. Sardaryan from Satani-dar during 1945-1949 (after Sardaryan 1954; *idem* 1967).

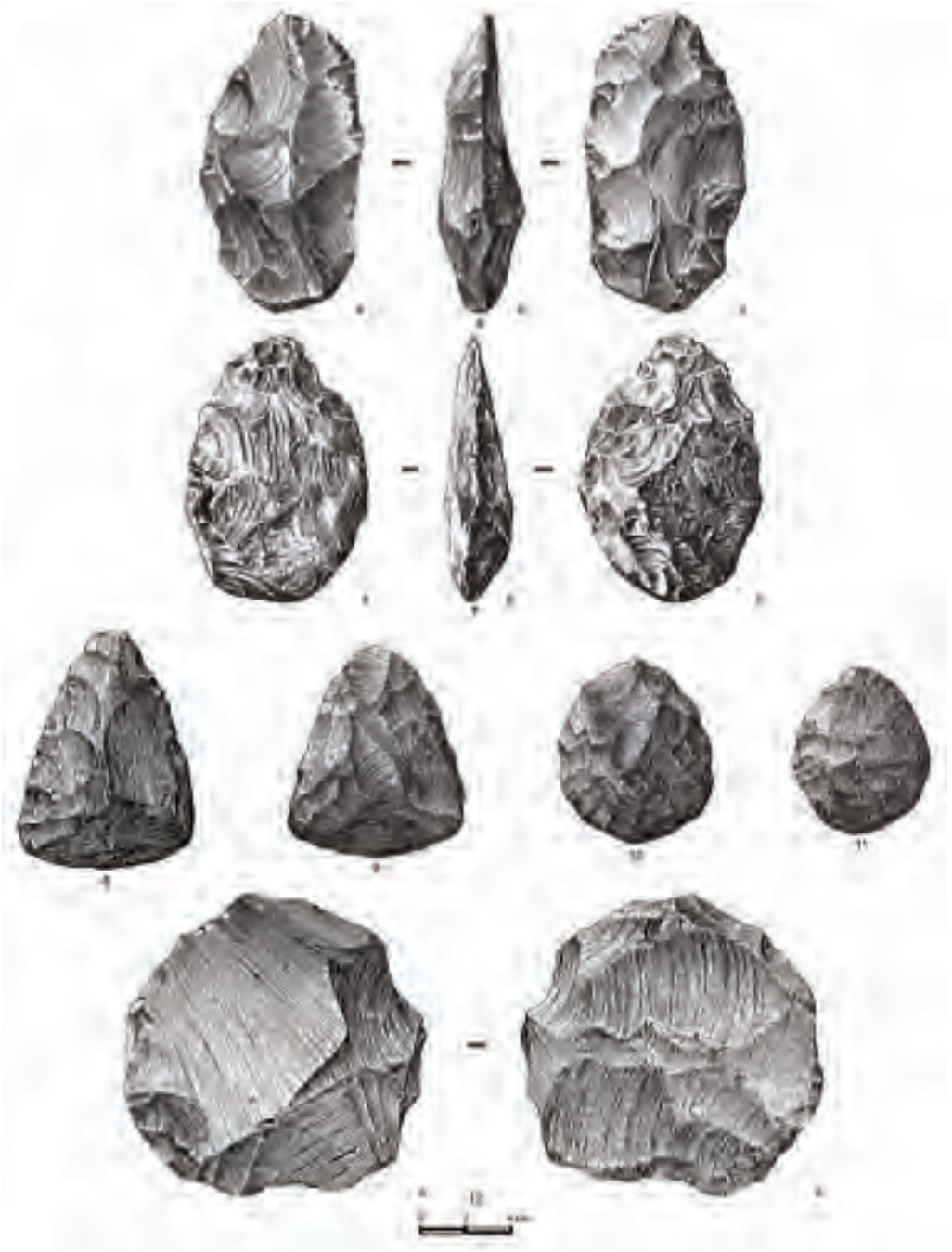

Figure 4. Late Acheulian obsidian and dacite handaxes and a discoidal core collected by S. Sardaryan from Satani-dar during 1945-1949 (after Sardaryan 1954; *idem* 1967).

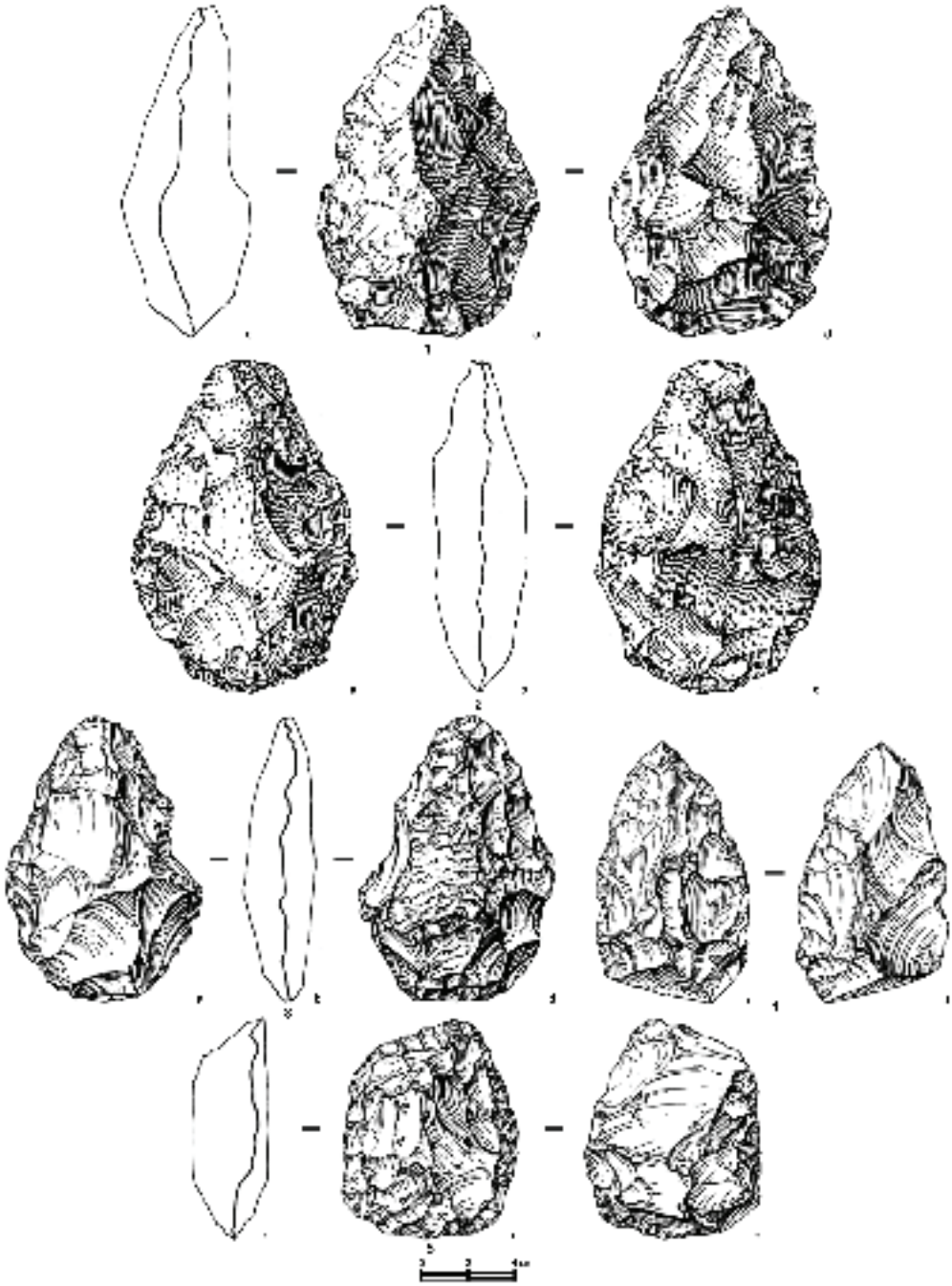

Figure 5. Acheulian obsidian and dacite handaxes collected by M. Panichkina from Satani-dar during 1947-1948 (after Lyubin 1989; *idem* 1998; Lyubin, Belyaeva, 2006b).

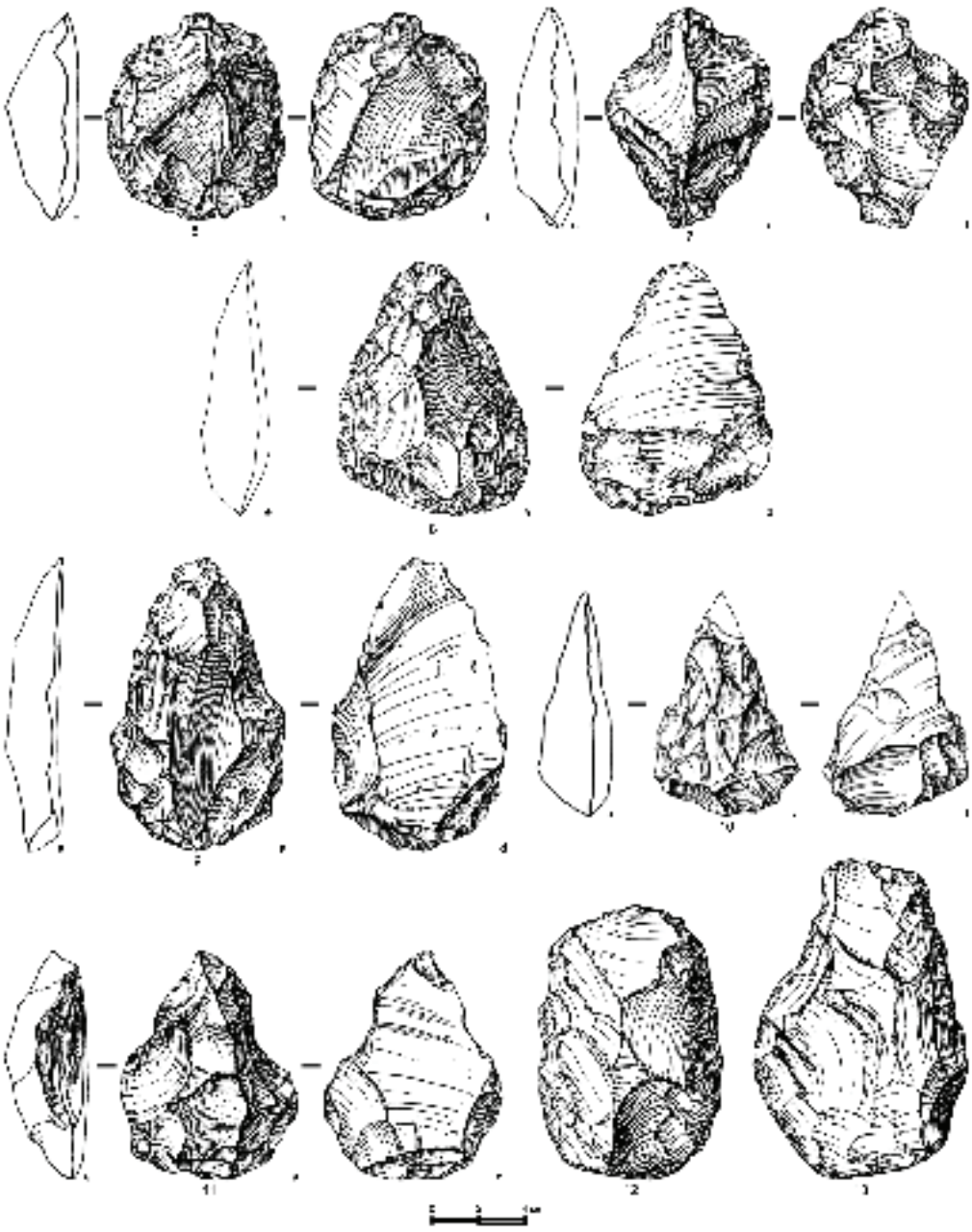

Figure 6. Acheulian dacite handaxes collected by M. Panichkina from Satani-dar during 1947-1948 (after Lyubin 1989; *idem* 1998; Lyubin, Belyaeva, 2006b).

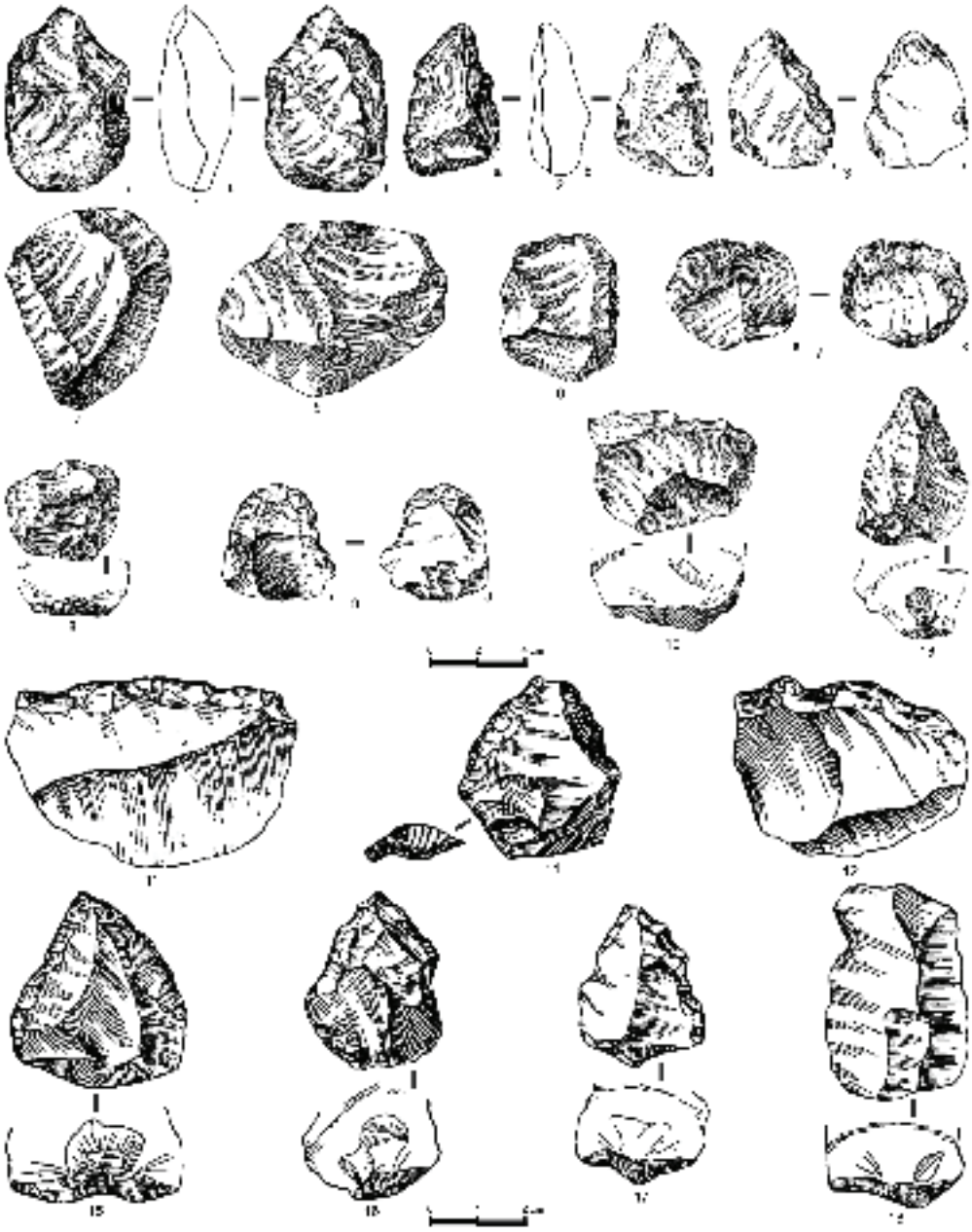

Figure 7. Mousterian obsidian artefacts (cores, small bifaces, side-scrapers, points) collected by M. Panichkina from Ashirabat in 1949 (after Panichkina 1951).

Figure 8. So-called Upper Palaeolithic obsidian artefacts (cores, burins, borers, end-scrapers, notched tools and pièce écaillée) collected by M. Panichkina from Nurnus and Chatkeran open-air localities in the middle reaches of the Hrazdan River gorge during 1947 and 1948 (after Panichkina 1948).

Figure 9. Middle Palaeolithic flint artefacts (cores, flakes and blades, side-scrapers and points) collected by B. Yeritsyan from Gilik open-air site in Noyemberyan District of northeastern Armenia in 1967 (after Yeritsyan 1970a).

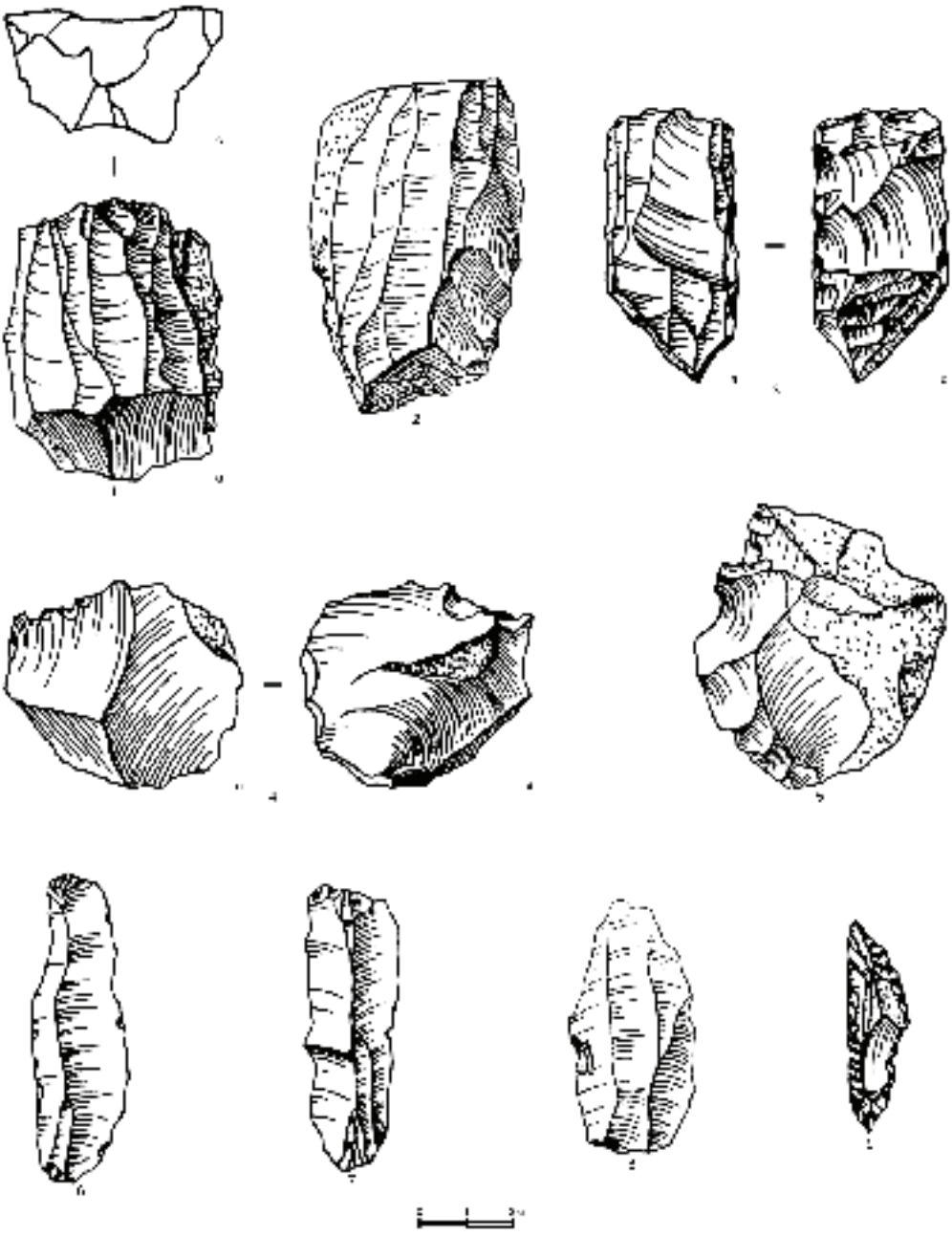

Figure 10. Upper Palaeolithic flint artefacts (cores, flakes, blades and backed point) collected by B. Yeritsyan from Hatsut open-air site in Noyemberyan District of northeastern Armenia in 1967 (after Yeritsyan 1970a).

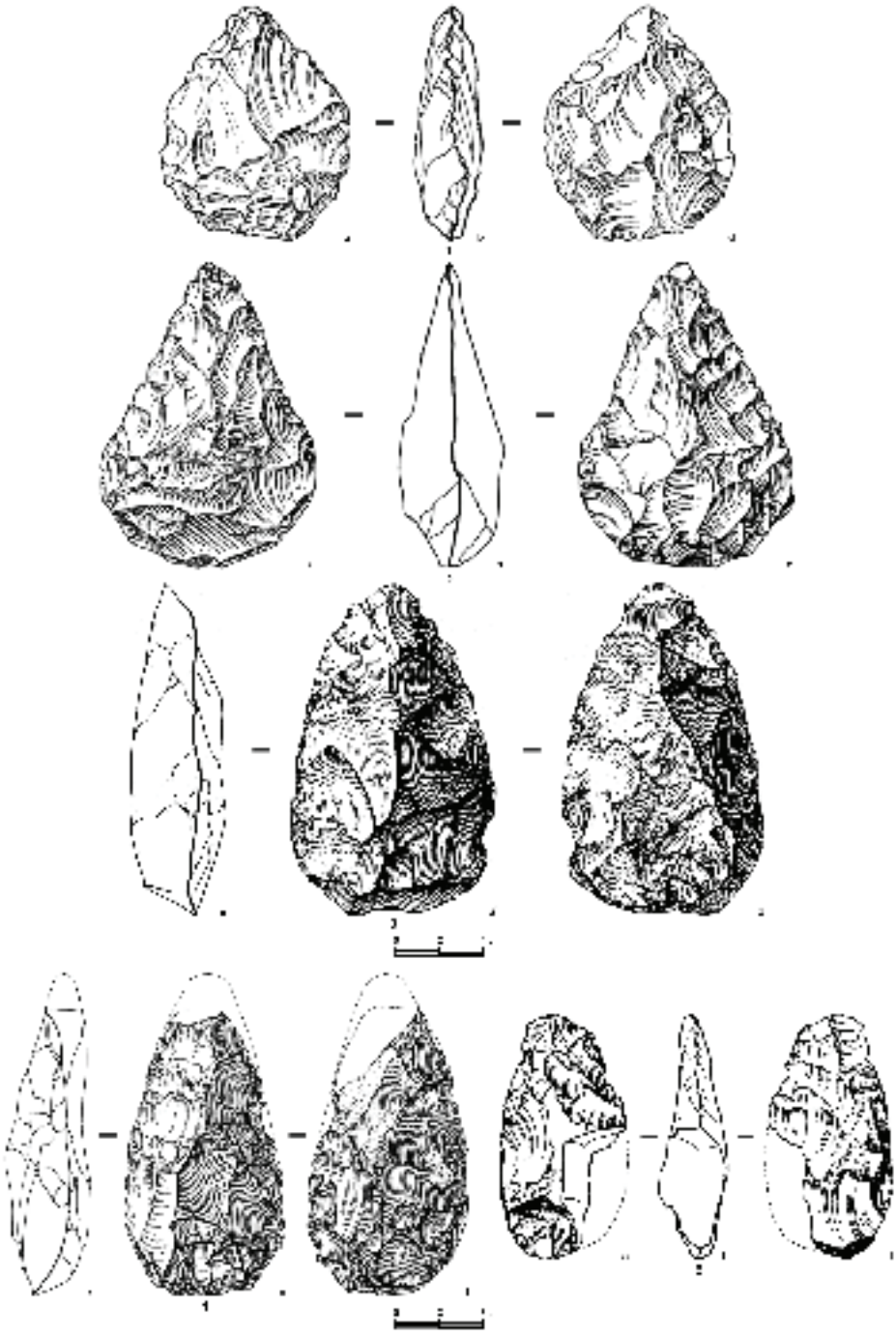

Figure 11. Late Acheulian obsidian and dacite handaxes collected by V. Lyubin from Jraber-1 open-air site on the slopes of Mt. Gutanasar in 1958 (after Lyubin 1961; *idem* 1984; *idem* 1989; *idem* 1998).

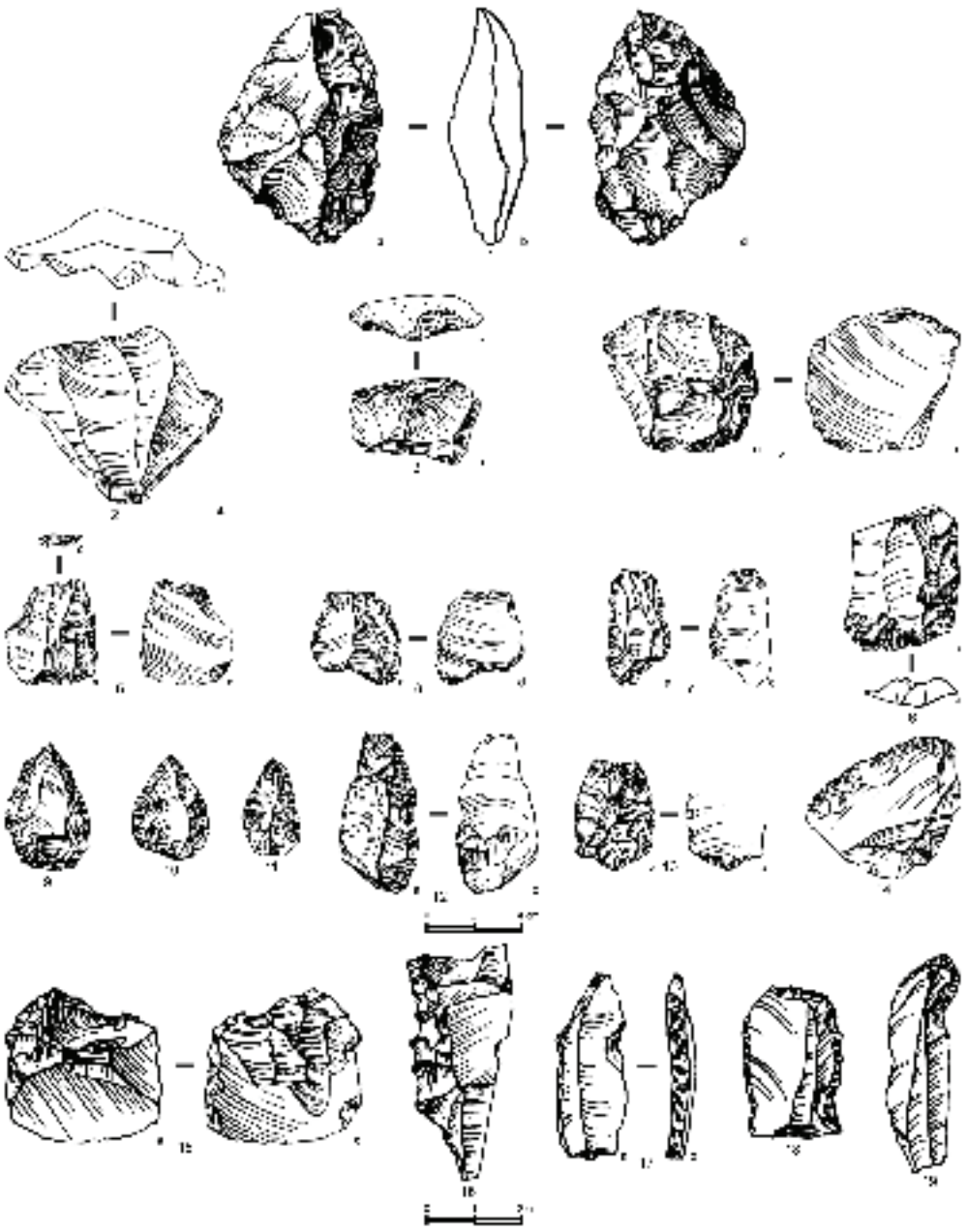

Figure 12. Middle and Upper Palaeolithic obsidian and flint artefacts (biface, cores, side-scrapers, Mousterian points, pièce écaillée, retouched, backed and notched bladelets) collected by K. Karapetyan and B. Yeritsyan from Yerablur open-air site in Hrazdan-Kotayk Plateau in 1967 (after Karapetyan, Yeritsyan 1969).

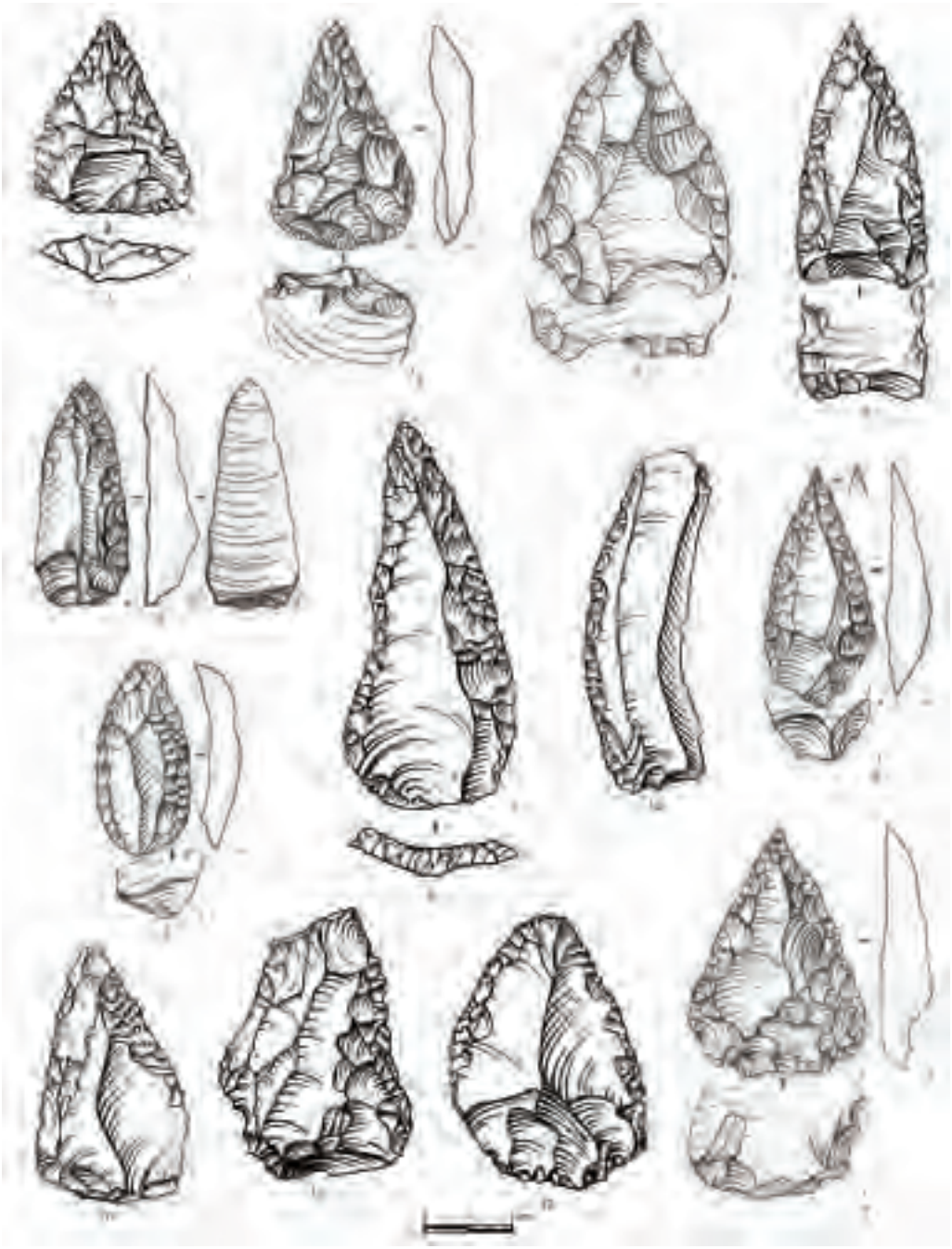

Figure 13. Middle Palaeolithic obsidian artefacts (so-called 'Yerevan points' with truncated-facetted base and side-scrapers) from the excavations of Yerevan-1 cave (Hrazdan River gorge) by B. Yeritsyan during 1967-1968 (after Lyubin 1989).

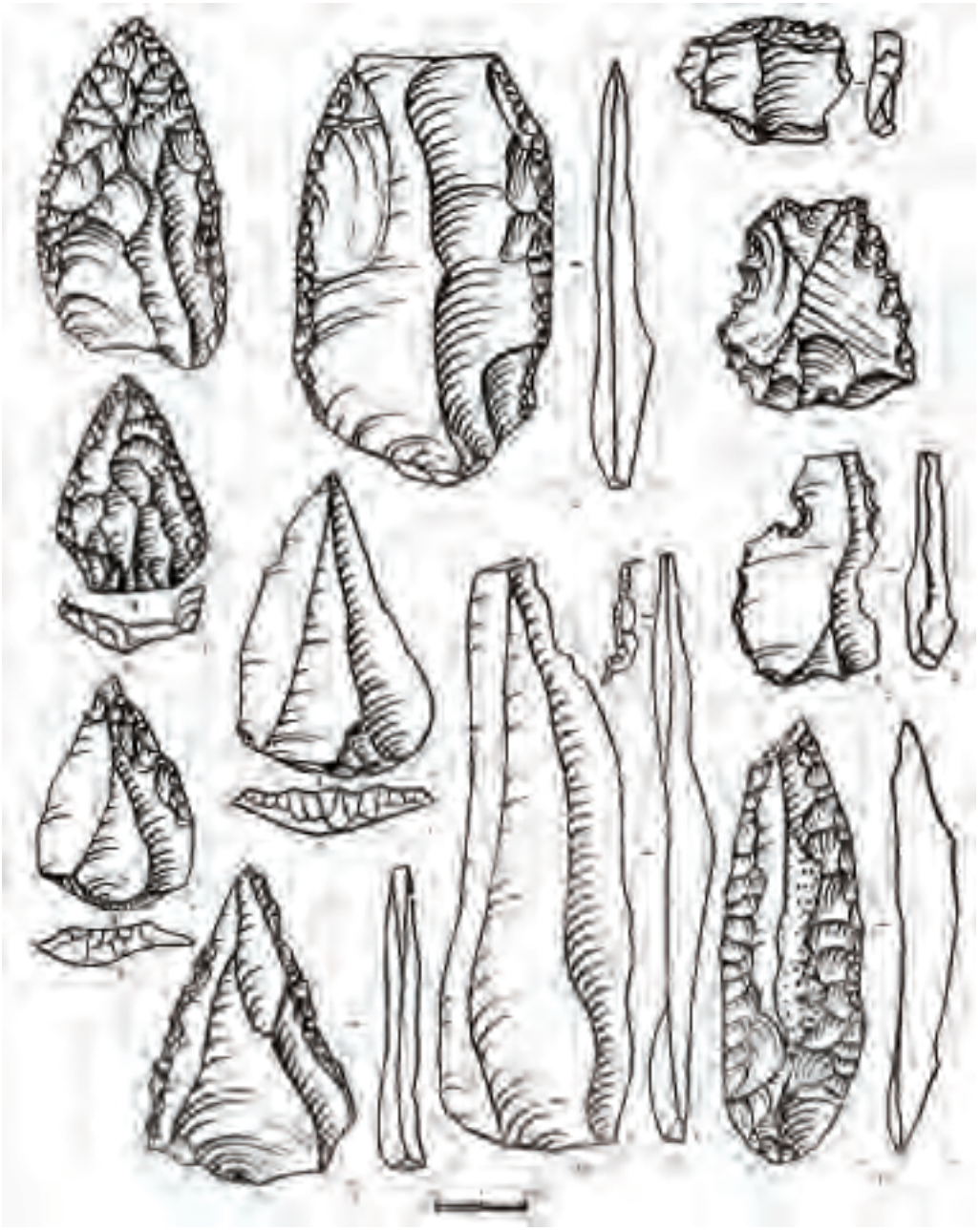

Figure 14. Middle Palaeolithic obsidian artefacts (so-called 'Yerevan points' with truncated-facetted base, Levallois points and notched and denticulated tools) from the excavations of Lusakert-1 cave (Hrazdan River gorge) by B. Yeritsyan during 1970-1971 (after Yeritsyan 1975; Lyubin 1989).

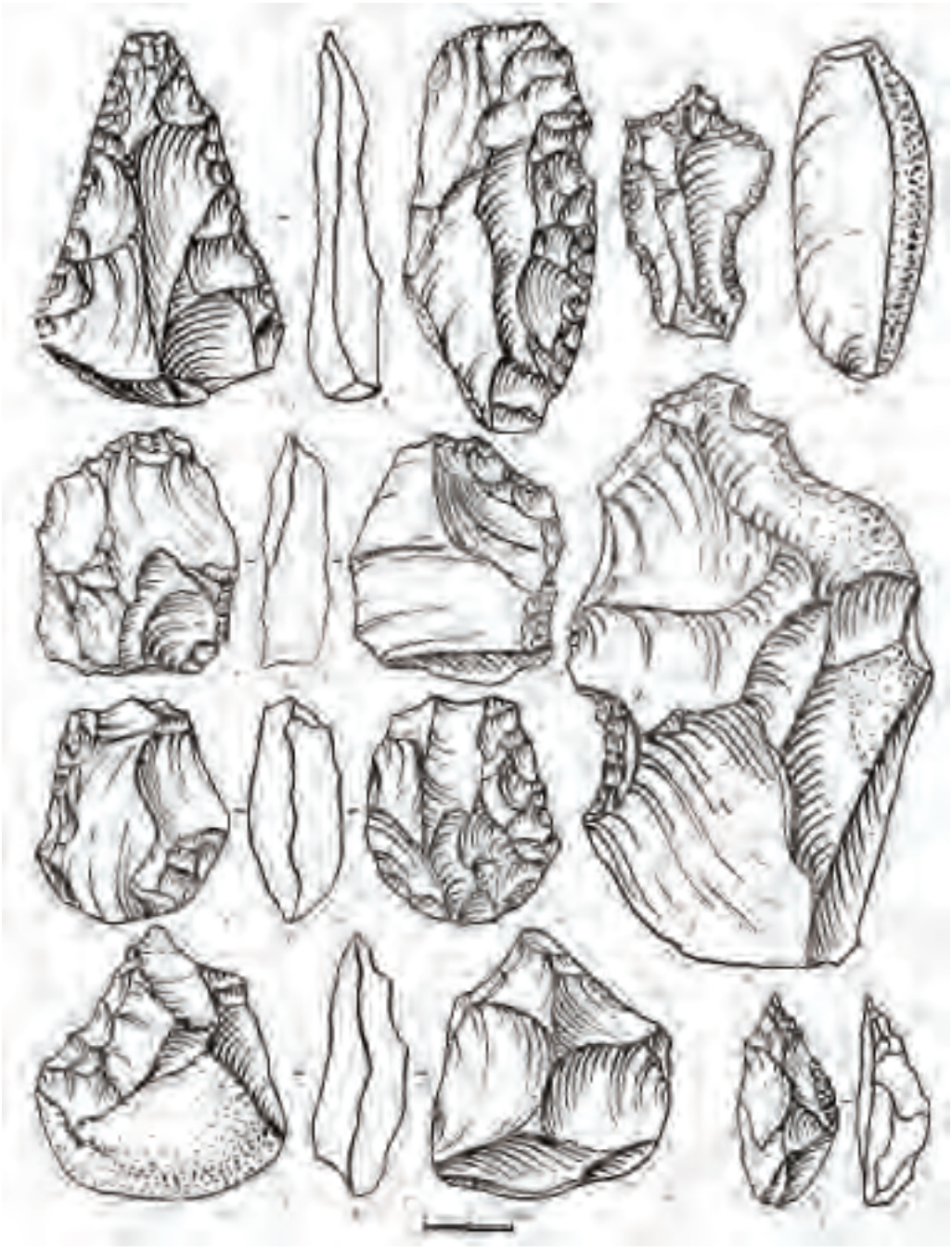

Figure 15. Middle Palaeolithic obsidian artefacts (unifacial and bifacial implements, notched, denticulated and backed tools) from the excavations of Lusakert-1 cave (Hrazdan River gorge) by B. Yeritsyan during 1970-1971 (after Yeritsyan 1975; Lyubin 1989).

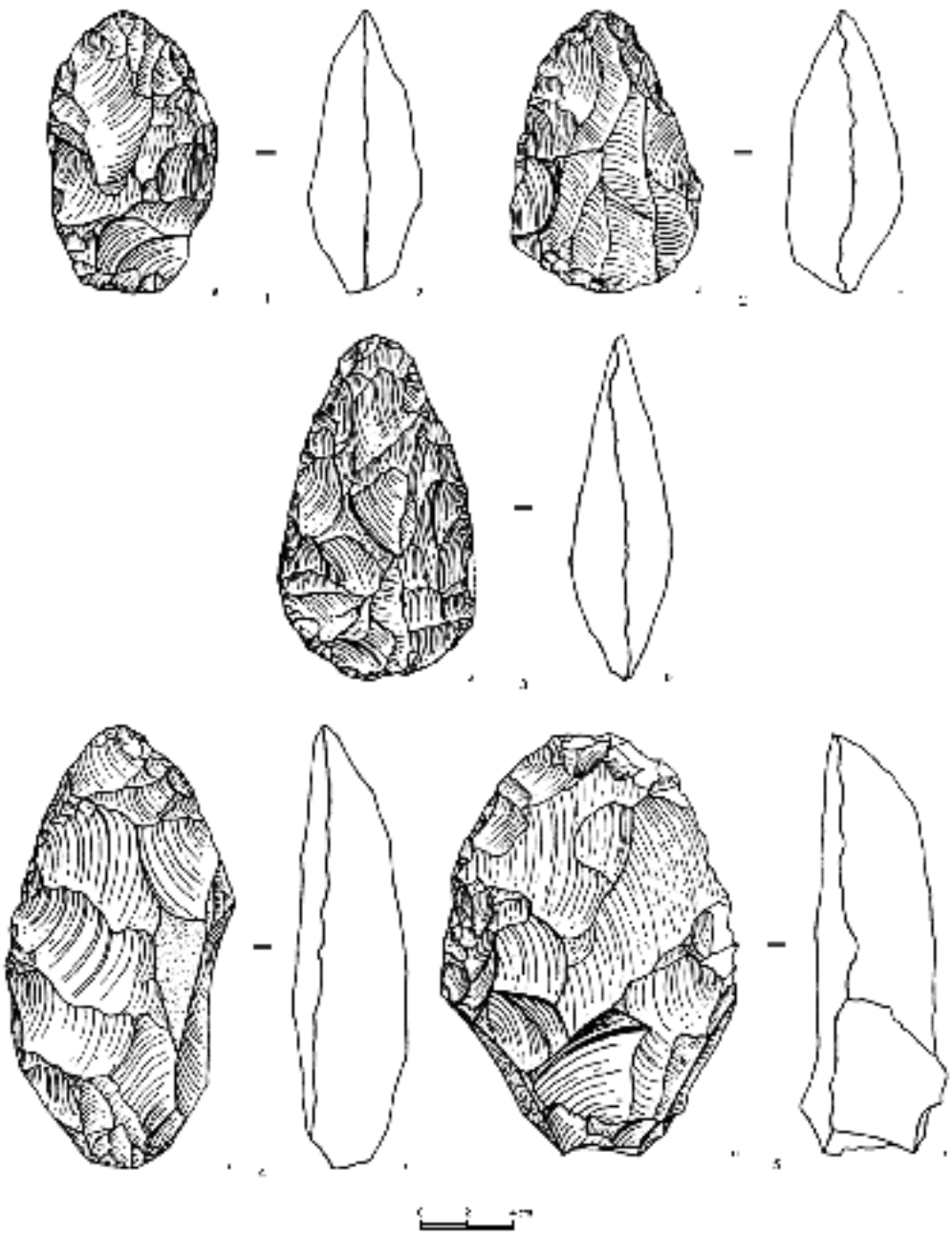

Figure 16. Late Acheulian obsidian handaxes from Hatis-1 open-air site (Hrazdan-Kotayk Plateau) collected by H. Gazharyan in 1983 (after Lyubin 1998).

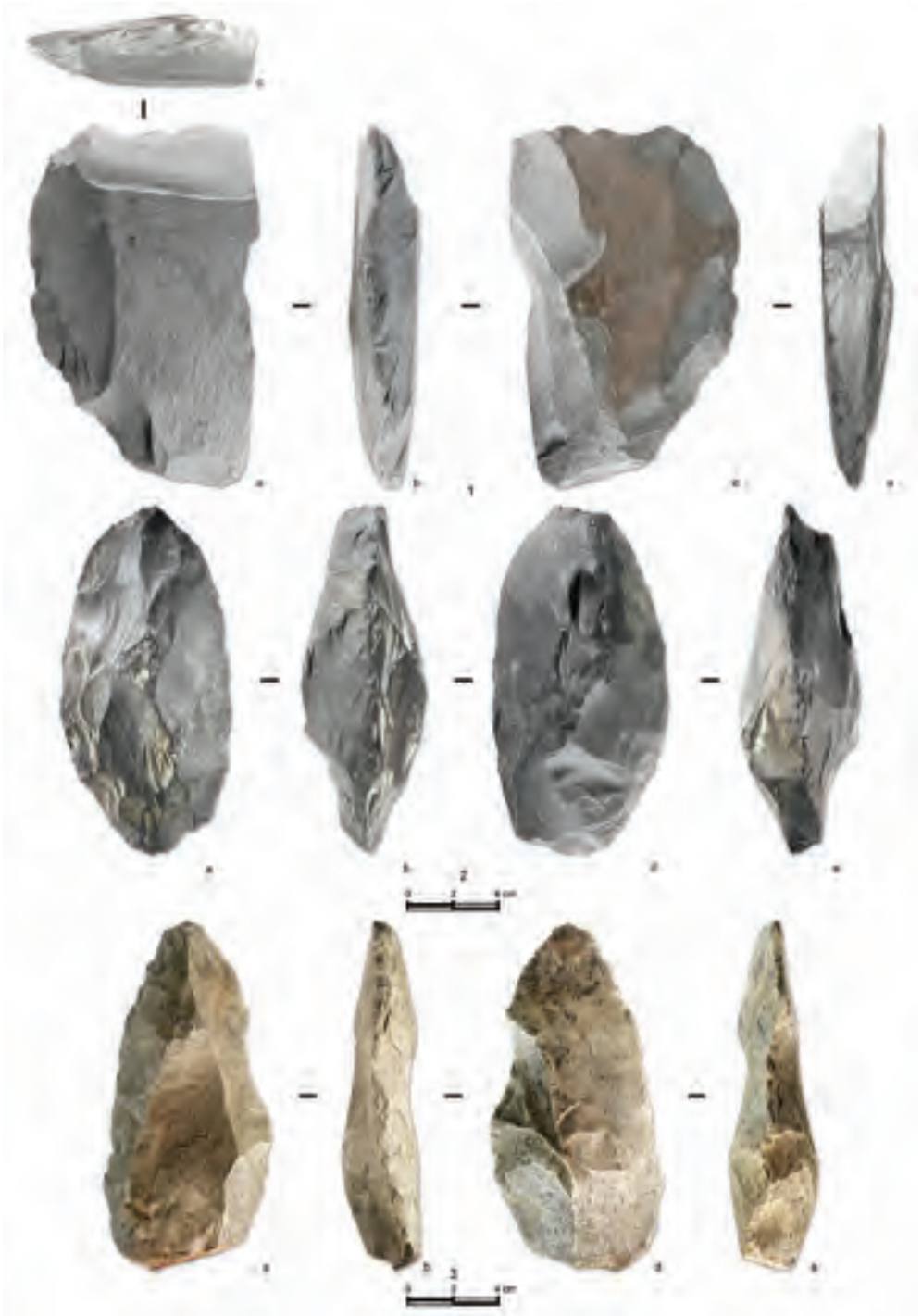

Figure 17. Acheulian basalt, dacite and flint handaxes from the southern and western slopes of Mt. Hatis (Hrazdan-Kotayk Plateau) collected by B. Gasparyan during 1996-1998 surveys (after Gasparyan 2010).

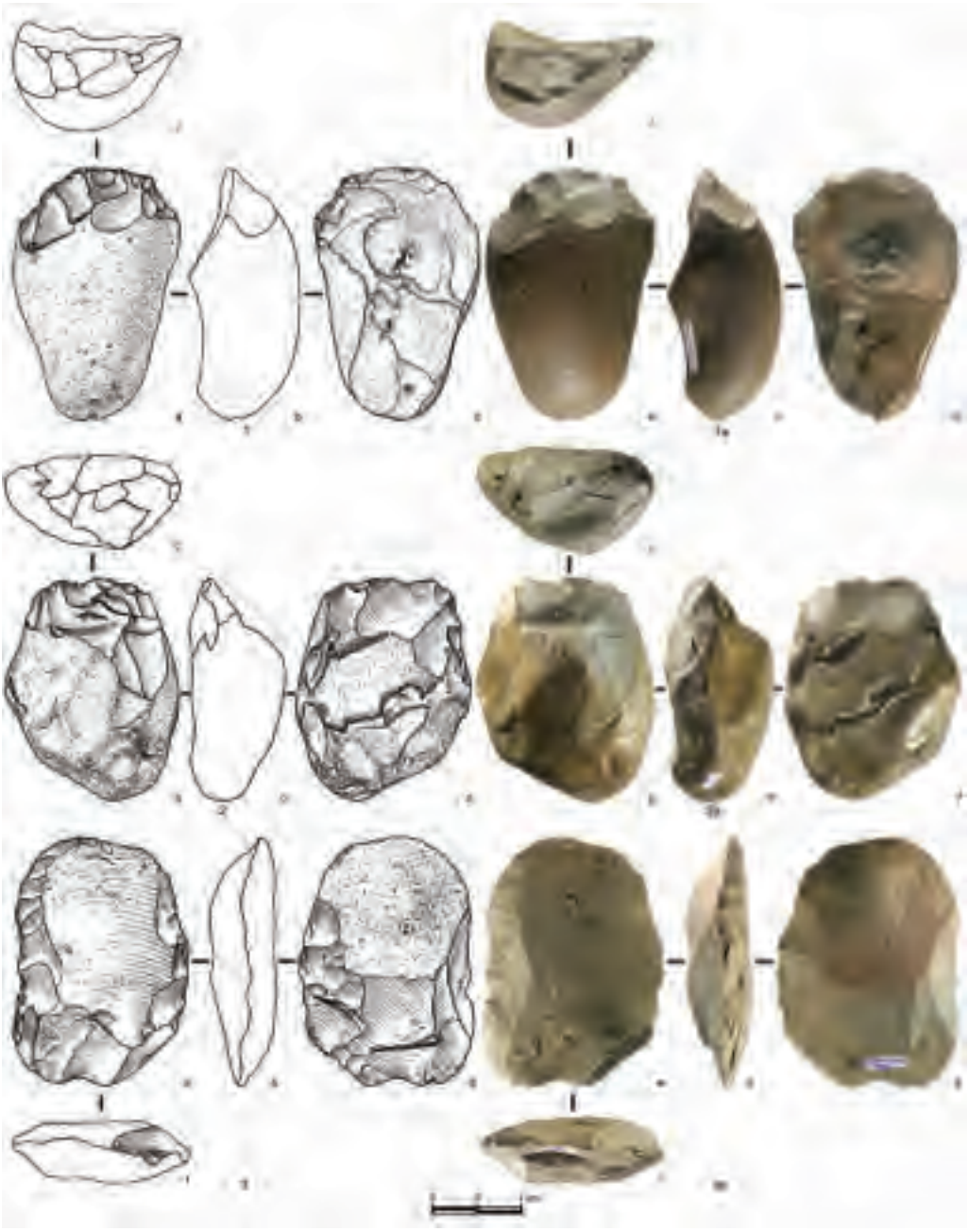

Figure 18. Lower Palaeolithic flint artefacts (choppers and partial biface on cortical flake) from Mushakan-1 open-air site (Ararat Depression) collected by B. Gasparyan in 2001 (after Gasparyan *et al*. 2014).

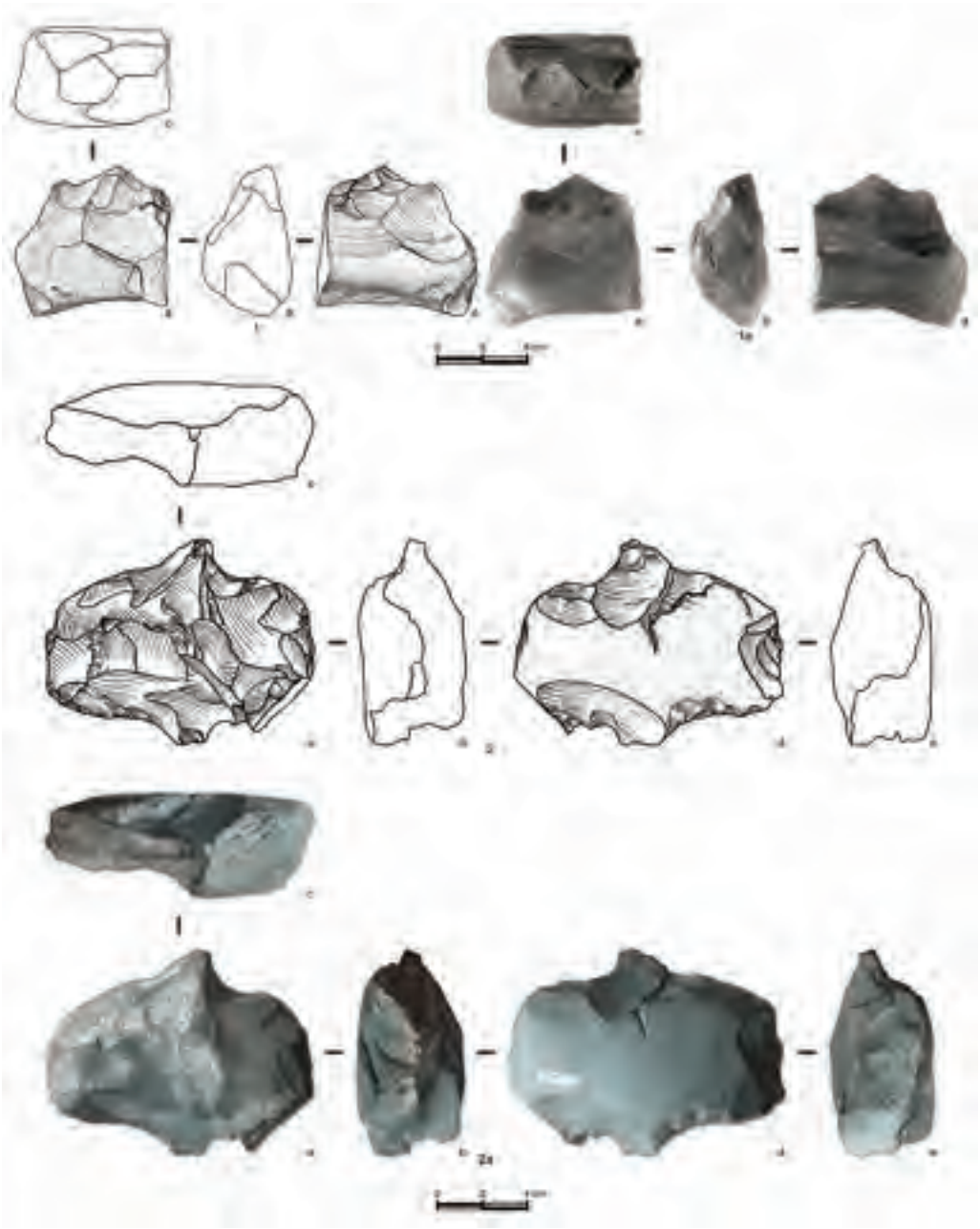

Figure 19. Lower Palaeolithic dacite and basalt artefacts (pebble points) from Voskevaz (1) and Tsaghkalanj-1 (2) localities (Ararat Depression) collected by B. Gasparyan in 2003 and 2006.

Figure 20. Lower Palaeolithic basalt artefacts (chopper and biface) from Agarak-1 open-air site (Ararat Depression) collected by B. Gasparyan in 2012.

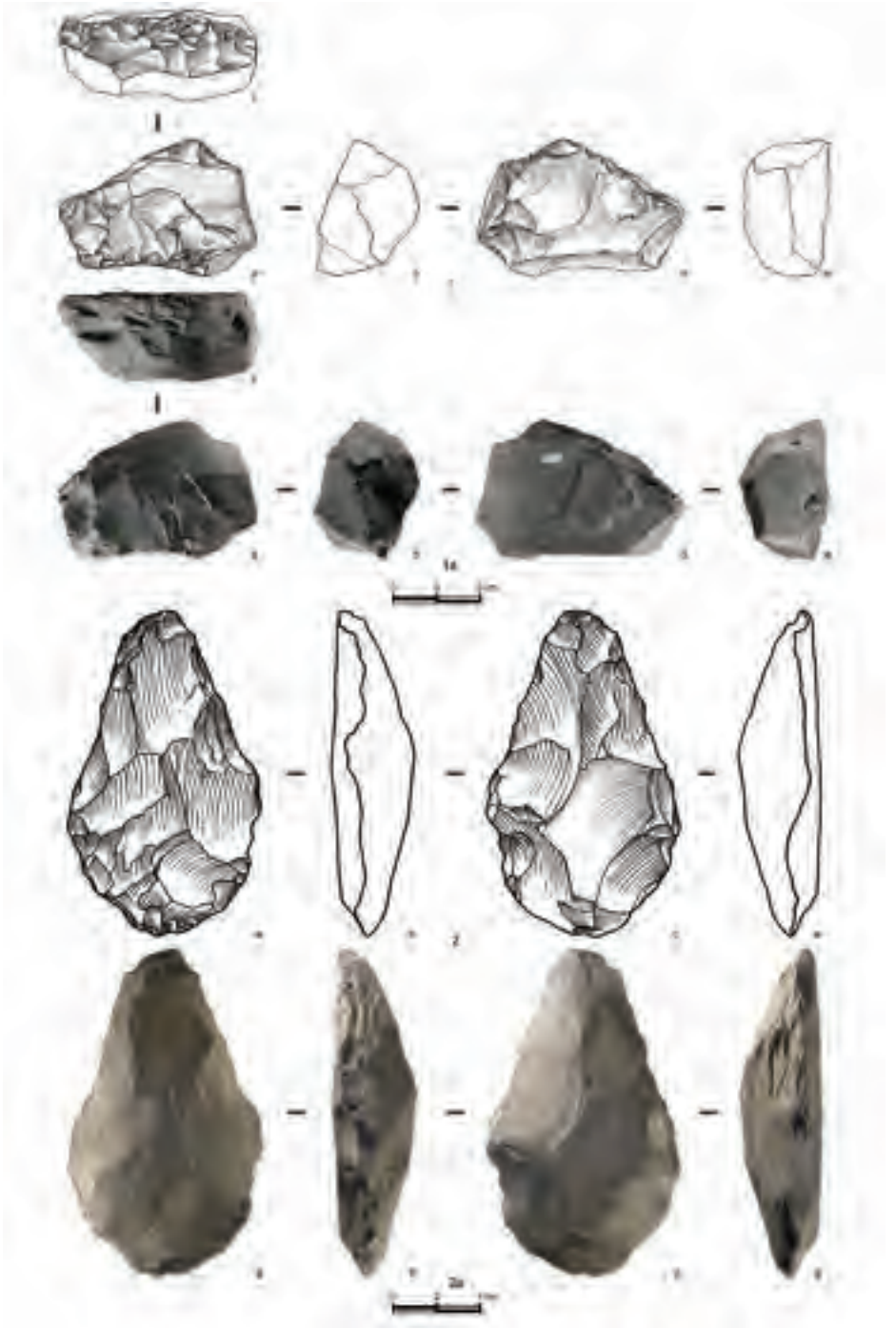

Figure 21. Lower Palaeolithic basalt and dacite artefacts (chopper and biface) from Jrapi (Shirak Depression) and Stepanavan (Lori Depression) collected by B. Gasparyan in 2009 and 2015.

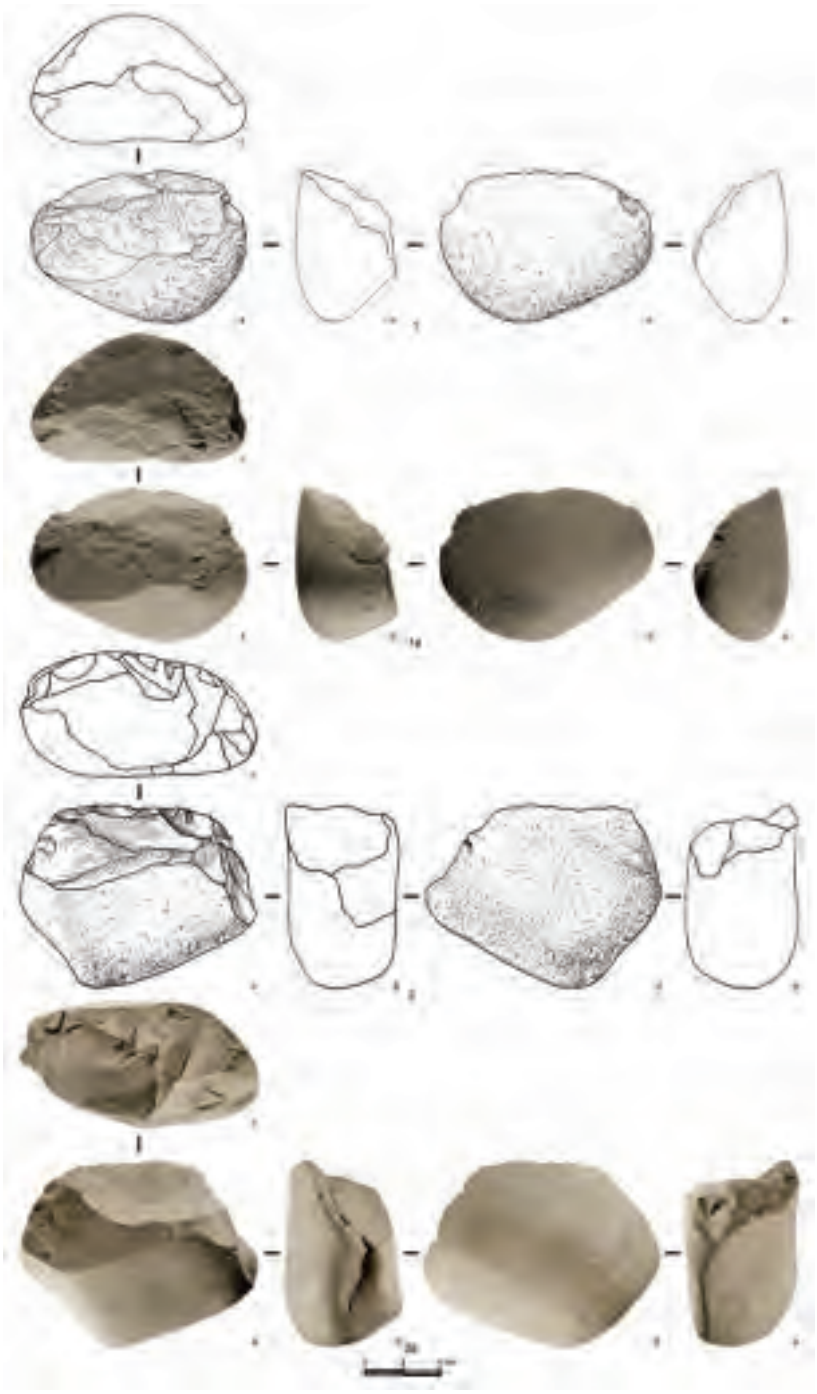

Figure 22. Lower Palaeolithic basalt artefacts (choppers) from Unit 11 of the Areni-2 cave (2018 excavation season).

Figure 23. Lower Palaeolithic limestone artefacts (choppers) from the front slope of Areni-1 cave (2007-2010 excavation seasons).

Figure 24. Acheulian limestone handaxes: 1-1a from Yelpin-1 open-air site (the Arpa River valley) found in 2011 and 2-2a from the first or upper Lower Palaeolithic layer of Haghtanak-3 open-air site (2011 excavation season).

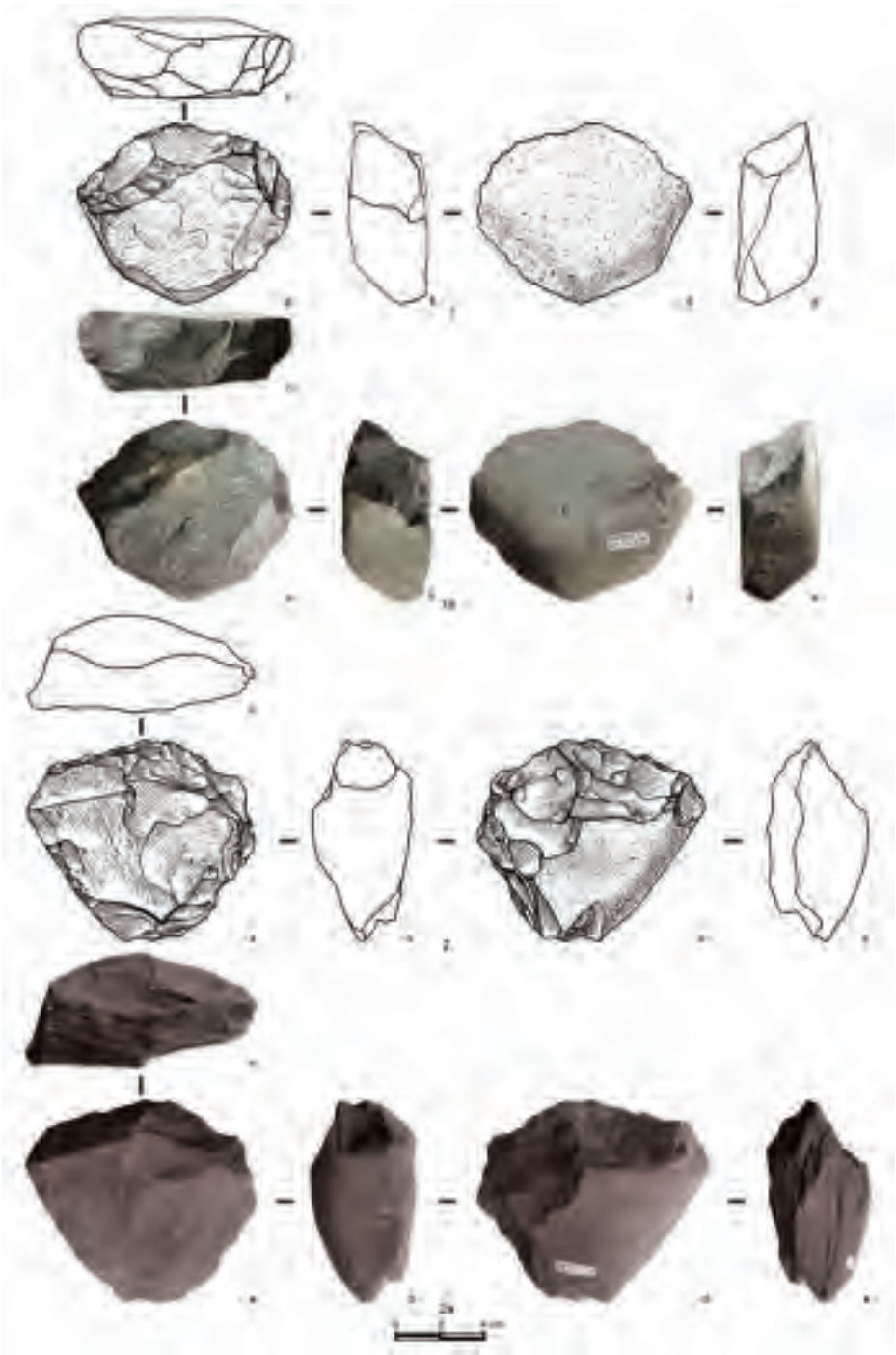

Figure 25. Oldowan basalt and tuff choppers form the lower layer of Haghtanak-3 open-air site resting on basaltic bedrock (2010 and 2014 excavation seasons).

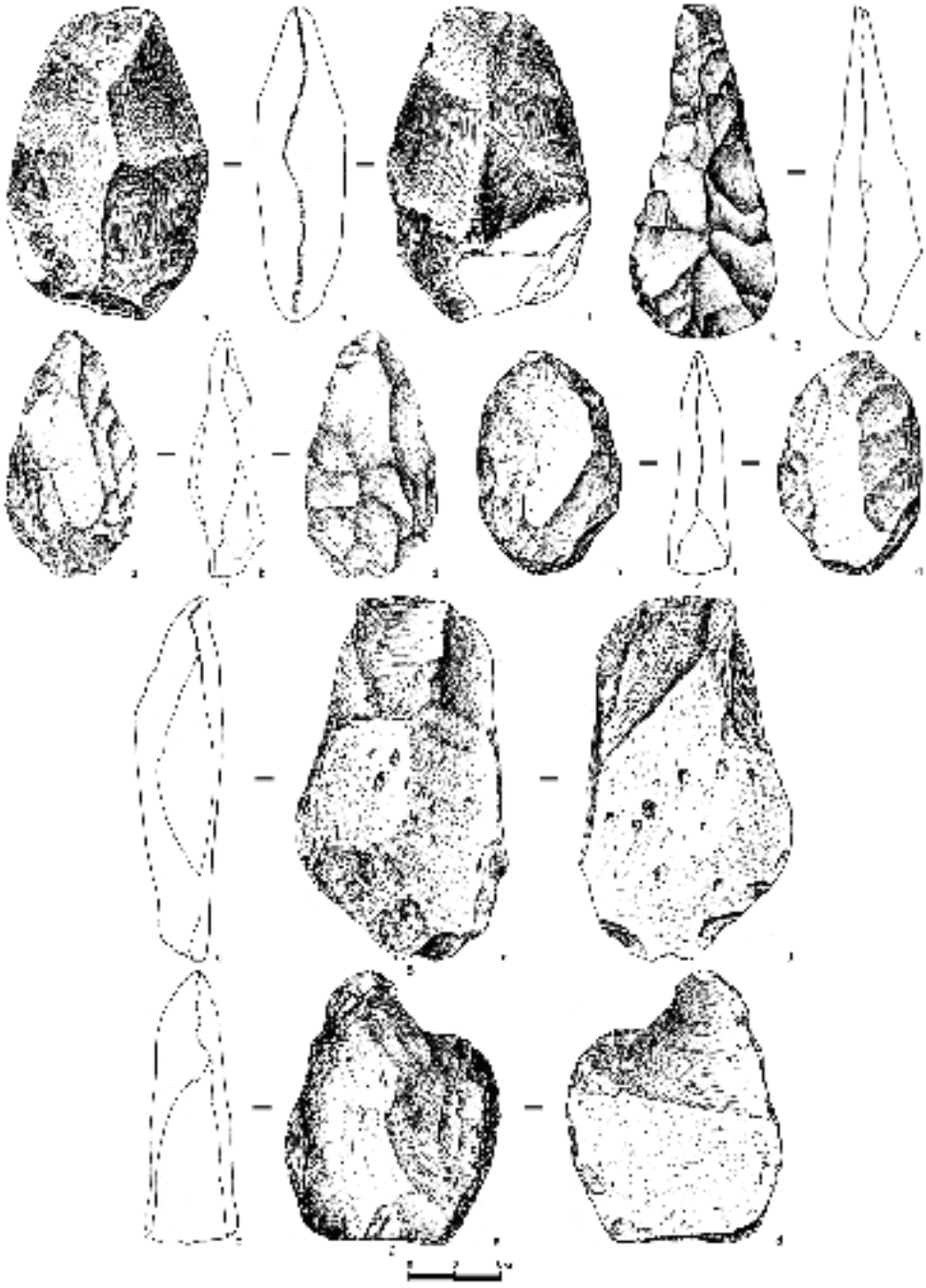

Figure 26. Acheulian dacite bifacial implements collected by Armenian-Russian joint expedition from the open-air localities spread near lacustrine deposits of the Lori Depression (Blagodarnoe-1, Dashtadem-1, Metsavan-1, Paghaghbyur-5 and Kurtan) during 2003-2007 (after Lyubin, Belyaeva 2006b).

Figure 27. Lower Palaeolithic basalt and dacite artefacts (choppers, handaxes and picks) collected by the members of Armenian-French joint expedition and Shrak Regional Museum from the open-air localities (Aghvorik, Tavshut, Sizavet, Tzoghamarg, Ghazanchi-Hovasar, Shirakavan, Beniamin) of the Shirak Depression and the Haykadzor caves (the Akhurian River canyon) during 2000-2003 campaigns (after Khachatryan *et al.* 2013) .

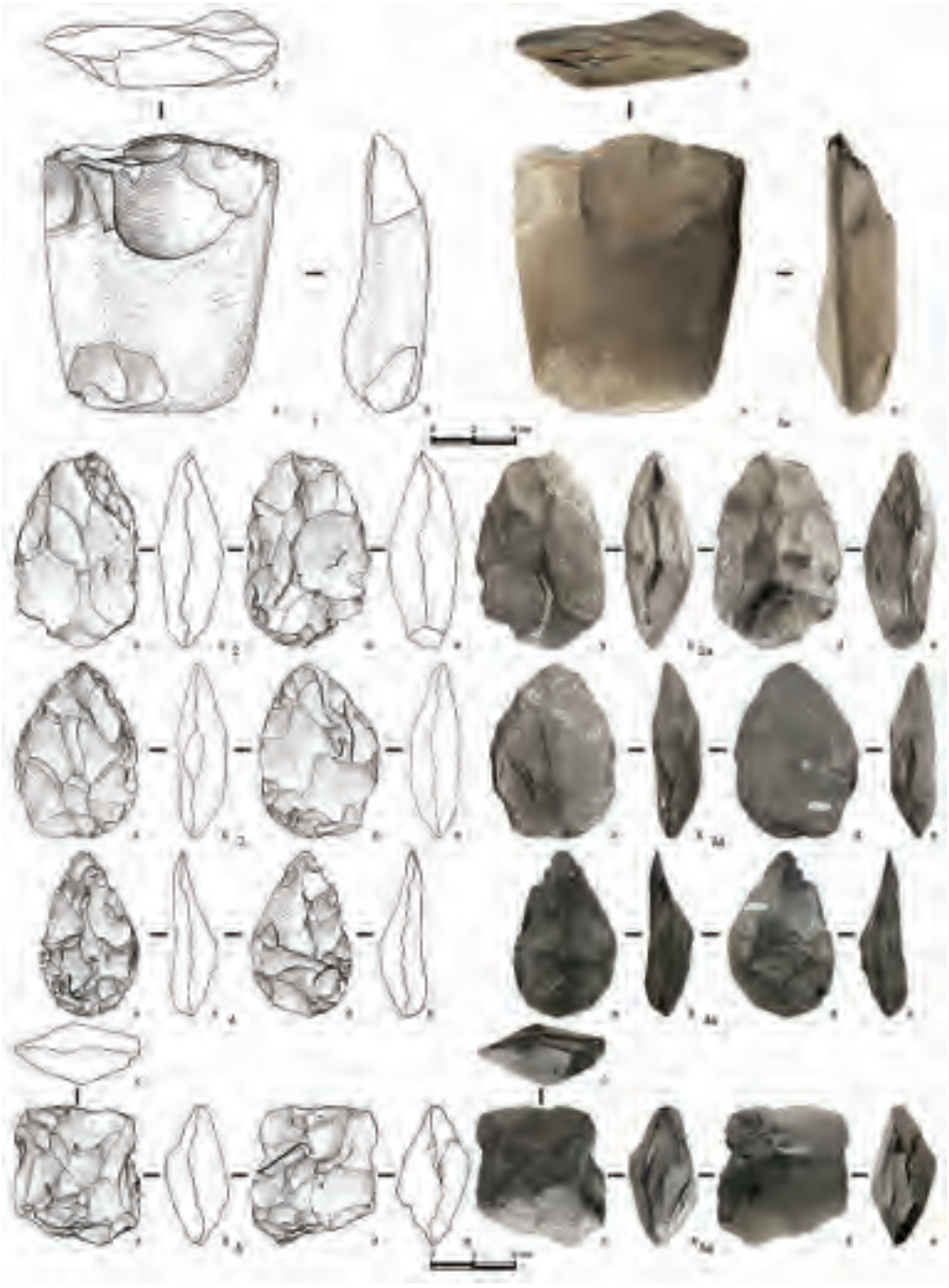

Figure 28. Lower Palaeolithic limestone and dacite artefacts (chopper and handaxes) collected by the members of Armenian-French joint expedition near lacustrine deposits of the Aparan Depression (Ria-Taza-5, Mirak-2, Ria-Taza-2, Kuchak-3) during 2001-2009 campaigns.

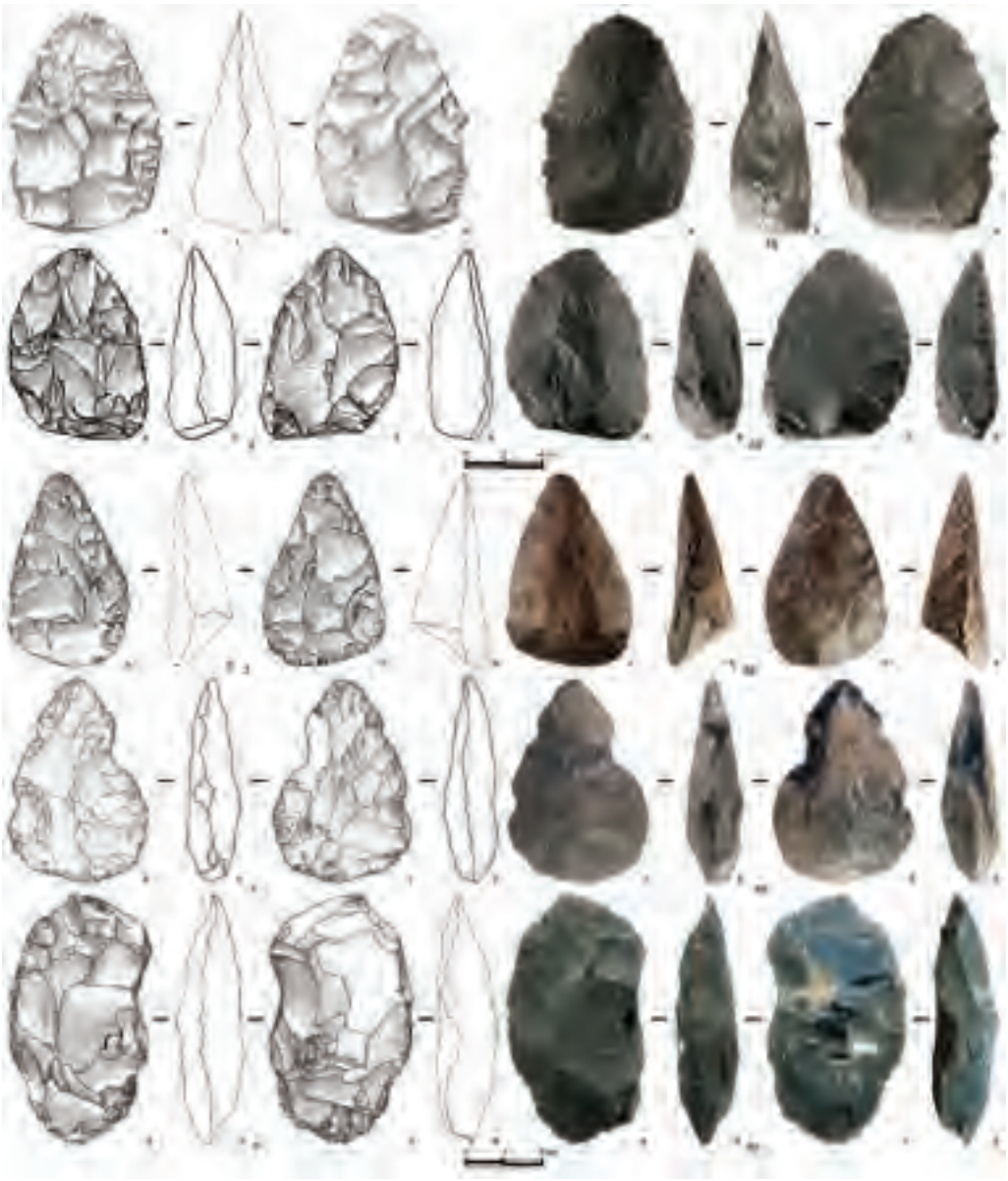

Figure 29. Acheulian obsidian handaxes collected by the members of Armenian-French joint expedition near lacustrine deposits of the Aparan Depression (Saralanj-1, Kuchak-3, Mulki-4, Kuchak-2) during 2001-2009 campaigns.

Figure 30. Early Acheulian dacite artefacts (choppers and handaxe) from the Aghavnatun group of open-air collected and excavated by B. Gasparyan during 2003-2013 campaigns.

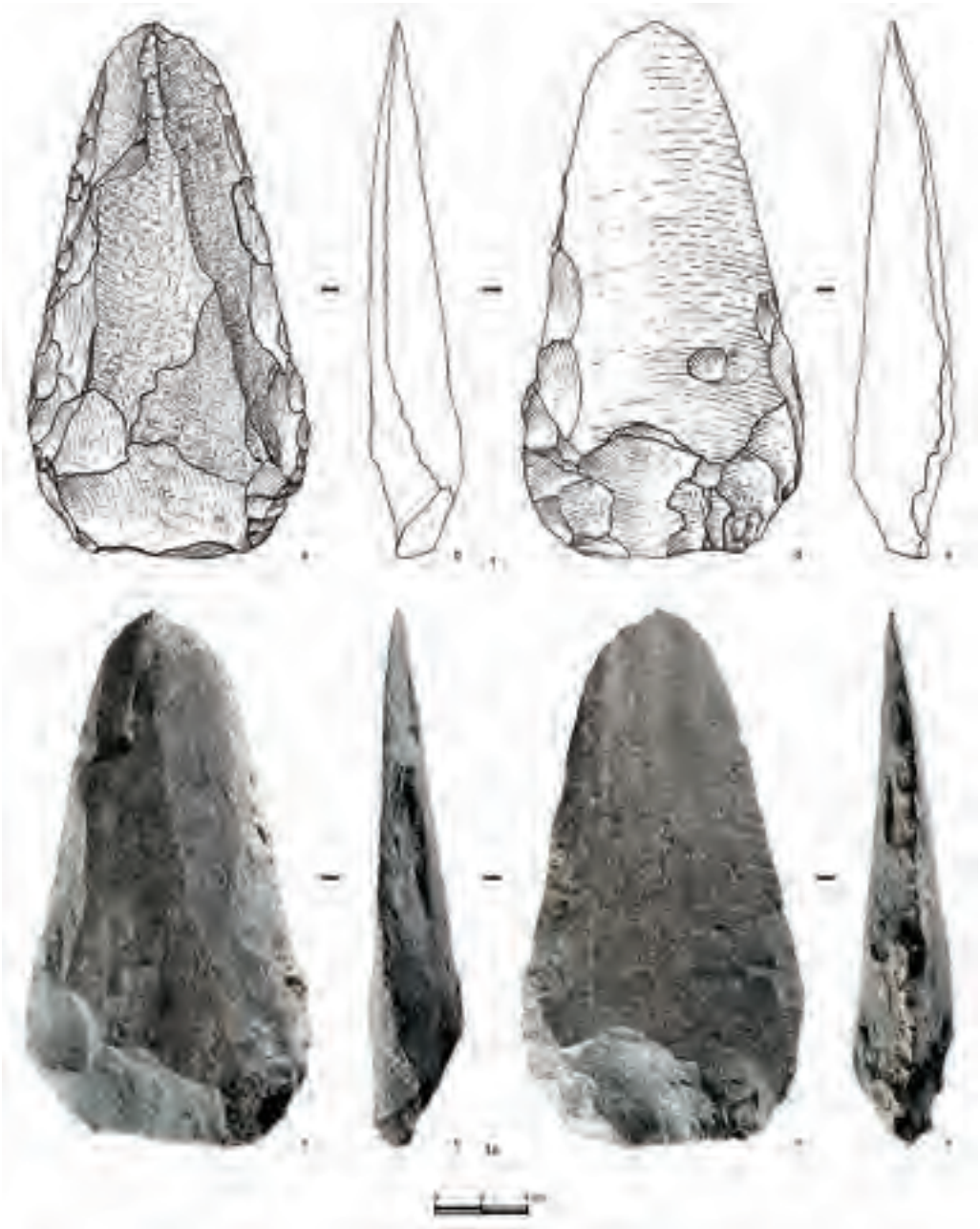

Figure 31. Acheulian dacite massive handaxe from Dalarik-1 cave (Mastarahegheghat River canyon, Ararat Depression) test excavations by the Armenian-Japanese joint expedition (2018 field season).

Figure 32. Acheulian dacite and obsidian bifaces and unifaces from Dalarik-1 cave (Mastaraheghegheghat River canyon, Ararat Depression) by the Armenian-Japanese joint expedition (2018 field season).

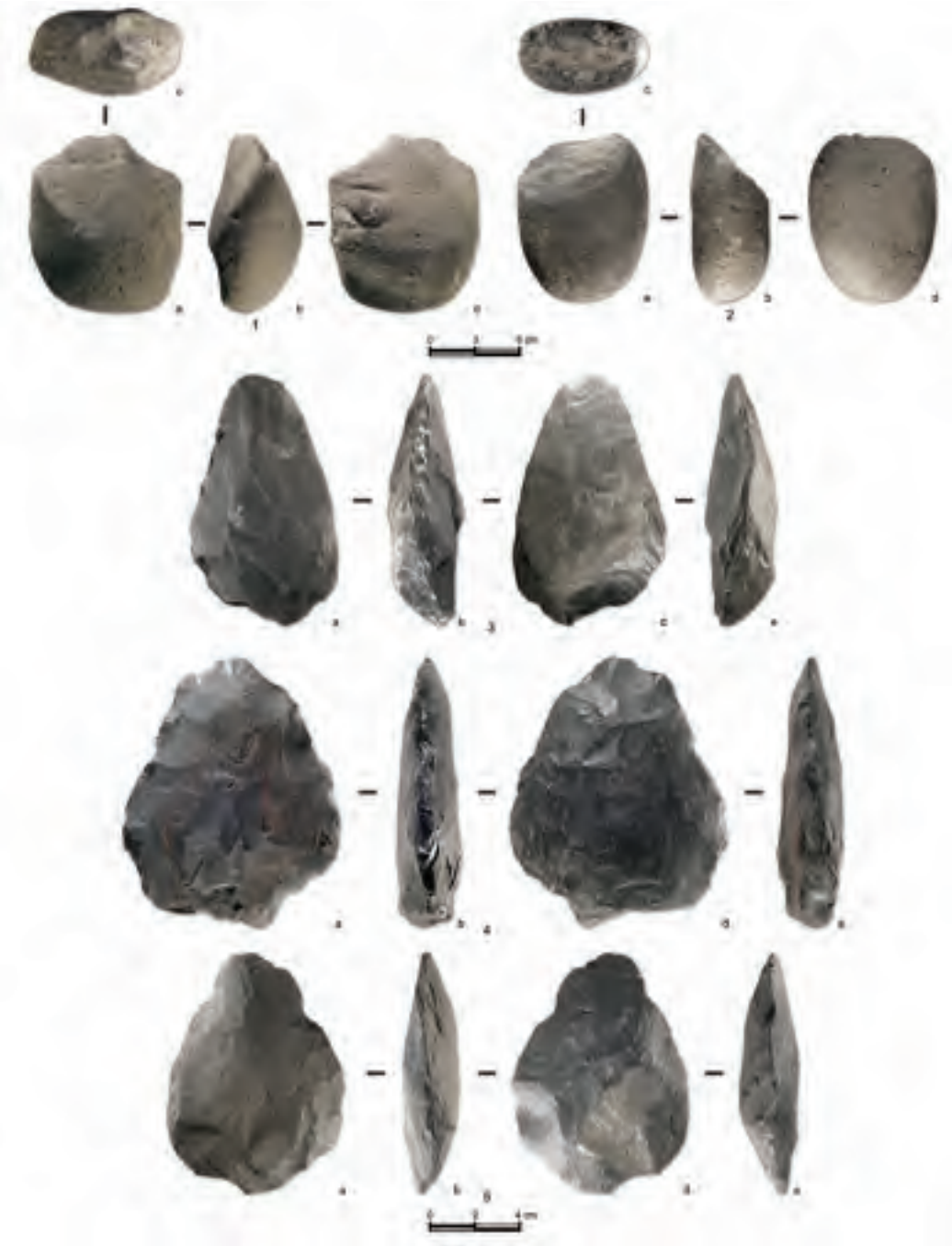

Figure 33. Lower Palaeolithic dacite and obsidian artefacts (choppers and handaxes) collected by the members of the Armenian-Austrian joint expedition on the southern slopes of Mt. Hatis (Hrazdan-Kotayk Plateau) during 2006-2007 campaigns.

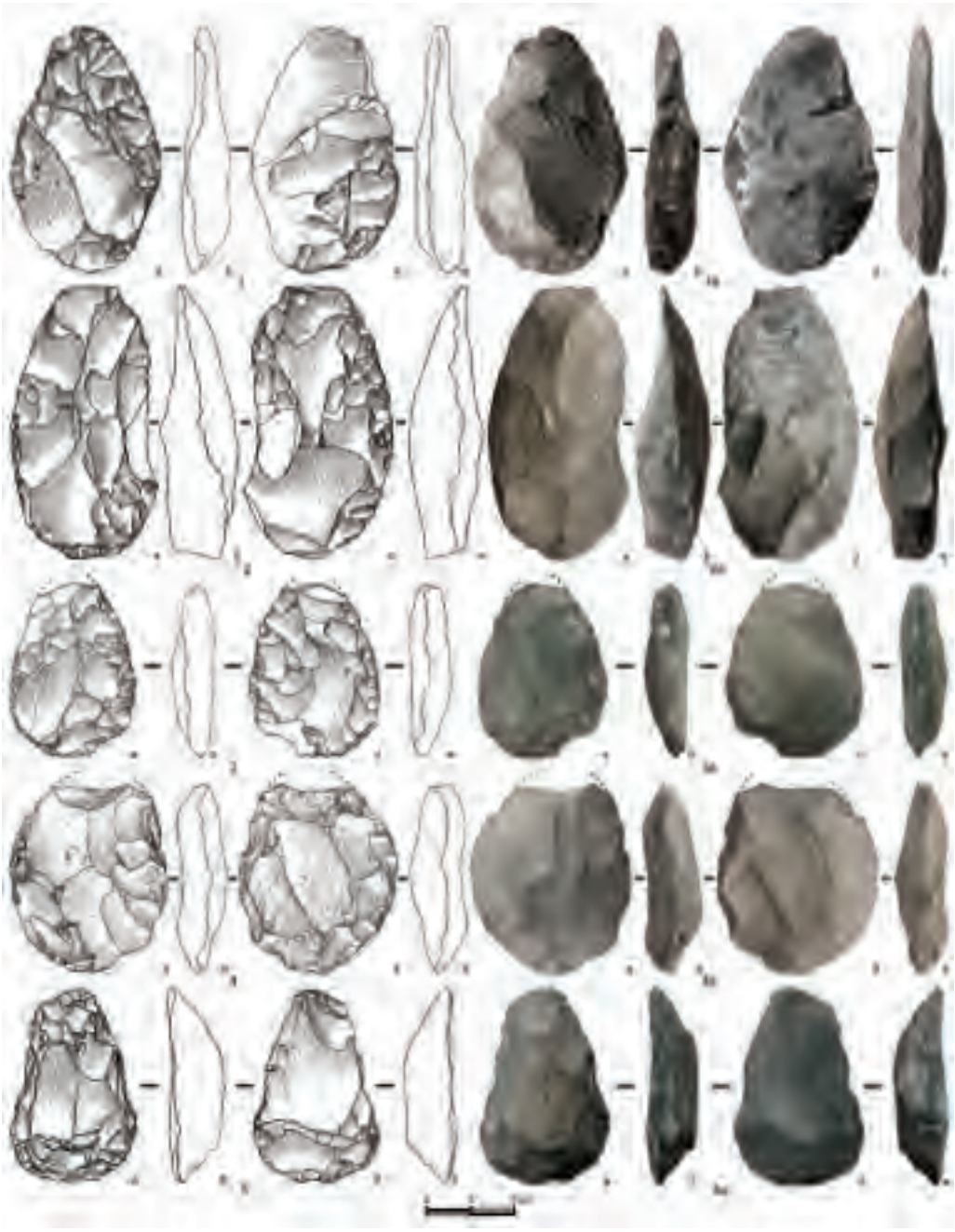

Figure 34. Late Acheulian dacite and obsidian bifaces collected and test excavated by the members of the Armenian-American joint expedition in Jraber-17 open-air site located in direct proximity of the obsidian raw material sources (Hrazdan-Kotayk Plateau) during 2013 field season (after Gasparyan *et al.* 2014).

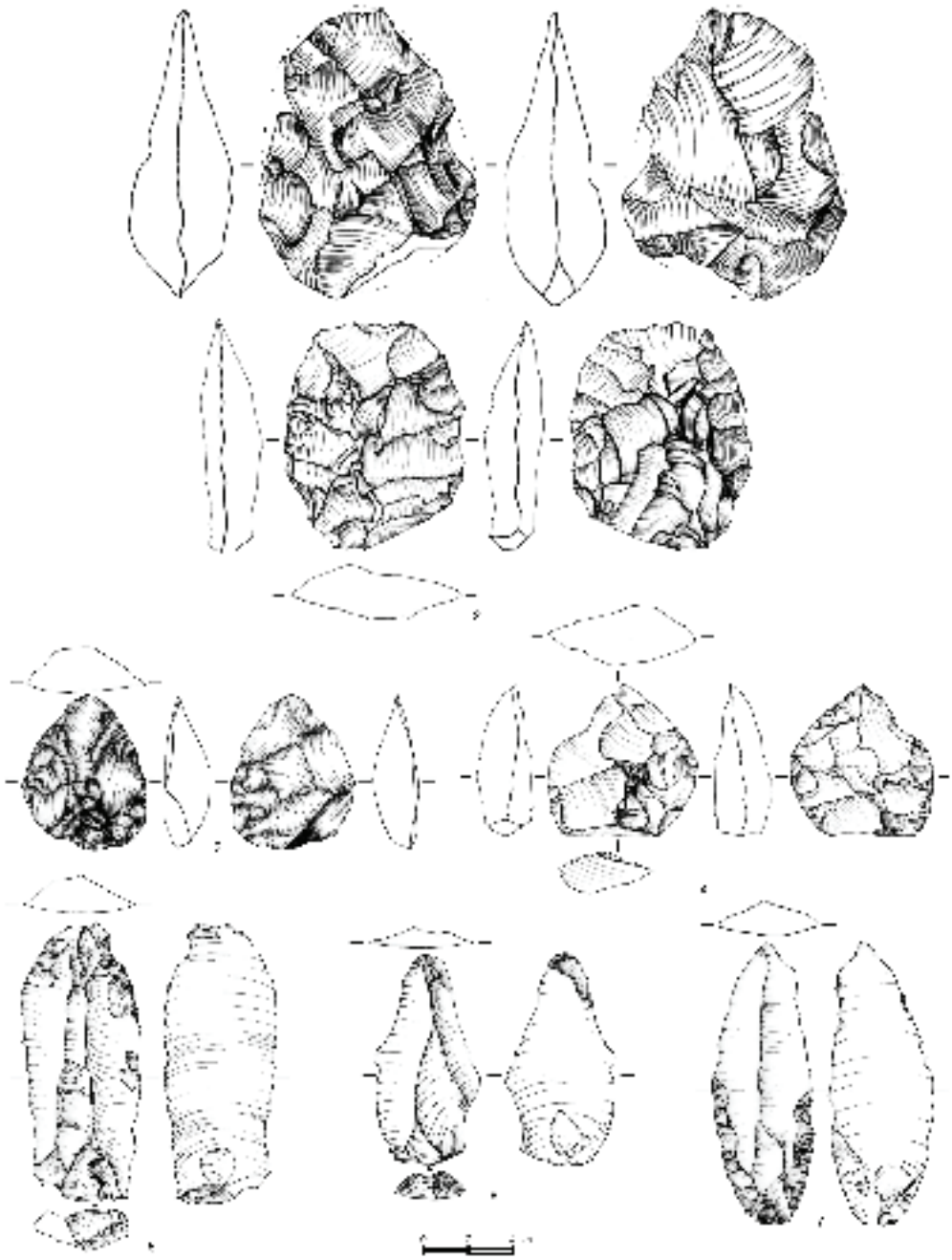

Figure 35. Late Acheulian obsidian handaxes (1-4, Mode-2) and Early Middle Palaeolithic Levallois blades and point with retouched base (5-7, Mode-3) excavated by the Armenian-American joint expedition from Nor-Geghi-1 open-air site (Hrazdan River gorge) during 2008-2009 field seasons (after Adler *et al*. 2014a; 2014b).

Summaries
Ամփոփումներ

ՔԱՐԻ ԴԱՐԻ ՈՒՍՈՒՄՆԱՍԻՐՈՒԹՅՈՒՆԸ ՀԱՅԱՍՏԱՆԻ ՀԱՆՐԱՊԵՏՈՒԹՅՈՒՆՈՒՄ (ՄԱՍ 1 – ՍՏՈՐԻՆ ՊԱԼԵՈԼԻԹ)

ԲՈՐԻՍ ԳԱՍՊԱՐՅԱՆ, ԴԱՆԻԵԼ Շ. ԱԴԼԵՐ, ՔԵՅԹ Ն. ՎԻԼՔԻՆՍՈՆ, ՍԱՄՎԵԼ ՆԱՀԱՊԵՏՅԱՆ, ՉԱՐԼԶ Փ. ԷԳԵԼԱՆԴ, ՓԻԼԻՊ Ջ. ԳԼԱՈՒԲԵՐՄԱՆ, ԱՐԻԵԼ ՄԱԼԻՆՍԿԻ-ԲՈՒԼԵՐ, ԴՄԻՏՐԻ ԱՌԱՔԵԼՅԱՆ, ՄԱԿՈՏՈ ԱՐԻՄՈՒՐԱ, ՌՈԲԵՐՏՈ ԴԱՆ, ԷԼԵՐԻ ՖՐԱՀՄ, ՀԱՅԿ ՀԱՅԴՈՍՅԱՆ, ՀԱՅԿ ԱԶԻԶԲԵԿՅԱՆ, ԱՐԹՈՒՐ ՊԵՏՐՈՍՅԱՆ, ԷՆԴՐՅՈՒ Վ. ՔԵՆԴԼ

Հայկական լեռնաշխարհի մաս կազմող Հայաստանի Հանրապետության տարածքը հանդիսանում է Աֆրիկայի և Եվրասիայի միջև ընկած դինամիկ միջանցքի կենտրոնական հատվածը, ինչի համար Հայաստանը, որպես այդպիսին, որոշիչ դիրք է գրավում մարդկային բնակության սկզբնափուլերն ընկալելու և Մերձավոր Արևելքի ինագույն քաղաքակրթությունների ձևավորման օրինաչափությունները երևան բերելու ասպարեզում: Հայաստանի տարածքում քարիդարյան առաջին առարկաները փաստագրվել են սկսած 19-րդ դ. վերջերից, և դրանց առկայությունը ցույց է տալիս, որ մեր երկրի տարածքը գրավիչ է եղել երկրագնդի հնագույն բնակչության համար՝ սկսած վաղ հոմինիդներից մինչև էնեոլիթյան դարաշրջանի վաղ կոմպլեքս հասարակությունների ձևավորումը: Սույն աշխատությունը Հայաստանի քարի դարի հնագիտության ուսումնասիրության ասպարեզում՝ արդեն մեկ դարից ավել ընթացող աշխատանքների ամփոփման և նվաճումների համակարգման առաջին փորձն է:

Հոդվածը բաղկացած է չորս մասից. Մաս 1-ում ներկայացված է Հայաստանի տարածքի պալեոլիթի ուսումնասիրության պատմությունը 19-րդ դ. վերջից և 20-րդ դ-ում, ինչպես նաև վերջին 20 տարիների ընթացքում ստորին պալելոլիթի ուսումնասիրության ասպարեզում արձանագրված նվաճումները: Մաս 2-ը նվիրված է միջին և վերին պալեոլիթների ուսումնասիրության ասպարեզում արձանագրված համանման առաջընթացին: Մաս 3-ում ներկայացվելու է Հայաստանի նեոլիթ-էնեոլիթյան շրջափուլի ուսումնասիրության պատմությունը, որտեղ ներառված են վերջերս իրականացված պեղումներից և հայտնագործություններից ձեռք բերված տվյալները: Եվ, վերջապես, Մաս 4-ը կենտրոնացված է լինելու ժայռային արվեստի ուսումնասիրության, ինչպես նաև արդի հնագիտական գիտության զարգացման պատմությանն ընդհանրապես: Համառոտ կերպով քննարկվելու են նաև ապագա ծրագրերը և դրանց իրականացման հեռանկարները:

Abbreviations

AAASH	Acta Antiqua Academiae Scientiarum Hungaricae, Budapest
ACSS	Ancient Civilizations from Scythia to Siberia, Leiden
ADOG	Abhandlungen der Deutschen Orient-Gesellschaft, Leipzig Berlin Saarbrücken Wiesbaden
AfO	Archiv für Orientforschung, Berlin Graz Horn
AGV	Armjanskij gumanitarnyh vestnik, Moscow Yerevan
AI	Acta Iranica, Leiden
AJA	American Journal of Archaeology, Boston, Mass.
AJNES	Aramazd: Armenian Journal of Near Eastern Studies, Yerevan
AK	Archäologisches Korrespondenzblatt: Urgeschichte, Römerzeit, Frühmittelalter, Mainz
AmAn	American Anthropologist: New Series, Washington
AMI	Archäologische Mitteilungen aus Iran, Neue Folge, Berlin
AMI (Erg.)	Archäologische Mitteilungen aus Iran (Ergänzungsband), Berlin
AMIT	Archäologische Mitteilungen aus Iran und Turan, Berlin
AN	Arxitekturnoe nasledstvo (Architectural Legacy), Moscow
AnAr	Anadolu Araştırmaları (JKlF Jahrbuch für Kleinasiatische Forschungen), İstanbul
ANES	Ancient Near Eastern Studies, Louvain
AnSt	Anatolian Studies. Journal of the British Institute at Ankara, London
AO	Arxeologičeskie otkrytija, Moscow
AOAT	Alter Orient und Altes Testament, Kevelaer / Neukirchen-Vluyn
AoF	Altorientalische Forschungen, Berlin
ASb	Arxeologičeskij sbornik, St. Petersburg
AST	Araştırma Sonuçları Toplantısı, Ankara
BaghM(itt.)	Baghdader Mitteilungen, Berlin
BAR–IS	British Archaeological Reports. International Series, Oxford
BASOR	Bulletin of the American Schools of Oriental Research, New Haven
BAVA	Beiträge zur Allgemeinen und Vergleichenden Archäologie, München
BBVF	Berliner Beiträge zur Vor- und Frühgeschichte, Neue Folge, Berlin
BEH	Banber Erevani hamalsarani, Yerevan
DHAA	Hayastani Hanrapetut‘yunum daštayin hnagitakan ašxatank‘neri ardyunk‘nerin nvirvac gitakan nstašrǰan. Zekuc‘umneri t‘ezisner (Conference Devoted to Archaeological Fieldwork Results in the Republic of Armenia, Abstracts of Reports), Yerevan
DocAs	Documenta Asiana, Roma
DrV	Drevnij Vostok, Yerevan
HA	Handēs Amsoreay (Zeitschrift für armenische Philologie), Wien
HHM	Hin Hayastani mšakuyt‘ə (The Culture of Ancient Armenia), Yerevan
IA	Iranica Antiqua, Leiden
IstM(itt.)	Istanbuler Mitteilungen, Istanbul / Tübingen
JA	Journal Asiatique, Paris
JAR	Journal of Archaeological Research, Dordrecht Berlin
JAS	Journal of Archaeological Science, Amsterdam
JFA	Journal of Field Archaeology, Boston
JHE	Journal of Human Evolution, New York
JIES	Journal of Indo-European Studies, Hattiesburg
JMA	Journal of Mediterranean Archaeology, London
JWG	Jahrbuch für Wirtschaftsgeschichte, Berlin Boston New York

JWP	Journal of World Prehistory, New York
KSIA	Kratkie soobščenija Instituta arxeologii, Moscow
KSIIMK	Kratkie soobščenija Instituta istorii material'noj kul'tury. Moscow
LHG	Lraber hasarakakan gitut'yunneri (= VON Vestnik obščestvennyx nauk), Yerevan
MAK	Materialy po arxeologii Kavkaza (Materials on Archaeology of the Caucasus), Moscow
MDOG	Mitteilungen der Deutschen Orient- Gesellschaft, Berlin
OIP	Oriental Institute Publications, University of Chicago, Chicago
PAM	Polish Archaeology in the Mediterranean, Warsaw
PBH	Patma-banasirakan handes (= IFŽ Istoriko-filologičeskij žurnal), Yerevan
PZ	Praehistorische Zeitschrift, Berlin
RB	Revue Biblique, Paris
RÉA	Revue des études arméniennes, Paris
RGTC	Répertoire géographique des textes cunéiformes, Wiesbaden
RlA	Reallexikon der Assyriologie und Vorderasiatischen Archäologie, Berlin Leipzig New York
SA	Sovetskaja arxeologija, Moscow
SAOC	Studies on Ancient Oriental Civilizations, Chicago, Ill.
SMEA	Studi Micenei ed Egeo-Anatolici, Roma
TBG	'Tełekagir' GA HSSH (bnakan gitut'yunner), Yerevan
THG	'Tełekagir' GA HSSH (hasarakakan gitut'yunner), Yerevan
TÜBA-AR	Türkiye Bilimler Akademisi Arkeoloji Dergisi, Ankara
VBGA	Verhandlungen der Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte, Berlin
VDI	Vestnik drevnej istorii, Moscow
WZKM	Wiener Zeitschrift für die Kunde des Morgenlandes, Vienna
ZfE	Zeitschrift für Ethnologie, Braunschweig

ARAMAZD

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