Report on the Activities of the Ninth Field Season
of the Georgian-Italian Shida Kartli Archeological Project (2017)

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Introduction

The ninth field season of the Shida Kartli project of Ca' Foscari University of Venice (Italy) in cooperation with the Georgian National Museum (Georgia) took place from June 16th to July 31th, 2017. The Italian team arrived in Georgia on June 17th and reached the town of Kareli on June 19th. On July 26th the team returned to Tbilisi for completing work at the Georgian National Museum, and on July 31st it left the country.

Members of the Italian team were the following: prof. Elena Rova (co-director of the project, chief of the Italian group), dr. Katia Gavagnin and dr. Elisa Girotto (post-docs), Davit Darejanashvili, MA (PhD candidate at Ca' Foscari University), Laura Tonetto and Flavia Amato, MA (post-graduate students at the SISBA archaeology specialisation school), Beatrice Barbiero, MA (Ca' Foscari University), Chiara Mariotto and Francesco Bianchi, BA (MA students at Ca' Foscari University), prof. Marilyn Kelly-Buccellati (UCLA University, Los Angeles) and Giampaolo Ceccarini, MA, archaeologists, joined for a short period by Mirko Furlanetto, MA; prof. Francesca Bertoldi and Piera Allegra Rasia, MA, physical anthropologists.

The Georgian component of the team included the following archaeologists: prof. Iulon Gagoshidze (co-director, chief of the Georgian group), Nana Gogiberidze, Davit Gagoshidze, MA (Georgian National Museum), Ketevan Davitashvili, BA (student at Tbilisi State University), Tamar Bijashvili and Magda Patiashvili (students at Sokhumi State University), archaeologists, prof. Lia Bitadze and Shorena Laliashvili, MA (Tbilisi State University), physical anthropologists, assisted by Nino Tavarchiladze (student at Ivane Javakhishvili Tbilisi State University) and Ana Pavlenishvili (GNM) restorer. Like in the previous seasons, Mr. Emzari Tzulukidze drove the mission's minibus and took care of logistics.

The main activity of the season was the study, aiming at its final publication in English language, of the material from the Kura-Araxes graves of the Doghlauri cemetery (**Fig. 1**). This is one of the largest cemeteries of the Shida Kartli region, and belongs to the Aradetis Orgora site, where the Georgian-Italian team carried out excavations in 2013-2016. It was excavated between 2012 and 2015, in the framework of a salvage excavation, by a Georgian team under the direction of Iulon Gagoshidze. The publication of the Doghlauri Kura-Araxes cemetery, which comprises 67 graves and represents the largest corpus of funerary evidence available for the period, will complete the publication of the KA funerary record of Shida Kartli, which was initiated by the publication, by the joint project, of the Khashuri Natsargora cemetery and other cemeteries of the region (M. Puturidze, E. Rova, eds., *Khashuri Natsargora: The EBA Graves*, Turnhout 2012). It will also allow a comparison between the KA material from burial contexts at Doghlauri and material from contemporary settlement levels excavated by members of the project in 2013-2016 on the Aradetis Orgora Main Mound, an almost unique opportunity for the region.
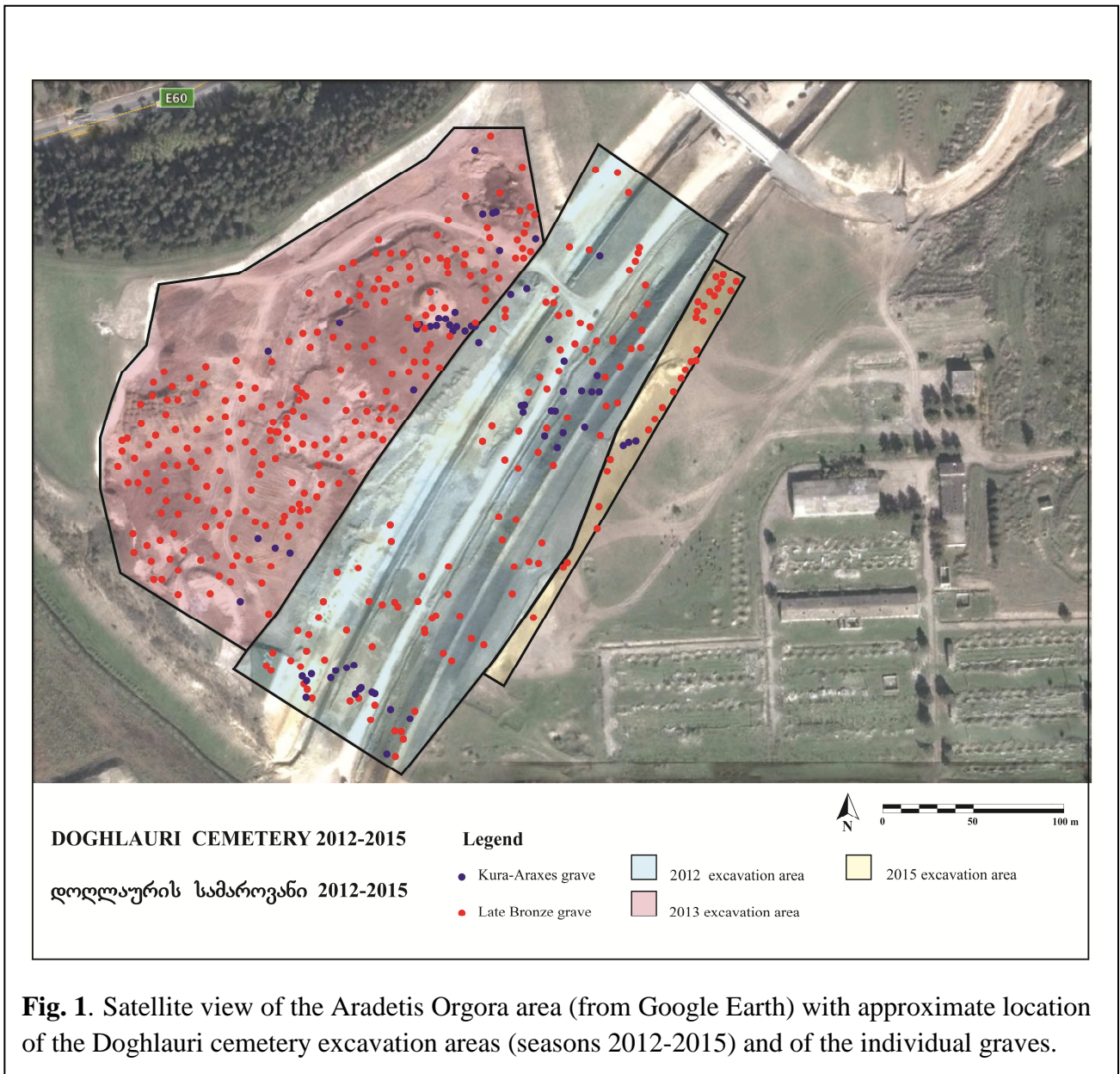
Fig. 1. Satellite view of the Aradetis Orgora area (from Google Earth) with approximate location of the Doghlauri cemetery excavation areas (seasons 2012-2015) and of the individual graves.

During the whole field season, work on the artefacts from the graves was carried out by members of the team at the same time in the expedition house in Kareli and at the Georgian National Museum at Tbilisi, where the finds from Doghlauri are stored. The original excavation documentation (excavation journals, preliminary reports, plans), was digitised and translated into English; the artefacts from the 67 Kura-Araxes graves were completely processed and restored, and all relevant data were inserted into a dedicated database.

Work on the original material from the Kura-Araxes graves can thus be considered concluded, and we hope to be able to produce a final publication of the EBA cemetery in the next future.

At the same time, physical anthropologists Francesca Bertoldi, Lia Bitadze and Piera Allegra Rasia analysed the human osteological material from the Doghlauri cemetery excavations (season 2012) at the Institute of History and Ethnology of the Ivane Javakhishvili Tbilisi State University in Tbilisi. Not only bones from the Kura-Araxes graves (27 in number), but also those from the later (Late Bronze-Early Iron) ones were fully analysed. This will provide a unique opportunity for a comprehensive analysis of the site's ancient population over a longer period of time, under the point of views of its composition, health status, diet and ways of life.

Fig. 2. Views of the excavations at Doghlauri cemetery: a) 2012 season; b) 2015 season.

For technical reasons (impossibility, due to health reasons, of the Georgian co-director to be present on the field during the period of presence of the Italian team), it was impossible for us to continue, as foreseen, the small stratigraphic sounding on the W side of the Aradetis Orgora Main Mound. However, in the course of the whole season we continued the final re-analysis and check, which had been initiated during the 2016 season, of some categories of materials collected during

the 2013-2016 excavation seasons at the site, on which MA, PhD and specialisation theses are presently in course by students affiliated to the team. In particular, Flavia Amato completed the analysis of the microlithic finds from the site, Beatrice Barbiero the analysis of animal bones, while Laura Tonetto, with the help of restorer Ana Pavlenishvili, completed the restoration of some pottery vessels from the 2014 and 2015 seasons.

Sampling for different types of scientific analyses was also continued. Samples for radiometric dating (to be analysed by E. Boaretto, Weizmann Institute of Science, Rehovot, Israel) were collected by P.A. Rasia from the human osteological material from Doghlauri cemetery. Samples for age determination, palaeonutritional analysis and stable isotopes analysis were also collected from the same bones/teeth.

We also collected some samples of pottery sherds from the Kura-Araxes graves in order to implement our collection for a comprehensive archaeometric analyses of Aradetis Orgora's ceramic production in a diachronic perspective. In addition, we collected a few samples of paste beads from the graves (to be analysed in Italy by dr. Ivana Angelini of Padua University) and samples of modern animal bones from the Kareli region for stable isotopes analysis, to be used as a term of comparison with ancient samples. Contacts were also taken with Dr. Irina Ghambashidze (Georgian National Museum) for samples for archaeometric analyses to be taken from the metal objects from the Kura-Araxes graves of Doghlauri.

Finally, Mirko Furlanetto delivered to the Italian Embassy the Georgian version of the second comic strip about the expedition's activities ("Aradetis Orgora - The reward") and took preliminary contacts for the production, in collaboration with the Italian Embassy, of a cartoon illustrating the work of the Italian archaeological expeditions in Georgia.

In spite of the logistic difficulties encountered (the team had to split between Tbilisi and Kareli, and both equipment and people had to be repeatedly moved between the two seats) the 2017 field season was very productive, in that the study of the Kura-Araxes graves of Doghlauri was successfully concluded and will thus allow a quick publication of this very important corpus of funerary evidence, and considerable progress was also made in the study of the material from the previous excavation seasons of the project.

Study of the Doghlauri Cemetery Kura-Araxes graves

Doghlauri cemetery is located to the north-east of the village of Doghlauri, at the southern edge of the Dedoplis Mindori plateau, on the second terrace of the Kura (Mtkvari) river. It is delimited on the south-eastern side by the escarpment of the Western Prone (Ptsiula) river and on the south-eastern side by the Northern Mound of the Aradetis Orgora settlement. The cemetery extends over an estimated area of more than 8 ha. It was in use over the two main periods of occupation of the nearby settlement: the Early Bronze (Kura-Araxes culture) and the Late Bronze - Early Iron Age.

A small section of the cemetery was excavated between 1979 and 1982 by an expedition of the S. Janashia Georgian National Museum headed by I. Gagoshidze (see: I. Gagoshidze, I. Koridze, A. Gogichaishvili, Report of the Fieldwork of the 1979-81 Years of the Shida Kartli Archaeological Expedition, *Archaeological Expeditions of the Museum of Georgia* VIII, Tbilisi, 1981); on that occasion, a Late Bronze Age kurgan containing a wagon and two horses, 56 pit-burials of the Late Bronze/Early Iron Age and 11 Early Bronze Age burials were discovered (see: I. Koridze, G. Palumbi, Kura-Araxes Tombs at Aradeti Orgora, in A. Sagona, M. Abramishvili, eds, *Archaeology in Southern Caucasus: Perspectives from Georgia*, Leuven-Paris-Dudley, Ma. 2008: 125-152).

A preliminary study, carried out in spring 2011 in preparation of the construction of the Ruisi-Agara section of the Tbilisi-Senaki-Leselidze highway, which would cause the almost complete loss of the ancient cemetery, concluded that, before beginning the work, the constructing
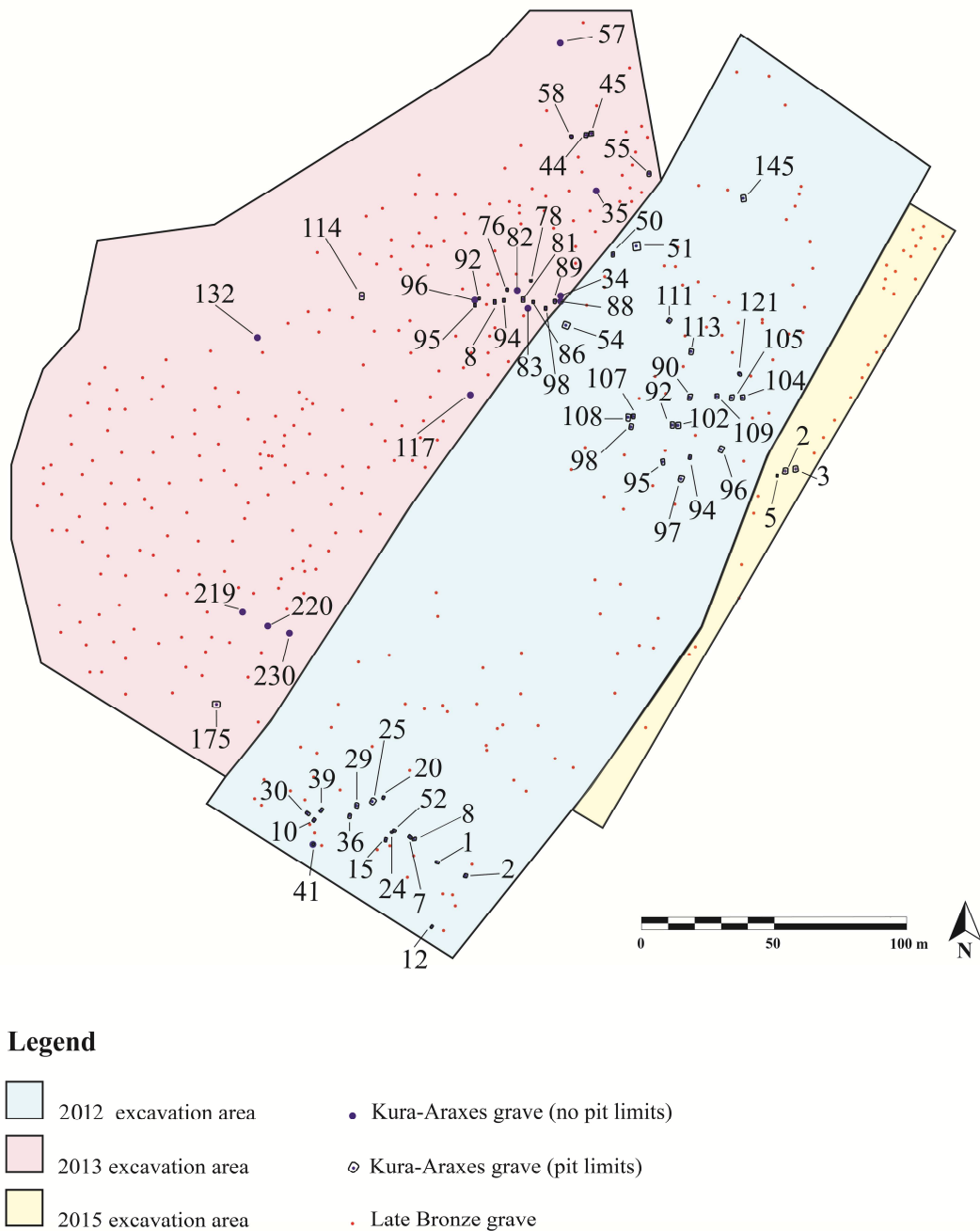
Fig. 3. Plan of the Doghlauri cemetery excavations (2012-2015 seasons).

company („China Nuclear Company" Ltd) should have taken care for salvage archaeological excavations to be carried out at this important archaeological site.

A first excavation season was carried out between September 4th and November 4th, 2012, by a team of the Ngo „Georgian Archaeological Association" headed by I. Gagoshidze and composed of members of the Georgian National Museum, of the Iv. Javakhishvili Tbilisi State

University and of the Georgian Archaeological Association. It concerned the SE portion of the cemetery, in the center of which the highway presently runs, and resulted in the investigation of a total of 153 burials, 36 of which of the Kura-Araxes period. A second excavation season took place between October 8th and December 8th, 2013. It affected a 4,5 ha area in the NW part of the cemetery, from which the company was to obtain the inert materials needed for construction. The excavation team was headed by I. Gagoshidze and composed of members of the same institutions. 257 burials were excavated, 25 of which of Kura-Araxes date. Finally, the construction, in spring 2015, of artificial terraces flanking the path of the new highway destroyed a few additional graves, and thus caused the necessity of a new salvage excavation. This was carried out between June 22th and July 13th by a team of the Georgian National Museum headed by I. Gagoshidze with the assistance of members and workmen of the joint "Georgian-Italian Shida Kartli Archeological project". It resulted in the discovery of 29 additional graves, 3 of which of Kura-Araxes date.

It has to be stressed that excavations at Doghlauri were carried out under severe time pressure and in very difficult conditions, mostly in winter and often in bad weather conditions which heavily affected the work and occasionally compromised the process of documentation of the graves (**Fig. 2**). In addition, a considerable number of graves had been either looted in the past, or damaged by agricultural work, or by the preliminary removal of the humus layer through heavy mechanical tools by the construction company. All the finds and the documentation from the salvage excavations are presently stored at the "Dedoplis Mindori Fund" of the Georgian National Museum in Tbilisi, from which the Georgian-Italian team received the permission to analyse them.

During the whole 2017 field season, work on the artefacts from the graves was carried out by members of the team at the same time in the expedition house in Kareli (documentation and artefacts from the 2013 season) and at the Georgian National Museum at Tbilisi (artefacts from the 2012 and 2015 seasons). First of all, the whole original excavation documentation delivered to us by the excavators (excavation journals, preliminary reports, plans, field photos), was translated into English and digitised. Excavation plans and grave plans were re-drawn and vectorised. Attention should be drawn on the fact that part of the original graphic documentation (a.o. plans of some graves, original plans of the 2012 cemetery excavation) could not be recovered during our field season. As a consequence, the attached plans (**Figs 1, 3**) are to be considered as a preliminary reconstruction.

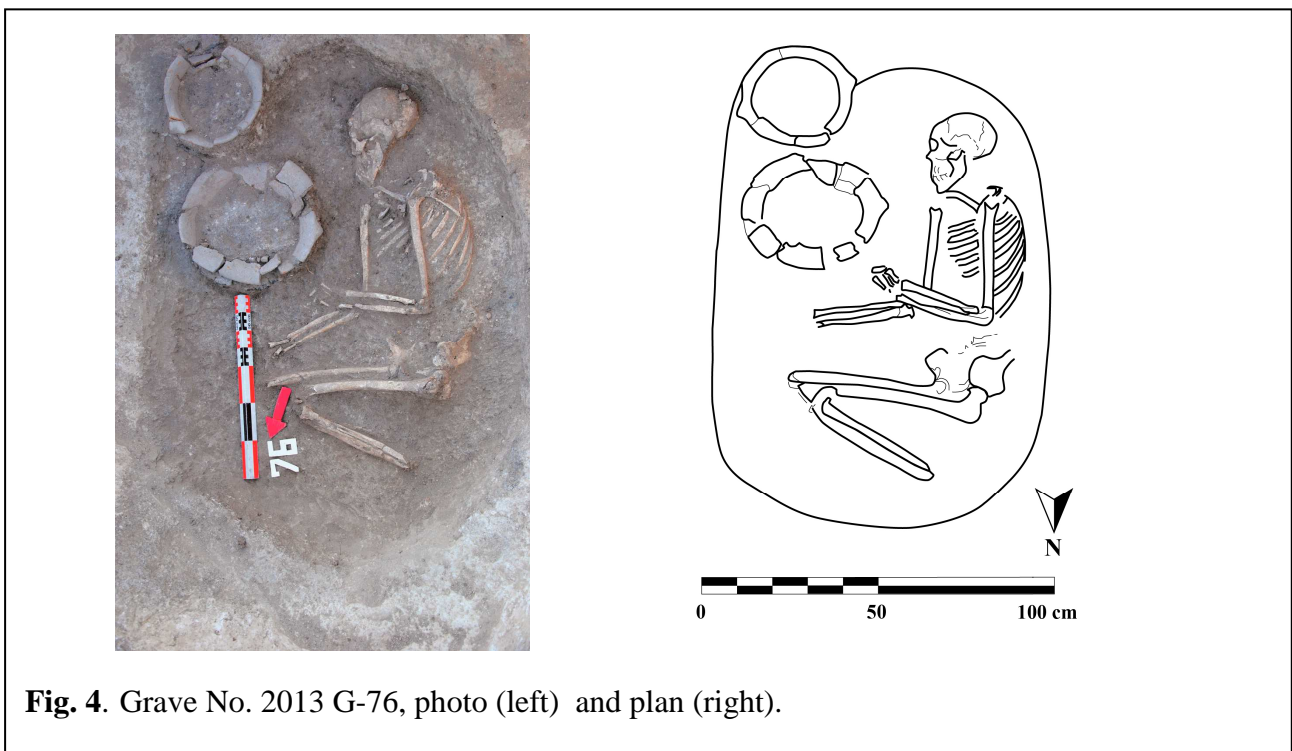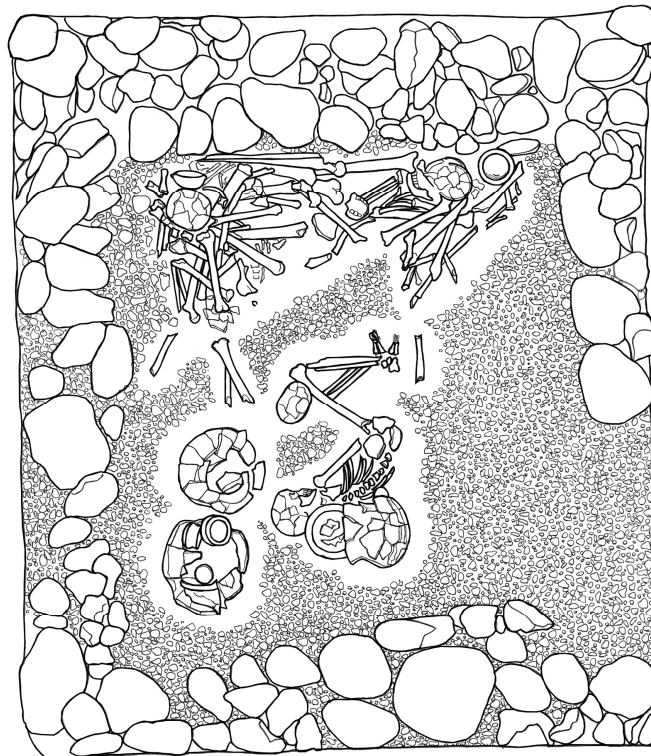**Fig. 4**. Grave No. 2013 G-76, photo (left) and plan (right).

Fig. 5. Grave No. 2012 G-51, photo (above) and plan (below).

The analysed corpus of Kura-Araxes graves includes 67 burials, 4 of which contained no burial goods. The majority were simple pit graves of quadrangular shape, sometimes covered by a group of river pebbles. Most of them were oriented NS (with slight variations), and hosted a single

skeleton in crouched position (**Fig. 4**). 16 graves exhibited a stone-lined pit; they were generally of rather large dimensions, and often hosted the bones of more than one individual (only one of them with still articulated bones), and may have represented family tombs (**Fig. 5**). From the point of view of relative chronology, a preliminary analysis of the finds suggests that most of the graves belong to the (later) Kura-Araxes 2 phase, with a few of them (e.g. No. 2012 G-51, Nos. 2013 G-114, 2013 G-220), dating to phase Kura-Araxes 3, and one to the Early Kurgan period (No. 2013 G-175).

The standard inventory of burial goods consisted of 2 or three 3 pottery vessels, sometimes (25 graves) joined by a few personal ornaments (pins, bracelets, pendants, hair-rings) of metal, stone, bone and paste, weapons (metal axes, flint arrow-heads) and tools. The presence of animal bones (possibly funerary offerings rather than remains of a funerary offer) was only occasionally observed. As a rule, burial assemblages appear rather similar to each other, and do not suggest a high degree of social differentiation; in general, richer artefacts assemblages appear to be associated with graves which contain more than one skeleton. A preliminary evaluation of burial customs does not show any significant difference with those which have been reported from other Kura-Araxes cemeteries in the Shida Kartli region (see M. Puturidze, E. Rova, eds., *Khashuri Natsargora: The EBA Graves* Turnhout 2012), and, more in general, in the whole area of diffusion of the Kura-Araxes culture.

The artefacts from the 67 Kura-Araxes graves were completely processed and restored, drawn and photographed, and all relevant data were inserted into a dedicated database. They consisted of 128 pottery vessels, the majority of which were complete or reconstructible and have been glued together and consolidated with plaster bands and gypsum with the help of Ana Pavlenishvili, and 191 object catalogue numbers, many of which consisting of multiple items, such as strings of beads, etc.

The majority of the ceramic assemblage (63%) consists of typical Red-Black Burnished Ware (**Fig. 7, a-c, e-g**), while 16% can be described as Black Burnished Ware (**Fig. 7d, Fig. 6, a**). Notably, a single grave (No. 2013 G-175) contained 3 Early Kurgan period (Bedeni) vessels (**Fig. 6, b**). With this single exception, pottery from the cemetery can thus be attributed to the (later) KA II - KA III phases.

Fig. 6. Vessels from Doghlauri cemetery: a) relief-decorated Kura-Araxes Black Burnished Ware, b) Bedeni fine ware.

Fig. 7. Examples of Kura-Araxes vessels from Doghlauri cemetery: a-c, e-g) Red-Black Burnished Ware, d) Black Burnished Ware.

This date is confirmed by a preliminary analysis of the morphological repertoire, which almost exclusively consists of well-known types of the Shida Kartli variant of the Kura-Araxes culture: single or double-handled carinated vessels with flat base and simple flaring rim. Vessels (**Figs 6-7**) belong to 4 main functional groups: carinated bowls (**Fig. 7, a, b**, 33%) , mugs (**Fig. 7, d, e**, 15%), wide-mouthed carinated pots (**Fig. 7, f, g**, 32%) and small jars/jugs (**Fig. 7, c**, 5%).

Vessels were generally undecorated, the most notable exceptions being a Black Burnished Kura-Araxes mug with impressed (low relief) geometric decoration including hatched elements, spirals and a stylized vegetal design (**Fig. 6, a**), and a Bedeni jar with incised hatched triangles.

29% of the graves contained a single vessel; 40% of them were equipped with 2 vessels (the standard set being composed of an open and a closed shape), and 20,5% of them with 3 vessels. Three graves yielded 4 vessels, and two graves (No. 2013 G-220, No. 2012 G-51) yielded 6 and respectively 8 vessels. There does not seem to be any clear correlation between graves containing the largest number of vessels, and graves which contained different types of gravegoods, although a vague correspondence can be established between both of these graves groups and stone-lined graves containing more than one skeleton.

A considerable part of the non-ceramic burial goods were made of metal (at a preliminary autoptic inspection, it appears that different copper alloys and possibly silver had been used beside the most frequent arsenical copper). According to the preliminary report by the Georgian excavators, at least one item (a spiral) was made of almost pure lead (98%). Preliminary contacts have been taken with dr. Irina Gambashidze (GNM) for composition analyses to be carried out on selected metal objects from Doghlauri after the departure of our team.

Two small axes, a gouge (**Fig. 8**) and two awls were recovered in grave No. 2013 G-175 (in association with Bedeni vessels).

Fig. 8. Copper alloy shaft-hole axe and gouge from grave No. 2013 G-175.

The remaining metal objects belong to well attested Kura-Araxes types, which find numerous precise parallels at other Kura-Araxes cemeteries of the Shida Kartli region (a.o., at Natsargora, Kvatskhela, Tvlepias Tsqharo, Dzaghina, as well as in previously excavated graves at Doghlauri: see Puturidze, Rova 2012). They include double-volute pins (**Fig. 9, a**), spiral-shaped bracelets (**Fig. 9, b**), hair-rings, beads (**Fig. 9, c-d**), and different types of pendants - anchor-shaped (**Fig. 9, e),** lozenge-shaped (**Fig. 9, f**), and drop-shaped ones (**Fig. 10, g**).

Fig. 9. Selection of metal objects from Doghlauri Cemetery.

Fig. 10.   Claw-shaped (left) and shell-shaped pendants (right) from Doghlauri cemetery.
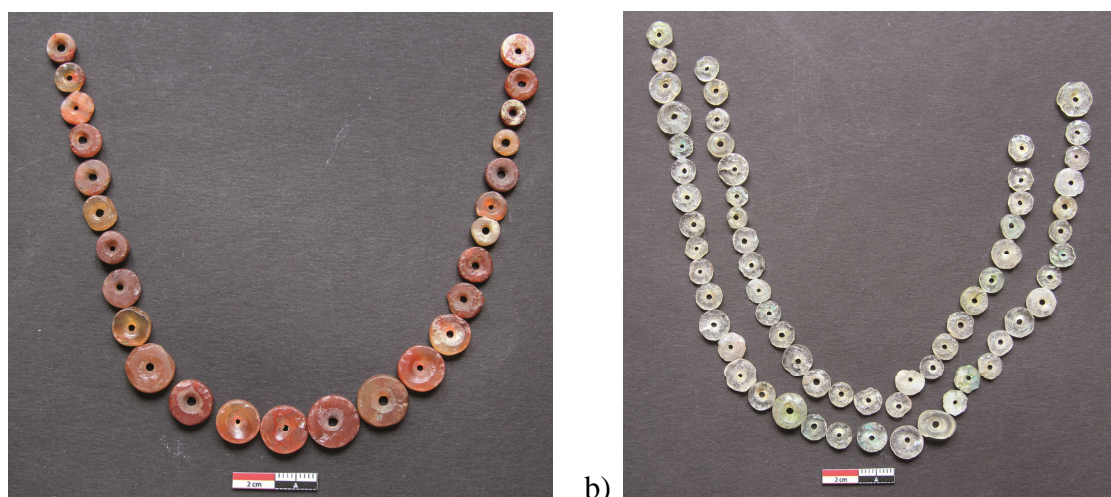

Fig. 11. Carnelian (a) and rock-crystal beads (b) from Doghlauri cemetery

A special mention deserve two unusual types of metal pendants, for which no precise parallels are known to us: one in the shape of an animal claw (**Fig. 10, a**) and one (in two examples) in the shape of a conical shell (**Fig. 10, b**), bearing an incised decoration.

Beads of different materials (rock-crystal, carnelian, whitish paste, and bone) are well represented in the burial goods: their total number amounts to almost 240. They are mainly disc- or ring-shaped (**Fig. 11**; only paste and bone beads occasionally show an elongated cylindrical shape). Other bone objects are only sporadically attested: just few spindle-whorls and two drop-shaped pendants.

Chipped lithic artefacts are on the whole rare (36 items), and mainly consist of small arrow-heads with stemmed base and triangular head, as are often found in Kura-Araxes graves: an exceptional find is represented by a group of 25 such arrows, from grave No. 2012 G-121, which apparently lay in a leather quiver, fragments of which were recovered near them (**Fig. 12**). A side-notched flint spearhead with stemmed base and triangular blade was also found in the same grave.

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Fig. 12. Group of flint arrowheads from Grave No. 2012 G-121.

A preliminary evaluation of the quantity and quality of burial goods of the Doghlauri graves with those from the other Kura-Araxes cemeteries of the Shida Kartli region and, more in general, with those of other areas of diffusion of the Kura-Araxes culture confirms the lack of significant differences in burial wealth between individual graves which characterises this culture. It is worth stressing, in this respect, that the graves which contained a larger number of small finds (especially metal objects) often correspond to those stone-lined pit graves which contained multiple skeletons. In addition, most of these "richer" graves appear to date to a late phase within the life span of the cemetery.

On the other hand, if compared with other more or less contemporary cemeteries of the Shida Kartli region (e.g. with Khashuri Natsargora, for which see Puturidze, Rova 2012), Doghlauri stands out for its in average wealthier graves. This confirms the importance of the Aradetis Orgora settlement, to which the Doghlauri cemetery belonged, as a regional centre of the Kura-Araxes culture.

The study of the artefacts from the Kura-Araxes graves can be considered concluded, to the exception of the laboratory analyses on the samples which have been collected in the course of the season. We therefore hope to be able to produce a final publication of the EBA cemetery of Doghlauri in a relatively short time.

Study of the human osteological material from the Doghlauri Cemetery (2012 season)

The study was carried out between June 21th and July 15th by physical anthropologists Francesca Bertoldi, Lia Bitadze and Piera Allegra Rasia (assisted by Shorena Laliashvili and Nino Tavarchiladze) at the Institute of History and Ethnology of the Ivane Javakhishvili Tbilisi State University in Tbilisi, where the human bones from the 2012 excavation season at Doghlauri had been deposited by the excavators. Materials from the 2013 season has apparently been disposed of due to the difficult conditions in which the campaign had been carried out, and were therefore not available for study, while materials from the 2015 season had been studied on the field by the members of the Georgian-Italian joint project (see F. Bertoldi, I. Gagoshidze, E. Rova, R. Cameriere, The Human Remains from Doghlauri Cemetery (Field Season 2015), in L. Bitadze, L. Mindadze, S. Laliashviki, D. Chitanava, A. Ruadze (eds.), *Anthropology and Ethnology of Caucasus. Proceedings of International Conference dedicated to the 90th Anniversary of Academician Malkas Abdishelishvili*, Tbilisi: 24-33).

The analysed human bones derived from 65 graves, 22 of which had been identified as Kura-Araxes, and 43 as Late Bronze-Early Iron Age. 16 graves (belonging to both periods) contained the remains of more than one individual (**Figs. 13, 14**), some of which represent reduction burials; as a consequence, the number of individuals is higher than the number of graves, in spite of the fact that individual burials predominate. Kura-Araxes graves hosting a single individual, in particular, are 12 out of 16 (preliminary summary data are presented in **Tab. 1** below)

The conditions of preservation of the bones vary between fair and bad: items are often fragmented and partially or totally miss the spongy portions; the cortical part of bones and teeth enamel show a moderate to heavy erosion.

Fig. 13. Remains of a single individual from a multiple grave (No. 2012 G-17, Kura-Araxes period).

Fig. 14. Partial remains (femurs) of three different individuals from a multiple grave (2012 G-102, Kura-Araxes period).

As a consequence, bones could be measured only in some cases, while erosion did not allow to systematically record evidence of pathologies (such as enamel hypoplasia, periostitis and spondiloarthrosis), which are normally visible on the surface of bones and teeth.

The skeletons were often incomplete and sometimes represented only by a few elements (mostly diaphyses of long bones and fragments of the skull), so that in some cases it was not possible to determine sex and/or age of the individuals.

Anthropological study was carried out according to standard methods. It concentrated both on sex and age determination, and on taking measures useful for calculating morphometrical indexes, on detecting discontinual characters (especially on teeth and in the cranial area), on observing ergonomic and MOS characters and, finally, on observing the presence of possible skeleton and teeth pathologies (**Fig. 15**). Part of these data (those concerning sex and age, metrical, ergonomic and pathological markers), will be used for collecting information (demographic profile, style of life and health) about the population of the two different phases of use of the cemetery. On the other hand, morphological features will provide information about possible family relations among different individuals, on the basis of the analysis of the frequency of these features and of their distribution throughout the cemetery.

Fig. 15. Dental wear and caries on the teeth of one of the analysed individuals.

Preliminary results of the analysis are presented in **Tabs 1, 2**, below: **Tab. 1** offers a general view of the analysed graves; sex and age determinations are presented in **Tab. 2**.

Grave	Number of Individuals	Period (Late Bronze or Kura-Araxes)	Grave	Number of Individuals	Period (Late Bronze or Kura-Araxes)
3	1	LB	74	1	LB
5	1	LB	**76**	**MNI 2**	**LB**
6	1	LB	**78**	**MNI 2**	**LB**
8	1	KA	83	1	LB
9	1	LB	85	1	LB
10	**MNI 2**	**KA**	86	1	LB
11	1	LB	87	1	LB
14	1	LB	**93**	**MNI 2**	**LB**
15	1	KA	**94**	**MNI 2**	**KA**
16	1	LB	95	1	KA
17	1	LB	96	1	KA
20	**2**	**KA**	**97**	**MNI 6**	**KA**
25	**MNI 4**	**KA**	100	1	LB
29	1	KA	101	1	LB
31	1	LB	**102**	**MNI 3**	**KA**
33	1	LB	103	1	LB
34	1	LB	104	1	KA
35	1	LB	106	1	LB
38	1	LB	107	1	KA
39	1	KA	108	1	KA
40	1	LB	**111**	**MNI 2**	**KA**
47	1	LB	**113**	**MNI 3**	**KA**
49	**MNI 2**	**LB**	115	1	LB
51	**1 + MNI 5**	**KA**	116	1	LB
52	**MNI 3**	**KA**	121	1	KA
54	**MNI 3**	**KA**	123	1	LB
60	1	LB	125	1	LB
61	1	LB	126	1	LB
62	1	LB	127	1	LB
67	1	LB	**145**	**MNI 3**	**KA**
68	1	LB	150	1	LB
69	1	LB	152	1	LB
72	1	LB			

Table 1. List of the analysed graves: multiple graves in bold, Kura-Araxes graves highlighted in grey.

Grave	Individual	Sex	Age
3		Juvenis	8-10
5		Female	20-25
6		Juvenis	15-20 sub-adult
8		Female?	45-50
9		Male	35-45
10	A	Juvenis	15-20 sub-adult
	B	Undet.	25-35
11		Undet.	Adult
14		Juvenis	3-5
15		Male?	25-35
16		Female?	Adult
17		Male	20-25
20 bisoma	A	Male	Old adult
	B	Juvenis	5-8
25	A	Undet.	Adult
	B	Undet.	Mature/old adult
	C	Juvenis	10-15
	D	Female	Young adult
29		Female?	Old adult
31		Undet.	Adult
33		Undet.	Old adult
34		Male?	Adult
35		Undet.	Adult
38		Undet.	Old adult
39		Male	Old adult
40		Male	35-45
47		Undet.	Adult
49	A	Female?	25-35
	B	Female?	20-25
51	A	Juvenis	8-10
	D – B/C	Male?	20-25
	G	Juvenis	15-20 sub-adult
	H – B/C	Male?	25-35
	I – E	Female	Old adult
	K - F	Juvenis	5-8
52	A	Juvenis	Child
	B	Male?	Young adult
	C	Male?	Mature adult
54	A	Female?	Young adult
	B	Juvenis	Undet.
	C	Undet.	Adult
60		(Female)	35-45
61		Undet.	Adult
62		Undet.	Adult
67		Undet.	Undet.
68		Juvenis	10-15
69		Juvenis	Adolescent
72		Juvenis	Child
74		Juvenis	15-20 sub-adult
76	A	Undet.	Adult
	B	Undet.	Undet.
78	A	Juvenis	10-15
	B	Undet.	Undet.
83		Female?	25-35
85		Undet.	Adult
86		Juvenis	15-20 sub-adult
87		Male	Adult
93	A	Female	25-35
	B	Juvenis	Perinatal-neonate
94	A	(Male)	35-45
	B	Juvenis	Around 1
95		Male?	35-45
96		Undet.	Undet.
97	A	Juvenis	5-8
	B	Undet.	Young adult
	C – D	Juvenis	8-10
	E	Female?	Adult
	F	Male	Adult
	G	Juvenis	5-8
100		Female?	Adult
101		Female	Adult
102	A	Male	35-45
	B	Female?	25-35
	C	Female	25-35
103		Undet.	8-10
104		Female?	Adult (mature)
106		Juvenis	8-10
107		Female	25-35
108		Female	35-45
111	A	Undet.	Adult
	B	Juvenis	15-20 sub-adult
113	A	Undet.	25-35
	B	Female	25-35
	C	Female?	25-35
115		Female	25-35
116		Female?	25-35
121		Male	35-45
123		Female	25-35
125		Undet.	35-45
126		Undet.	Adult
127		Male	Old adult
145	A	Male?	Adult (mature)
	B	Undet.	Adult
	C	Undet.	Sub-adult or young adult
150		Undet.	Adult
152		Undet.	Undet.

Table 2.   Preliminary determination of sex and age class of the analysed individuals.

Study of the microlithic material from Aradetis Orgora Main Mound (seasons 2013-2016) and from Doghlauri cemetery

In the course of the 2017 field season, Flavia Amato completed the analysis of the microlithic items excavated in 2013-2016 by the Georgian-Italian Shida Kartli archeological project on the Aradetis Orgora Main Mound (Fields A and B) by fully analysing the items from the 2014 and 2015 seasons. At the same time, she carried out the analysis of the microlithic finds from the 2012-2013 Doghlauri cemetery excavation. The data achieved by separation, items-counting, drawings and photography of the lithic material were recorded in two dedicated FileMaker Pro Database files.

The analysed items were distinguished on the basis of the rock type (obsidian, flint, basalt, igneous rocks, quartz). Flint and obsidian tools were attributed to the following categories: cores, scrapers, denticulates, perforators, projectile points, blades, sickle blades, microblade cores and microblades.

Each lithic find was measured, photographed, drawn and described following a series of categories included in a specifically designed Lithic Tools Database. Projectile points have been described following the paradigmatic method used by Fowler (1999: 105; see also Binford 1963). Having partially integrated his terminology, we considered a set of morphological traits in order to describe the objects: serration (present or absent to any degree), hafting element (un-notched, side-notched, basal, tri-notched, stemmed), blade shape (triangular, excurvate, incurvate, ovate, incurvate-excurvate), base shape in un-stemmed points (straight, concave, convex, basal notched), stem shape (straight, expanding, contracting, pointed), stem base (straight, concave, convex, indented, rounded).

Retouch was described following – with minor modifications - the Laplace's terminology (Laplace 1968: 24-32), considering the following categories:
-Morphology: scaled retouch, stepped retouch, sub-parallel retouch, parallel retouch;
-Extent: short retouch, long retouch, invasive retouch, covering retouch;
-Position: direct retouch, inverse retouch, alternate retouch, bifacial retouch;
-Delineation: linear retouch, denticulate;
-Localisation: lateral or side retouch (left, right, bilateral), transverse retouch (distal, mesial, or proximal).

The following paragraphs include a short description of the main results of the analysis. The second part of the study, to be carried out in Italy in the next future, will consist of elaborating the collected data in order to obtain from them well-structured information about the past behaviour of the people who lived in the examined area.

-Season 2014, Aradetis Orgora
503 obsidian debitage flakes, 136 flint debitage flakes, 1 water worn pebble, 1 quartz element, 4 chalcedony and 3 sardonic pebbles were collected during the 2014 season. 60 lithic tools were discovered in different loci, 8 of which were obsidian tools and 52 flint tools. Obsidian items consist of 3 blades, 2 scrapers, 1 core, 2 projectile points. Flint items include 38 sickle blades, 9 blades, 3 projectile points, 1 core, and 1 cutting tool.

Kura Araxes period
Kura Araxes levels in the Field B yielded four items. All of them are made of flint: 2 sickle blades, 1 blade fragment, 1 arrowhead and 1 spearhead.

Late Bronze Age
Thirty-three elements were recovered in Late Bronze levels, of which only 3 are obsidian tools: 2 blades and 1 core. The remaining ones are all flint tools: 21 from Field A and 9 from Field B. Among them, there are 25 sickle blades (**Fig. 16, a**), 3 blades, 1 core and 1 point.

Late Bronze/Early Iron Age transition
4 elements, all coming from Field A, were attributed to these phases: 2 flint sickle blades, 1 flint blade and 1 obsidian arrowhead (**Fig. 16, b**).

Iron Age

The Iron age items are 18, all from Field B. Fourteen are flint and four obsidian tools: 13 flint sickle blades (11 of them from the layer accumulation 2162), 1 flint blade fragment, 1 obsidian blade, 2 obsidian scraper, and 1 point.

Season 2015, Aradetis Orgora

The 2015 season yielded 607 obsidian debitage flakes, 148 flint debitage flakes, 5 basalt flakes, 1 tuff flake and 1 stone flake. The lithic tools are 39, which 11 were obsidian tools and 28 flint tools. The obsidian items consist of 5 scrapers, 2 cutting tools, 2 microblades, 1 blade, 1 core. The flint items are 12 sickle blades, 8 blades, 4 projectile points, 1 core, 1 cutting tool, 1 microblade, 1 drill.

Kura Araxes period

There are 8 tools coming from the Kura Araxes layers in Field B. All of them are made of flint, and consist of four blades, two arrowheads, one core and a cutting tool. Four of these tools were found in locus 2427, defined as a greyish filling (2 blades, 1 arrowhead and 1 cutting tool); one blade from floor 2407; one arrowhead from layer 2445; one blade from layer 2450 and one core from layer 2455.
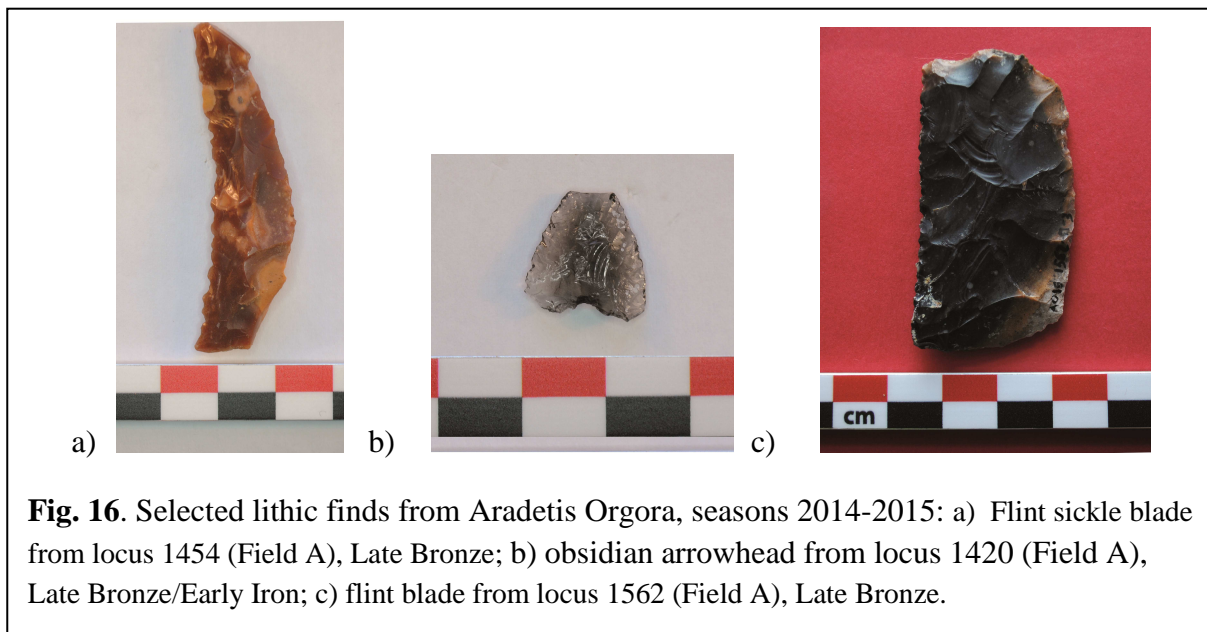
Middle Bronze Age

Seven tools were recovered from the levels of Middle Bronze period: all of them come from locus 1893 in Field A: they consist of 2 obsidian scrapers, 1 obsidian cutting tool, 1 obsidian microblade, 1 flint blade fragment and 2 flint points.

Middle Bronze-Late Bronze transition

Only one tool was assigned to the Middle Bronze/Late Bronze transitional period. It is an obsidian scraper from the deep sounding in Field A.

Late Bronze

The number of Late Bronze tools amounts to twenty-three, 19 of which are from Field A and 4 from Field B. 5 obsidian tools (2 scrapers, 1 core, 1 blade, 1 cutting tool) and 14 flint tools (11 sickle blades, 1 drill, 2 blades (**Fig. 16, c**) were recovered in Field A; one obsidian microblade, one flint microblade and 2 flint sickle blades were collected in Field B.

Fig. 16. Selected lithic finds from Aradetis Orgora, seasons 2014-2015: a) Flint sickle blade from locus 1454 (Field A), Late Bronze; b) obsidian arrowhead from locus 1420 (Field A), Late Bronze/Early Iron; c) flint blade from locus 1562 (Field A), Late Bronze.

Doghlauri cemetery

The Kura-Araxes graves of Doghlauri cemetery yielded 36 chipped stone items: 34 from the graves excavated in 2012 and 2 from those of 2013. The graves of the 2012 season which contained lithic items are: G-25, G-51, G-52, G-92, and G-121.

Four stemmed flint arrowhead with triangular blade, very similar to each other in shape and dimensions were found in grave 25. From grave G-51 came a black, not translucent and banded obsidian arrowhead. It is stemmed, serrated, corner-notched and has a triangular blade. A reddish-brown flint shatter of medium-fine texture, rounded by water, was found in grave G-52. Furthermore, a flint flake and a stemmed flint arrowhead were found in grave G-92. The arrowhead has a triangular blade and is corner-notched.

From the point of view of lithic finds, the richest burial is undoubtedly G-121, which contained a side-notched flint spearhead with stemmed base and triangular blade and 25 small flint arrowheads (see **Fig. 12**, above). All the 25 arrowheads are stemmed and have triangular blades. They are very similar to each other in shape and dimensions.

As for the graves unearthed in 2013, G-114 yielded a flint stemmed arrowhead and grave G-175 a flint blade.