

# The Neolithic Settlement of Aknashen (Ararat valley, Armenia)

Excavation seasons 2004-2015

edited by

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and Armine Harutyunyan



ARCHAEOPRESS PUBLISHING LTD

Summertown Pavilion

18-24 Middle Way

Summertown

Oxford OX2 7LG

[www.archaeopress.com](http://www.archaeopress.com)

ISBN 978-1-80327-002-9

ISBN 978-1-80327-003-6 (e-Pdf)

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Cover image: View of the Ararat valley from Aknashen

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## Acknowledgements

The authors are deeply grateful to the institutions that enabled the realization of the Aknashen excavations for many years: the French Ministry of Foreign Affairs, which supports the archaeological mission 'Caucasus', the Institute of Archaeology and Ethnography of the National Academy of Sciences of Armenia, the National Center of Scientific Research (CNRS) and the Archéorient laboratory (UMR 5133, CNRS - University Lyon 2).

We are extremely grateful to the directors of the Institute of Archaeology and Ethnography of the National Academy of Sciences of Armenia – Aram KALANTARYAN (1993 – 2006) and Pavel AVETISYAN (2006 – present) – for their constant assistance on the scientific, administrative and financial levels and for their interest in our work.

Our thanks also go to the Agency for the Protection of Monuments of History and Culture of the Ministry of Culture of the Republic of Armenia.

We are also sincerely grateful to the French Embassy in Yerevan, which provided us with permanent support, and especially to Mr. Jean-Michel KASBARIAN (Counsellor for Cooperation and Cultural action between 2013 and 2016), for his understanding of the significance of this Armenian-French project.

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# Introduction

Ruben Badalyan, Christine Chataigner and Armine Harutyunyan

In the archaeology of Armenia of the first half of the 20th century, the Neolithic period was perceived *a priori* as an obligatory, but not a specific element of archaeological periodization. Its imaginary material embodiment remained vague for a long time, covering a broad spectrum of sites and material, ranging from isolated discoveries of stone polished and perforated axes, to some of the rock carvings of the Aragats, Gegham and Syunik ranges, the settlements of the Kura-Araxes culture and the cyclopean fortresses, which only later received precise chronological and cultural attribution (Bayburtyan 1933).

Together with a gradual refinement of the notion of Neolithic in Armenia, this period was gradually being filled with real material. The Neolithic of Armenia began to acquire a more or less specific content only by separating typologically attributed tools from the mass of artefacts found on obsidian extraction sites, on the Aragats (Arteni) and Hatis volcanoes.

The first knowledge of the Late Neolithic culture of the South Caucasus (Figure 1) started with the excavations of the settlement of Kültepe I near Nakhichevan (1951-1964) (Abibullaev 1982).<sup>1</sup> It was only with the discovery of the site of Shomutepe in the first half of the 1960s in the middle Kura basin, in north-western Azerbaijan, that this newly identified culture was called the 'Shomutepe culture' (Narimanov 1965); then, when in the mid-1960s similar sites (Shulaveri, Arukhló, etc...) were discovered in Georgia, the name became 'Shomutepe-Shulaveri' or 'Shulaveri-Shomutepe' culture (Kiguradze 1976).

## A history of the study of Late Neolithic sites in Armenia

On the territory of Armenia, sites of the same culture or chronologically close, consisting of small anthropogenic mounds ('blur' in Armenian) covering an area of 1 to 3 hectares and reaching 4m in height, were identified for the first time in the 1960s in the Ararat valley (Figures 2a and 2b); these were grouped under the name 'group of sites of the Kghzyak blur type': Kghzyak-blur (Ada-blur), Mashtots-blur/Mkhltapa (Tsaghkunk), Kasakh I-III, Sev-blur II, Terteri dzor, and Aghvesi bner (Sardaryan 1967).

Some of these sites and a number of other settlements, compactly located in the lower valleys of the tributaries of the left bank of the Araxes –the Sevjur (Metsamor), Kasakh and Hrazdan rivers –, were the focus of small-scale excavations in the years 1960-90, the results of which, however, remained unpublished. Nevertheless, the data collected made it possible to attribute to the Late Neolithic the sites of Aratashen (Kasakh II?), Aknashen (formerly Verin Khatunarkh), Masis Blur (Engidja) and Tsaghkunk.

A new stage in the study of the Late Neolithic in Armenia was marked by the resumption of excavations at the Aratashen settlement. The latter is located on the north-eastern outskirts of the village of the same name, 5km south-west of Vagharshapat (in Armavir province), on the western (right) bank of the Kasakh river, at an elevation of 852m above sea level (coordinates: N 40°08'08.2", E 44°14'05.3"). Excavations were carried out by S. Sardaryan (1976-1977), then by S. Aslanyan (1988-1990), but their results were not published.<sup>2</sup> Further excavations were carried out from 1999 to 2004 by an Armenian-French expedition under the direction of P. Lombard and R. Badalyan, in the framework of the 'Caucasus' mission.<sup>3</sup> The excavations of Aratashen initiated the formation of a representative data base for the study of the Neolithic culture in Armenia (Badalyan *et al.* 2002; 2004a; 2004b; 2005; Palumbi and Badalyan 2005; Badalyan *et al.* 2007; Palumbi 2007; Chabot *et al.* 2009; Arutyunyan and Mnatsakanyan 2010; Bălăşescu *et al.* 2010; Arutyunyan 2011; Chabot and Pelegrin 2012; Palumbi *et al.* 2014; Vila *et al.* 2017), and they encouraged systematic excavations of similar sites.

In order to gather comparative material, the settlement of Aknashen (Figure 3), 6km southeast of Aratashen, was selected as the most promising site for further research. The choice was due to the Neolithic date of the site established by previous excavations (R. Torosyan, several excavation seasons between 1969 and 1982), its relatively thick cultural layer, its geographical proximity to Aratashen and its good state of preservation (for comparison, note that the Aratashen hill was partially damaged by earthmoving works, while the Masis Blur

<sup>2</sup> With the exception of an article on the stone tools from the excavations by Aslanyan (Poplevko 2001).

<sup>3</sup> The excavations at Aratashen were funded by the French Ministry of Foreign Affairs, the National Center for Scientific Research (C.N.R.S.) and the Institute of Archaeology and Ethnography of the National Academy of Sciences of Armenia.

<sup>1</sup> For an analytical review of previous publications, and for the results of the new phase of excavations at this site, see Marro *et al.* 2019.



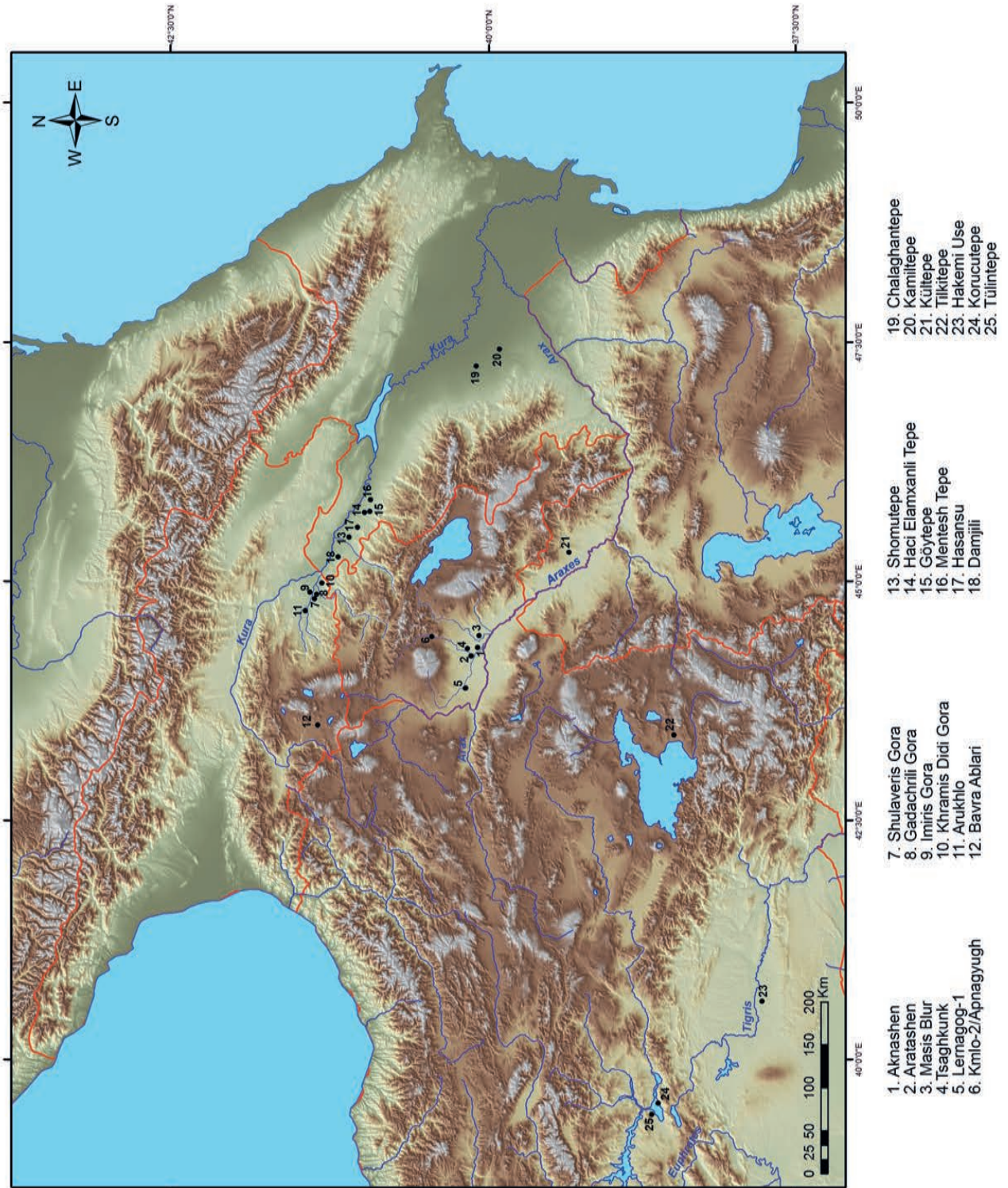


Figure 1. Map of the main sites mentioned in the text.





Figure 2. Top: Google map showing the location of the Ararat valley; Bottom: Aerial view of the Ararat valley (after C. Hormann 2006).





Figure 3. Aerial view of the Aknashen *blur* from the east (photo by A. Mkrtchyan).

and Tsaghkunk hills were completely levelled). The excavations at Aknashen were carried out under the direction of R. Badalyan and A. Harutyunyan in 2004-2009 and 2011-2019, in the framework of the Armenian-French project.<sup>4</sup> The work was carried out by means of extensive excavations and digging of stratigraphic trenches, in the process of which all the materials were studied and recorded, samples from the cultural layer were systematically subjected to flotation and about 70 charcoal or bone samples were radiocarbon dated. An interdisciplinary approach was applied both during the fieldwork and in the study of the materials, combining archaeology, biological anthropology, archaeozoology, archaeobotany, geomorphology, geology and geochemistry.

Excavations of Masis Blur in the Hrazdan river basin (at an altitude of 862m above sea level) have been resumed since 2012 (Martirosyan-Olshansky *et al.*

2013; Hayrapetyan *et al.* 2014; Martirosyan-Olshansky 2018a). Finally, the settlement of Tsaghkunk on the left (east) bank of the river Kasakh, at an altitude of 872m above sea level and a distance of 7.5km from Aknashen towards the north/north-west, excavated by R. Torosyan between 1966 and 1968, completes the list of Late Neolithic sites currently known in the Ararat valley (available data on Tsaghkunk in Petrosyan *et al.* 2018; Varoutsikos and Petrosyan in this volume).

This paucity of sites, which differs from the density of Late Neolithic settlements in the Kura valley, is clearly the result of centuries of extensive melioration in the Ararat valley. The almost complete anthropogenic transformation of its landscape has resulted in the destruction of many mounds, and considerably complicates the search for Neolithic sites. It is significant that the mounds of Masis Blur and Tsaghkunk were already completely levelled in Soviet times, and could no longer be topographically distinguished in the landscape. Nevertheless, in the search for new sites, one should bear in mind that, as shown by the excavations of Aknashen and Masis Blur, the Late Neolithic cultural

<sup>4</sup> The excavations at Aknashen were also funded by the French Ministry of Foreign Affairs, the National Center for Scientific Research (C.N.R.S.) and the Institute of Archaeology and Ethnography of the National Academy of Sciences of Armenia.

layer continues 1.5 to 2m below the present-day surface of the Ararat valley. The burying of occupation levels under alluvial sediment and aeolian deposits can also be observed in the Kura basin (for instance at Shulaveri in the Marneuli plain, or at Mentesh Tepe), where the ancient surface is located some 2m below the current level of the plain (Javakhishvili 1973: 9-10; Lyonnet *et al.* 2016: 172).

One should also add that, for some sites on the immediate periphery of the Ararat valley, it has been postulated that they yielded material of the Neolithic and Chalcolithic periods, respectively dated to the 7th/6th and 5th millennia BC (Akhtamir at the edge of the Kasakh river canyon in its middle course: about 350 pottery fragments; Simonyan 1998; 2000). If this preliminary data, published without further details on their origin (stratified? fortuitous?) and without associated obsidian items, are confirmed by the publication of materials typical of the Late Neolithic, then the number of sites will increase, and, simultaneously, the area of this culture will extend beyond the borders of the Ararat valley, including landscapes of other nature.

It is possible that on the territory of Armenia, Neolithic sites may have also existed in the valleys of the Aghstev and Debed rivers, at altitudes starting at about 500 meters above sea level. The geographical proximity of this area to the sites of the Shulaveri-Shomutepe group and the similarity of the landscapes make this hypothesis plausible.

### **The cultural and environmental context of the early Holocene in Armenia**

Before dealing with the results of the excavations at Aknashen (2004-2015 seasons), it is necessary to examine briefly the cultural and environmental context preceding the installation of this settlement in the Ararat valley.

In Armenia, several sites were attributed to the early Holocene (10th-7th millennia) (Petrosyan *et al.* 2014), but the only ones whose dates were secured by 14C were the Kmlo-2 cave, phases IV-III (10th-mid 8th millennium), on the eastern side of the Aragats massif, in the middle course of the Kasakh river valley (Arimura *et al.* 2010, 2014), and the rock shelter of Lernagog (first half of the 7th millennium) in the southern piedmont of the Aragats massif, on the Ararat valley's periphery (Arimura *et al.* 2018) (Figure 1). At these two sites, just like on contemporary sites of the South Caucasus whose chronologies were confirmed by 14C, in Georgia (Kotias Klde cave, layers B-A2; Bavra Ablari rock shelter, levels 4-3) (Meshveliani *et al.* 2007; Varoutsikos *et al.* 2018), and in Azerbaijan (Damjili cave, unit 5) (Nishiaki *et al.* 2019b), the subsistence economy was based only on hunter-gathering.

In the early Holocene, at Kmlo-2 (located at 1700m asl), the environment was open and steppe-like. In phase IV (10th-late 9th millennium), the remains of fauna testify to the presence of aurochs and bison, mountain goats and mouflons, and a few horses; in phase III (late 9th - mid 8th millennium), the proportion of wild bovids decreases, and wild boar and deer appear, suggesting the beginning of a transition towards a more forested cover, a hypothesis confirmed by plant remains (presence of oak). The lithic industry from phase IV is marked by a microlithic tradition (backed bladelets, scalene triangles), which evolves in phase III into the production of broader blades and of 'Kmlo tools', which are characterized by fine parallel retouches on the sides. At the end of this phase, geometric microliths in the shape of short trapezes (transverse arrowheads) become predominant (Chataigner *et al.* 2014a). These two phases of Kmlo-2 were described as 'Mesolithic' (phase IV) and 'Late Mesolithic or Early Neolithic' (phase III) (Chataigner *et al.* 2014a). Due to their morphology, the 'Kmlo tools' suggest relations with the cultures of the Pre-Pottery Neolithic B (PPNB) in southeastern Turkey (Çayönü, Cafer Hoyük), in the 8th millennium BC. However, in these regions, the PPNB is characterized by the 'Big Arrowhead Industry' (Aurenche and Kozłowski 1999) and by the practices of agriculture and herding; but none of these innovations appeared in the Caucasus.

The Lernagog rockshelter, which was occupied during the first half of the 7th millennium, is located at an elevation of some 1000m, at the south-western foot of the Aragats massif, at the north-western end of the Ararat valley (Arimura *et al.* 2018). Recent studies, taking up the work of Paffengolts (1948), have shown that throughout the end of the Pleistocene and the beginning of the Holocene, the Ararat valley was occupied by a huge paleo-lake created by a natural dam (lava flow or land elevation; see Badalyan and Harutyunyan in this volume; Karakhanyan *et al.* in this volume; Ollivier in this volume). The Araxes river was the outlet of this lake, whose level gradually became lower with time; at the very beginning of the 6th millennium, Aknashen was founded on a dried-up sector of the lake (on a layer of blue clays, which is the sediment deposited at the bottom of the lake), at an elevation of 832m asl. As a result, the landscape experienced by the human group that settled at Lernagog was very different from the present one: a large lake extended in the vicinity and the western end of the Ararat valley must have been covered in residual lakes and marshes. Judging by the terrestrial and freshwater faunal remains found in the blue clay, deciduous forests covered both the areas between the lakes and the marginal areas of the Ararat valley (Karakhanyan *et al.* in this volume). Faunal remains discovered at Lernagog show that horses were the most hunted species (Arimura *et al.* 2018), which suggests an open steppe environment on the Aragats





Figure 4. View of the Ararat mountain from the Aknashen excavations (2011).

foothills. The lithic industry of Lernagog is marked by the presence of many blades, obtained by percussion or by pressure, as well as by a relative abundance of ‘Kmlö tools’. Microliths include backed bladelets, trapezes and segments (Arimura *et al.* 2018). The excavators of Lernagog consider this site to be ‘Early Holocene’.

#### The contribution of the Aknashen excavations

To summarize this brief examination of the origins and history of the study of the Late Neolithic in Armenia, it should be noted that currently, the settlement of Aknashen (Figure 4) is the best preserved and most extensively studied Late Neolithic site in Armenia; it yielded a very substantial quantity of material: more than 60,000 obsidian artefacts (data 2019), more than 45,000 faunal remains (data 2015), more than 1,200 bones and antler tools (data 2019), and more than 10,000 fragments of pottery (data 2019). The succession of seven occupation and abandonment (due to flooding) levels (Horizons VII-1), which reach a thickness of approximately 5m, reflects practically the entire chronological range of the Aratashen-Shulaveri-Shomutepe culture and, moreover, includes an earlier horizon (VII), whose data allow us to raise the question of its formative stage.

This book presents the results of excavations from 2004 to 2015 and the study of the material; data acquired

during fieldwork from 2016 to 2019 and which essentially relate to the oldest horizon (VII) will only be selectively presented, in order to provide a general view. A separate article will be devoted to them in the future.

#### The team of the Aknashen excavations

The 2004-2015 seasons of excavations at Aknashen were carried out under the direction of Ruben Badalyan and Armine Harutyunyan, within the framework of the joint project between the Armenian Institute of Archaeology and Ethnography (IAE) and the French ‘Caucasus Mission’ directed by Christine Chataigner (Figure 5).

The authors of the volume express their sincere gratitude to all of the members of the Aknashen team.

The various participants in the fieldwork (Figure 6) were *Armine Hayrapetyan* (IAE; 2005), *Susanna Melkonyan* (IAE; 2006-2008), *Artur Petrosyan* (IAE; 2009, 2011-2015), *Ara Petrosyan* (IAE; 2011), *Levon Aghikyan* (IAE; 2011-2012, 2014-2019), *Karen Azatyan* (IAE; 2012, 2014, 2016, 2018-2019), *Narine Sargsyan* (Yerevan State University; IAE; 2013-2015, 2017), *Astgh Poghosyan* (Yerevan State University; 2013-2015), *Sona Hovsepyan* (History Museum of Armenia; 2014, 2016-2019), *Shushanik Hovhannesian* (History Museum of Armenia; 2014), *Hayk Gyulamiryan* (IAE; 2015), *Aleksan Juharyan* (IAE; 2015), and *Mariam Saribekyan* (IAE, 2019).

## INTRODUCTION



Figure 5. Jean-Michel Kasbarian, Counsellor for cooperation and cultural action of the French Embassy, Ruben Badalyan and Christine Chataigner at Aknashen (2014).



Figure 6. The excavation team in 2014. Bottom row from left to right: Levon Aghikyan, Karen Azatyan; upper row: Artur Petrosyan, Sona Hovsepyan, expedition driver Ashot Khachatryan, Shushanik Hovhannesyanyan, Astgh Poghosyan, Narine Sargsyan, Ruben Badalyan, Armine Harutyunyan and Roman Hovsepyan.



Architectural plans were drawn by *Hasmik Sargsyan* (Yerevan State University; 2005-2009) and *Lilit Ter-Minasyan* (IAE, 2011-2019); work on the topography was carried out by *Smbat and Vahe Davtyan* (Yerevan State University; 2012, 2014, 2019), drone photographs by *Arshaluys Mkrtchyan* (IAE) and photographs of the artefacts by *Vram Hakobyan* (IAE). Restoration of the artefacts was done by *Lilit Manukyan* and *Arev Avetisyan* (IAE), drawing of the artefacts by *Hasmik Sargsyan* (Yerevan State University).

A study in architectural conservation was carried out by *Chamsia Sadozai* (CRAterre; 2013) and micro-morphological analyses by *Jacques-Elie Brochier* (CNRS; 2009, 2011). Geo-morphological studies were carried out by *Arkadi Karakhanyan* (Institute of Geological Sciences; 2014-2015) and *Vincent Ollivier* (CNRS; 2013, 2015), the study of plant remains by *Roman Hovsepyan* (IAE; 2006-2009, 2012, 2014, 2016, 2018-2019), and that of faunal remains by *Adrian Bălăşescu* (Bucharest Institute of Archaeology; 2006-2009, 2012-2015), *Aurélien Creuzieux*

(Archaeological Service of Lyon; 2018-2019) and *Valentin Radu* (National Museum of Romanian History; 2009, 2014, 2019). The graves were excavated and burial practices studied, by *Levon Aghikyan* (IAE), *Françoise Le Mort* (CNRS; 2009) and *Modwene Poulmarc'h* (University Lyon 2; 2012).

The study of the pottery was the work of *Armine Harutyunyan* (IAE); the analysis of obsidian tools by *Jacques Chabot* (Quebec Laval University; 2006-2007, 2009, 2012, 2014-2016, 2018-2019), who was assisted by his students, *Lorenzo Alberton* (2006-2007), *Patrick Eid* (2009, 2012) and *Cynthia Gosselin* (2013-2014); *Bastien Varoutsikos* (Harvard University; 2013) studied part of the lithic material for his PhD dissertation. The drawings of these tools were made by *Julie Leclerc* (Quebec Laval University; 2006-2009, 2011-2012) and *Gauthier Devilder* (CNRS; 2013-2016, 2018-2019). Ground stone finds were studied by *Caroline Hamon* (CNRS; 2013, 2015, 2018-2019) and the bone industry by *Rozalia Christidou* (Université Lyon 2; 2006, 2011, 2013, 2015-2018).