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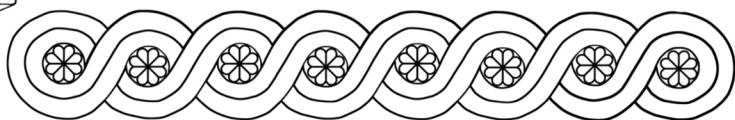
Volume 2

Field Reports

Islamic archaeology



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Contents of Vol. 2

<i>Nicolò Marchetti, Francesca Cavaliere, Claudia D’Orazio, Gabriele Giacosa, Eleonora Mariani</i> Foreword to the Section “Field Reports”	1
Field Reports	
<i>Adelheid Otto</i> A New Archaeological Response to an Old Question: When and how Did Ur Recover in the Old Babylonian Period?	5
<i>Alexander Ahrens</i> Preliminary Report on the Results of the Excavations at Tall Bleibil in 2018 and 2019	19
<i>Firas Al-Haj Ali</i> The Church Mosaic Pavement of Tell Bajer (Syria)	33
<i>Michel Al-Maqdissi, Georges Mouamar</i> The Akkar Plain during the Bronze Age: Preliminary Notes	45
<i>Anna Anguissola, Silvana Costa, Antonio Monticolo</i> Growth, Ownership, and Circulation: New Research in the Northern Necropolis of Hierapolis, Phrygia (Turkey)	55
<i>Simone Arnhold, Paata Bukhrashvili, Shorena Davitashvili Zurab Tskvitinidze</i> New Data on the East Georgian Late Iron Age	67
<i>Edward B. Banning, Kevin Gibbs</i> A Yarmoukian Site in Wadi Quseiba, Northern Jordan	81
<i>Shay Bar</i> Tel Esur: Ten Seasons of Excavations and a Long-Lasting Community Archaeology Project	89
<i>Felix Blocher, Paata Bukhrashvili, Shorena Davitashvili</i> Excavations at Nazarlebi (East Georgia) 2017–2019: A Late Bronze/Early Iron Age Sanctuary	103

VI

<i>Alessandra Caselli</i>	
Jebel al-Mutawwaq and the Middle Wadi az-Zarqa Region during the 4 th Millennium BC: Results of a Comprehensive Research Based on the Reanalysis of the Hanbury-Tenison's Survey	115
<i>Antonietta Catanzariti, Terri Tanaka, Amy Richardson</i>	
Results from the 2018 and 2019 Excavation Seasons at Ban Qala, Iraqi Kurdistan	129
<i>Hanan Charaf</i>	
The Akkar Plain Survey, Lebanon (1997, 1999): The Late Bronze Age	143
<i>Franco D'Agostino, Philippe Quenet, Anne-Caroline Rendu Loisel</i>	
Tell Abu Shahrain – Eridu: Les nouvelles recherches de l'équipe AMER (2018-2021)	161
<i>Roberto Dan, Annarita S. Bonfanti, Priscilla Vitolo, Soseh Aghaian, Artur Petrosyan</i>	
From Urartu to the Orontids: Seven Years (2013-2019) of Armenian – Italian Excavations at the Site of Solak-1/Varsak (KSP016), Hrazdan River Valley, Armenia	177
<i>Rita Dolce</i>	
A Look Upstream from Qasr Shemamok. Soundings at the Site of Kandara Qal (Iraqi Kurdistan)	191
<i>Itai Elad, Yitzhak Paz</i>	
'En Esur: An EB IB Urban Center in the Coastal Plain of Israel and its Role in the Early Urbanization of the Southern Levant	203
<i>Peter M. Fischer</i>	
Hala Sultan Tekke, Cyprus: A Trade Centre's Intercultural Contacts in the Bronze Age	217
<i>Elisabetta Gallo, Romel Gharib, Licia De Vito, Gaia Cecconi, Michele De Marco, Lorenzo Nigro</i>	
Khirbet Al-Batrawy in North-Central Jordan: New Discoveries in the Early Bronze Age Palace, 2018-2020	229
<i>Boris Gasparyan, Roberto Dan, Levon Aghikyan, Priscilla Vitolo, Soseh Aghaian, Ani Adigyozyalyan, Chiara Zecchi, Annarita Bonfanti, Artur Petrosyan</i>	
Preliminary Results of the Excavation of an Urartian Burial in Aghavnadzor, Vayots Dzor, Armenia	243
<i>Francesca Giusto</i>	
The Sanctuary of Kal-e Chendar (Shami) and its Setting	257

<i>Giuseppe Guarino, Daniele Alaimo</i> Magnetometry in the Outer Town of Karkemish: New Discoveries	271
<i>Hidemasa Hashimoto, Hisao Kuwabara, Takuzo Onozuka, Shuichi Hasegawa</i> Excavating at the Lower Shelf of Tel Rekhesh	281
<i>Kristen Hopper, Elena Rova, Davit Kvavadze</i> Kurgans, Churches and Karvasla: Preliminary Results from the First Two Seasons of the Lagodekhi Archaeological Survey, Georgia	293
<i>Krzysztof Jakubiak</i> From Catastrophe to Catastrophe. Changes, Destructions, and Other Factors. Research on the Small Iron Age Town of Metsamor (Aras Valley Armenia)	305
<i>Vakhtang Licheli, Roberto Dan, Tamar Chogovadze, Priscilla Vitolo, Tornike Chilingarashvili, Andrea Cesaretti</i> The Samtskhe-Javakheti Project: Preliminary Results of the 2019 Georgian-Italian Archaeological Expedition in Southern Georgia	319
<i>Carlo Lippolis</i> Some Considerations on the Archaeological Area of Tulūl Al-Baqarat (Wasit, Iraq)	333
<i>Romolo Loreto</i> Dūmat al-Jandal, Ancient <i>Adummatu</i> . An Appraisal of 12 Years of Archaeological Activities in a North Arabian Oasis: from the Prehistory to the Assyrian Period	349
<i>Eleonora Mariani, Giulia Roberto</i> Digging in the Excavation Records: The Case of Woolley's 1913 Yunus Notebook	363
<i>Maria Grazia Masetti-Rouault</i> Qasr Shemamok: Late Bronze Levels, and Before. A Report about the 2018 and 2019 Campaigns	373
<i>Davide Nadali, Andrea Polcaro</i> Tell Zurghul, Ancient Nigin, Iraq: Preliminary Report of the New Results from Recent Excavations	387
<i>Lorenzo Nigro</i> Jericho. From the Neolithic to the Bronze and Iron Ages: The Urban Diversity	399

VIII

- Takahiro Odaka, Osamu Maeda, Kazuya Shimogama, Yuichi S. Hayakawa, Yoshihiro Nishiaki, Nawshirwan A. Mohammed, Kamal Rasheed*
Late Prehistoric Investigations at Shakar Tepe, the Shahrizor Plain, Iraqi Kurdistan: Preliminary Results of the First Season (2019) 415
- Aynur Özfırat*
The Region of Mount Ağrı during the Chalcolithic and Early Bronze Age (Kura-Araxes) 429
- Nino Pataridze, Davit Darejanashvili*
Paravani Archaeological Project, Expedition Results (2018-2020) 449
- Metoda Peršin*
The Lebanon Mountain Range in the Middle Bronze Age: The Case of Qornet ed-Deir, Jabal Moussa Biosphere Reserve 461
- Artur Petrosyan, Andrea Cesaretti, Priscilla Vitolo, Boris Gasparyan, Onofrio Gasparro, Roberto Dan*
Kaghsi-2, Meghradzor-1 and Berdi Glukh: Three Recently Discovered Kura-Araxes Sites in the Kotayk Region, Armenia 475
- Luca Peyronel*
The Italian Archaeological Expedition in the Erbil Plain (Kurdistan Region of Iraq). A Summary of Four Seasons of Excavations at Helawa (2016-2019) 487
- Andrea Polcaro, Juan Ramon Muniz*
The 2018 and 2019 Spanish-Italian Archaeological Campaigns at Jebel al-Mutawwaq: the Early Bronze I Site and the Megalithic Necropolis 499
- Babak Rafiei-Alavi, Ali Shojaee-Esfahani, Yaser Jembreili*
The Center of the Iranian Plateau during the Early Bronze Age: New Archaeological Excavations in the Eastern Zone of the Zāyandehrud River Basin, Varzaneh 511
- Suzanne Richard, Jesse C. Long, Marta D'Andrea*
Shedding Light on the Urban/Rural Nexus about 2500 BCE: The 2019 Excavations at Khirbat Iskandar, Jordan 523
- Giulia Roberto*
The Evidence for Iron Age II Funerary Rituals in the Necropolis of Yunus in Light of the Turco-Italian Excavations 537
- Licia Romano, Franco D'Agostino*
Abu Tbeirah: Preliminary Report on the 2018-2019 Excavations 549

- Elena Rova, Davit Kvavadze*
Two Seasons of Excavations at the Chalcolithic Site of Tsiteli Gorebi 5
(Lagodekhi Municipality, Georgia) 559
- Mahnaz Sharifi*
New Evidence of Early, Middle and Late Chalcolithic Periods at Chelamiran
Gheshlagh in the 5th Millennium BC 573
- Hakob Ye. Simonyan, Gregory E. Areshian*
Empire Beyond its Palaces: New Discoveries at the Urartian Necropolis of
Karmir-Blur (Armenia) 587
- Aline Tenu*
Kunara: An Early Bronze Age City in the Zagros Foothills. The 2018 and
2019 Seasons of Excavations 603
- Stefano Valentini, Bakhtiyar Jalilov, Nicola Laneri, Guido Guarducci,
Lorenzo Crescioli*
A Preliminary Report on a Mid-Late Fourth Millennium BC Kurgan in
Western Azerbaijan 619
- Regis Vallet*
Larsa and Tell El ‘Uwaili (Iraq), Preliminary Results (2019-2021) 629
- Margherita Andrea Valsecchi Gillmeister*
Landscape Survey in Cross-check. Comparing the Late Bronze Age Survey
Assemblage, Excavation Data and Geophysical Prospections at Oymaağaç
Höyük/Nerik (Turkey) 647
- Mattia Guidetti*
Foreword to the Section “Islamic Archaeology” 661

Islamic Archaeology

- Daniel Varga, Federico Kobrin*
A Settlement from Late Antiquity and the Beginning of the Middle Ages at
Sderot 665
- Ignacio Arce*
Two New Umayyad Mosques at Abila of the Decapolis and at Shuqayra al-
Gharbiyye, Jordan 679

Martin Gussone

- Umayyad New Urban Palatial Satellite Settlements. The Caliphal Residence of Resafa – Rusafat Hisham in the Context of Early Islamic Transcultural Urbanism 699

Itamar Taxel, Joel Roskin

- An Early Islamic Groundwater-Harvesting Plot-and-Berm Sand Agroecosystem to the South of Caesarea: Preliminary Results of Its 2020 Survey and Excavation 717

Alastair Northedge

- Akyrtas, Early Islamic Architecture in Central Asia, and its Near Eastern Models 735

Andrea Luigi Corsi

- A Morphological and Technical Analysis of the Architectural Stuccoes from the Early Abbasid Friday Mosque of Isfahan (767 CE) 749

Ana Marija Grbanovic

- Between Tradition and Innovation: the Art of Ilkhanid Stucco Revetments in Iran 763

Marco Rossi

- La phase islamique de Tell Deinit (Idlib), Syrie 779

Valentina Gallerani, Valentina Vezzoli

- Islamic Europas: Preliminary Results of the Turco-Italian Archaeological Excavations 793

Vadim V. Gorbunov, Alexey A. Tishkin, Nikolay N. Seregin

- An Early Medieval Sword from Altai: Comprehensive Analysis and Analogies 805

Iman Aghajani, Maryam Moeini, Moslem Mishmastnehi

- Imāmzāda ‘Abdallāh at Kūdzar, Iran: New Insights Regarding its Architectural Revetments 819

Lorenz Korn

- The Earliest Monumental Dome Chambers in Iranian Mosques. Archaeological Evidence for the History of Architecture 837

Christian Fuchs, Bahram Ajorloo

- The Rab‘-e Rashīdī Site in Tabriz (Iran) and its Architectural Remains 851

- Thomas Lorain, Bahram Ajorloo, Lorenz Korn*
Preliminary Results of the Iranian-German Archaeological Campaign at the
Rab'-i Rashīdī Complex in Tabriz 867
- Soraya Afshari, Leila Afshari, Mohammad Rahmatpour*
Emergency Excavations in the Area Around the Kabood and Modavar
Towers in Maragheh, North-West Iran 879
- Amin Moradi, Marco G. Brambilla*
The Mega-Structure of Ali-Shah at Tabriz: Mosque or Mausoleum? 887
- Karel Nováček, Miroslav Melčák*
Meaning in Flux: A Reconsideration of the Shrines of Badr al-Dīn Lu'lu' in
Mosul 905
- Valentina Bruccoleri, Jacopo Bruno*
Timurid Imitations of Chinese Porcelain in Turkmenistan 917
- Luca Colliva, Serenella Mancini*
The Erbil Citadel Ceramic *Corpus*: A preliminary Analysis of the Main
Productions and Their Relationships with Archaeological Stratigraphy 931
- Stephanie Döpfer*
Mud-Brick Villages and Open-Air Mosques: The Late Islamic Landscape of
the Al-Mudhaybi Region in Central Oman 945

Foreword to the Section “Field Reports”

Nicolò Marchetti, Francesca Cavaliere, Claudia D’Orazio, Gabriele Giacosa
and Eleonora Mariani

Field reports generally represent the largest relative share of papers at the ICAANE. Reassessments of old excavations fall in this category as well. In Bologna, 95 papers were presented in four parallel sessions and 49 of them are published here. They have been simply arranged according to the alphabetic order of first authors (with the exception of course of the keynote paper, opening this section). They attest to a diversity of agencies, methods, perspectives and urgencies which represent a singular asset of our field.

While new digital architectures of knowledge are about to deeply transform the ways of our scientific dissemination, these reports do supply in the meanwhile loads of new information on near eastern sites, as well as on neighbouring areas, which are all too often insufficiently considered in our discussions.

Field Reports

Kurgans, Churches and Karvasla: Preliminary Results from the First Two Seasons of the Lagodekhi Archaeological Survey, Georgia

Kristen Hopper*, Elena Rova** and Davit Kvavadze***¹

Abstract

In many parts of the Southern Caucasus, significant changes to the landscape have occurred over the course of the 20th and 21st century CE due to agriculture, development, and other factors. Lagodekhi Municipality, an area of *ca.* 900 km² at the eastern limit of Georgia, between the foothills of the Greater Caucasus and the Alazani River, is no exception. Its fertile plains have been impacted by agricultural intensification. In addition, this region is characterised by heavy vegetation in the river valleys, and difficult-to-access upland zones. Together these factors challenge our ability to read the archaeological record, and require carefully devised, and comparable, survey strategies. We have utilised historical (CORONA) and modern high resolution satellite imagery and historical maps to identify potential archaeological sites and features, as well as to explore the impact that changes in land use over the course of the last 70 years have had on our interpretation of the ancient landscape. This information was supplemented by published literature and local knowledge to guide field survey within the study area. This has resulted in the recording of sites dating from the Chalcolithic through the post-Medieval period and is increasing our understanding of local long-term settlement patterns.

Introduction

The Lagodekhi Archaeological Survey was undertaken as part of the Georgian-Italian Lagodekhi Archaeological Project (GILAP).² The survey accompanied a programme of excavation at the site of Tsiteli Gorebi 5 (see Rova and Kvavadze in this volume; Rova *et al.* in press) and was focused on gaining a better understanding of the long-term settlement and land use patterns of the region.

Lagodekhi Municipality is located in the Alazani Valley in the Kakheti region of eastern Georgia (Fig. 1). The plain is traversed by the Alazani River, which arises in the Greater Caucasus and is supplemented by several smaller rivers along its length, eventually flowing

1 *Durham University; **Ca' Foscari University – Venice; ***Lagodekhi Museum, Regional Department of the Ministry of Culture, Sport and Youth.

2 GILAP is co-directed by Elena Rova (Ca' Foscari University) and Davit Kvavadze (Lagodekhi Museum, Regional Department of the Ministry of Culture, Sport and Youth). Survey was led by Kristen Hopper, Durham University, assisted by Andrea Titolo (La Sapienza University of Rome) and Stefania Fiori (Ca' Foscari University). Survey participants were Eliso Kurtanidze (Lagodekhi Museum), Vanessa Perissinotto, Laura Tonetto, Anna Chiara Muscogiuri, Andrea Milanese, Francesco Bianchi, Chiara Mariotto and Katia Gavagnin (Ca' Foscari University), Magda Batiashvili and Tamar Bichashvili (Sokhumi State University), Giorgi Kirkitadze and Nino Pataridze (Ilia State University), Giga Bakradze, Lana Chologauri, and Shorena Tivadze (Tbilisi State University), Ekaterine Demuria (Tbilisi Technical University) and Davit Darejanashvili.

into the Mingəçevir Reservoir in Azerbaijan. Lagodekhi Municipality is located on the left (eastern) bank of the Alazani river. Within its borders, elevations transition from *c.* 200 m asl near the river, to over 2000 m asl in the Kakheti Caucasus range. This occurs over only *c.* 40 km, resulting in several different geographical zones within a relatively small area. This includes the steep densely forested slopes at the highest elevations, which quickly transition to foothills, and onto the gently sloping to flat, heavily cultivated alluvial plains of the Alazani Valley. Finally, a strip of dense woodland, *c.* 2-4 kilometres in width, is found on the low-lying banks of the Alazani River.

To our knowledge, no comprehensive multi-period archaeological survey has ever been published for Lagodekhi. Previous archaeological investigations, undertaken in the 1960s and 70s, were predominantly focused on pre/proto-historic sites located near the Alazani River (e.g. Abramishvili and Abramishvili 2008; Pitskhelauri *et al.* 1980; Varazashvili 1984). While reports of these discoveries and excavations were published, precise coordinates were often lacking, and only general locations were indicated (e.g., “near the village of Ulianovka”). Much better documented were several kurgans located near the Alazani river, of which several have been recently excavated with spectacular results (Makharadze, Kalandadze and Murvanidze 2016). Ananauri Kurgan no. 3, for example, was dated to the second half of the 3rd millennium BC, and produced, among other things, impressive organic remains (*ibid.*). Furthermore, a significant number of Medieval churches and fortresses have been documented in the region by local and national cultural heritage managers, and their locations are generally well-known.

Methodology

The landscape survey made use of both satellite remote sensing and field-survey. Prior to fieldwork we analysed freely available high resolution satellite imagery on Google Earth, declassified CORONA imagery from the 1960s, and available soviet period topographic maps to identify possible archaeological features.

We then designed an extensive field survey with several aims:

1. Re-locate all sites mentioned in previous publications and record accurate up-to-date coordinates and descriptions;
2. Ground-truth potential archaeological features identified on satellite imagery.

We also visited all potential archaeological sites and features described by residents of the area that we encountered on the field survey. This provided us with information on several site locations, but also invaluable information on land use changes and the resulting impact on sites. We also undertook intensive pedestrian transect survey in areas of good ground visibility selected from different environmental zones. Overall, our survey methodology involved a combination of extensive and intensive survey methods that took into consideration the varying terrain, ground cover, and personnel available (see Hopper and Titolo 2018; Hopper, Kvavadze and Rova 2019). This was crucial due to the significant amount of anthropogenic activity that has affected the visibility of archaeological sites in the region. This same problem has been noted by several scholars working across the Southern Caucasus and has driven a need for more complex survey methodologies, such as we have employed here (see discussion in Lindsay *et al.* 2018).

The impact of 20th/21st century land use on the survival of archaeological sites in Lagodekhi

The impact of the recent anthropogenic activity on the identification of archaeological sites and the recovery of surface dating material varied across the survey area. Like many fertile low-lying plains across much of the Southern Caucasus, the Alazani River Valley has been significantly impacted by agricultural activity in the 20th and 21st centuries CE (Hopper, Anderson and Robinson 2018; Hopper *et al.* 2020; Lindsay *et al.* 2018). Over the course of the 20th century, there were several significant reorganisations of the landscape in Lagodekhi. Through the early and mid-20th century collective farms predominated, practicing deep ploughing, and intensive production. After the break-up of the Soviet Union and Georgian independence beginning in the early 90s, the landscape was again transformed with new land divisions associated with private ownership. This is very clearly demonstrated by comparing CORONA and Landsat 8 images of an area of the plain from 1968 and 2018 respectively (Fig. 2).

A specific example of the impact of recent agricultural practices can be found at the site of LS30, known as the Tseligorebi or Ulianovka kurgans. This kurgan group was said to have numbered at least 20, two of which were excavated in the 1970s (Abramishvili and Abramishvili 2008). On a modern high resolution satellite image taken in 2009, quite a few of these kurgans are visible as soil colour differences (Fig. 3). However, when we visited the site in 2018, it was difficult to identify areas of relief which would signal the location of the mounds. A digital elevation model produced via drone³ illustrates this well, with only a handful of the mounds rising to any height above the surface of the plain (Fig. 3). Plough lines are clearly visible on both sources.

In the south-west, immediately next to the Alazani River, is an area of dense forest. It is unique within the Alazani River valley within Georgia. While cultivation comes up to the banks of the Alazani further upstream, here there is a forested area varying in width between *c.* 2-4 km between the river and agricultural fields. However, this was not always the case. Comparing a CORONA satellite image to a Landsat 8 satellite image, taken in 1968 and 2018 respectively, the area under forest cover has increased between the dates of these two images (Fig. 4). This includes several areas that were clearly under cultivation in the 1960s. This is significant as, in contrast to the majority of the plain, here the forest has acted to protect archaeological sites from ploughing over at least the last 60 years.

In the upper reaches of the plain, where it meets the Kakheti Caucasus foothills, sit the largest modern settlements in the region (e.g. Lagodekhi, Kabali). Extending north into the foothills from here, are several villages and traces of several terrace field systems, now out of use; their date is unknown (Fig. 5). Here, the impact of ploughing is lessened, but modern settlement has served to make earlier period activities difficult to ascertain, though some obscure traces are evident.

The amount and condition of surface artefacts recovered during the survey was closely tied to the processes that have impacted these different landscapes zones. Artefact recovery was best in the upland zones. The heavily ploughed plain, even where surface visibility was high, produced sites with far fewer artefacts than would be expected for similar sites in other parts of the greater Near East. Processes such as deep ploughing must have had an impact, along with soil deposition caused by flooding and shifts in the river's course. Artefact re-

3 The drone survey and data processing were undertaken by Giorgi Kirkitadze.

covery on the forested banks of the Alazani was poor due to vegetation cover, though where animal burrows existed in the surface of sites pottery was often present in small quantities. Coupled with the lack of a comprehensive local ceramic sequence, dating of these sites proved challenging.

Site Types and Distribution

The overview presented above serves to contextualise the preliminary settlement and land use patterns we recovered in the survey. Fig. 6 illustrates the sites recovered by the survey (over 80), supplemented by information from the Georgian National Cultural Heritage Database (<https://memkvidreoba.gov.ge/>), by site-morphology. Notable, is the concentration of kurgans and small mounded sites in the lowest parts of the plain, with churches and fortified settlements predominating in the upper portion.

In general, sites and activities attributed to the Chalcolithic period were predominately found in the lowest parts of the plain near the Alazani River. Characteristic ceramics include heavily mineral-tempered fabrics, hole-mouth pots, jars with slightly out-turned rims, so-called *mangals* and relief decorations (see Tonetto in Rova *et al.* in press) as well as obsidian artefacts. This distribution could reflect a preference for settling near the river but may also be in part due to the lack of later period occupation in this area. Along with relocating several known sites, our intensive survey found several previously unrecorded artefact scatters with Chalcolithic material; overall, however, these have been attenuated by ploughing and modern construction.

We recorded a significant number of kurgans representing most of the evidence for Bronze Age activity so far documented. The densest cluster is in the western part of the survey area bordering on, and within, the dense forest on the east bank of the Alazani River. Some of these (Ananauri 1-3) have been investigated in the last 20 years, and excavations at Ananauri 3 produced dates in the 2nd half of the 3rd millennium BC (Makharadze, Kalandadze and Murvanidze 2016). More kurgans were known to exist in the vicinity but had not been systematically mapped. Due to the dense forest cover, however, we faced difficulties in locating kurgans within the forest via traditional pedestrian survey. We thus used a combination of old Soviet maps and analysis of medium and high-resolution multispectral imagery to target possible mounded features (Titolo, Hopper and Hewett forthcoming), eventually recording 17 definite kurgans within the forest. While no dating evidence was located on the surface of the mounds, it is possible that some of this cluster may date to the same period as Ananauri 3. All the kurgans we located as part of the survey were within c. 6 kilometres of the Alazani river, bar one definite, and two possible examples.⁴ LS042 appears to be the only confirmed example on the alluvial fan. It is located south of the modern town of Kabali, within an agricultural field (Fig. 7).

We have limited evidence for activity in the subsequent periods (Late Bronze – Hellenistic). We did locate one previously unrecorded artefact scatter with Late Bronze, Early Iron Age and Hellenistic material during our intensive transect survey, and this may have originally been a *gora* (mounded site), which was subsequently ploughed out. The best evidence for Late Bronze Age activity are the well-known Tseligorebi/Ulianovka kurgans, which we relocated. Iron age pit graves were also mentioned by the excavators in the vicini-

4 See Fiori 2019 for a discussion of certainties in the identification of kurgans via remote sensing and field survey, and kurgan distribution across the Alazani valley.

ty, but we were unable to relocate these. Examples of ceramics dating to the latter part of the 1st millennium BC, referred to as Hellenistic, were also recovered in several artefact scatters. Previous investigations also indicate at least two cemeteries dated to this period. However, we can say little about settlement patterns beyond this.

The majority of known sites in the region are medieval (or post-Medieval). Many are the remains of churches and shrines, and these are concentrated in the foothills, on the alluvial fans and in the mid-portion of the plain. Intensive survey in the foothills has provided some interesting information on sites and features beyond churches and fortresses of the Medieval period, including remains that may be related to an earlier Medieval village (Fig. 8). Interestingly, we found no pre-Medieval material in our survey in the upland zones.

Likely dating to the late Medieval period (16th/17th century), we also surveyed a *karvasla* (caravanserai) located near the village of Kabali (Fig. 9). The site is well-known locally, and one of two in the region; the second, located near the border with Azerbaijan, was not visited by the project (see <https://memkvidreoba.gov.ge/>). Previously unrecorded, however, was a potential wall-like feature encircling the *karvasla* on its north side (Fig. 10). This was identified from the CORONA satellite image taken in the 1960s. Very little of this feature remains visible on the ground as the modern village has expanded to cover much of the area of the possible wall.

Conclusions and future directions

In two seasons of survey, we have confirmed a number of Chalcolithic sites in the south-eastern portion of the survey area. With the exception of Tsiteli Gorebi 5 and one other site where topographic features were still present, these consisted of artefact scatters. Those sites, which were initially investigated 1960s and 1970s – Tsiteli Gorebi 1-4, Damstavri Gora etc. (Varazashvili 1992) –, were difficult to locate and it seems likely that anthropogenic activity has significantly affected them over the intervening years.

A significant cluster of kurgans has now been mapped, particularly in the western part of the survey area in and around the forested east bank of the Alazani River. The concentration of kurgans in this area may be partly influenced by recent anthropogenic activity. Modern agriculture has negatively affected the preservation of many kurgans on the cultivated plain; on the other hand, the forest in the vicinity of the Alazani River has served to protect kurgans. Taking this into consideration, the sheer number of kurgans located within a small area (i.e. near Ananauri 3), however, suggests this was likely a focal point for burial at some point in the Bronze Age.

Surprisingly, we have not recovered any examples of Kura Araxes ware within the survey area, and therefore cannot say much about Early Bronze Age settlement patterns. Beyond burial mounds there is also little that can be inferred about settlement and land use in the subsequent period.

The clearest landscape signature is that of the “Medieval” period, which has, for various reasons including the abundance of standing architecture, received more attention in previous documentation. Further research is required to understand the evolution of settlement and land use within this relatively long period.

While untangling the complex pattern of settlement and land use in the region over the long term has been challenging, adapting our survey strategy to the local landscape, and using a range of techniques and methods, has produced promising results. Remote sensing

has proved invaluable for the identification of certain site types (kurgans and mounded features) in difficult to survey zones; however, due to the intensity of anthropogenic activity on the plain over the last century, intensive pedestrian survey remains crucial and will be the focus of future seasons.

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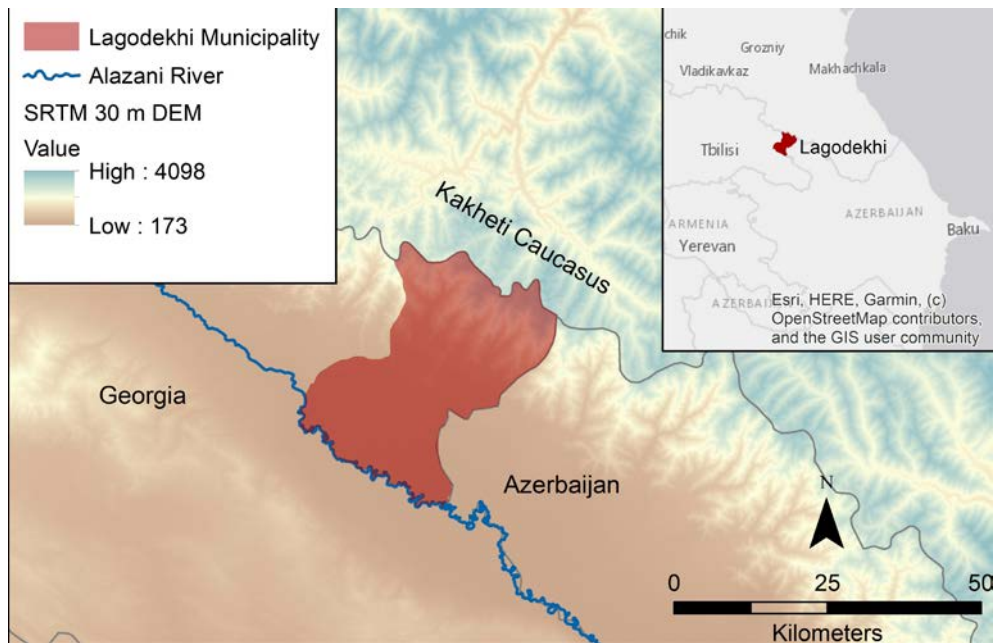


Fig. 1: Map of the Lagodekhi region. Base map SRTM 30 m DEM (available from USGS), country boundaries (GDAM)

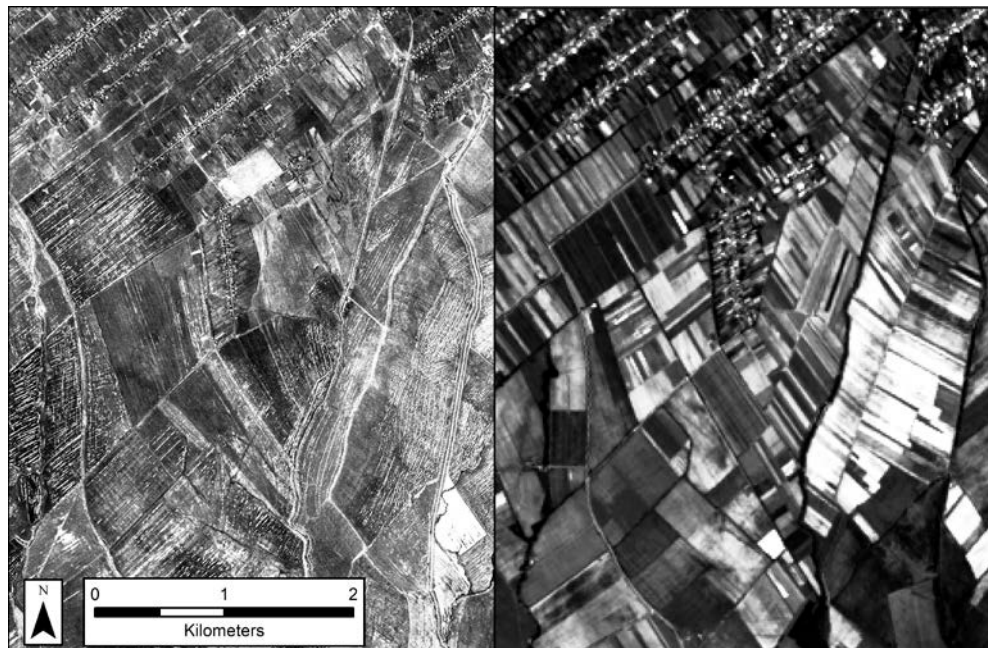


Fig. 2: Field systems in Lagodekhi in 1968 on a CORONA image (Left) and in 2018 on a Landsat 8 image (Right). Images courtesy of USGS

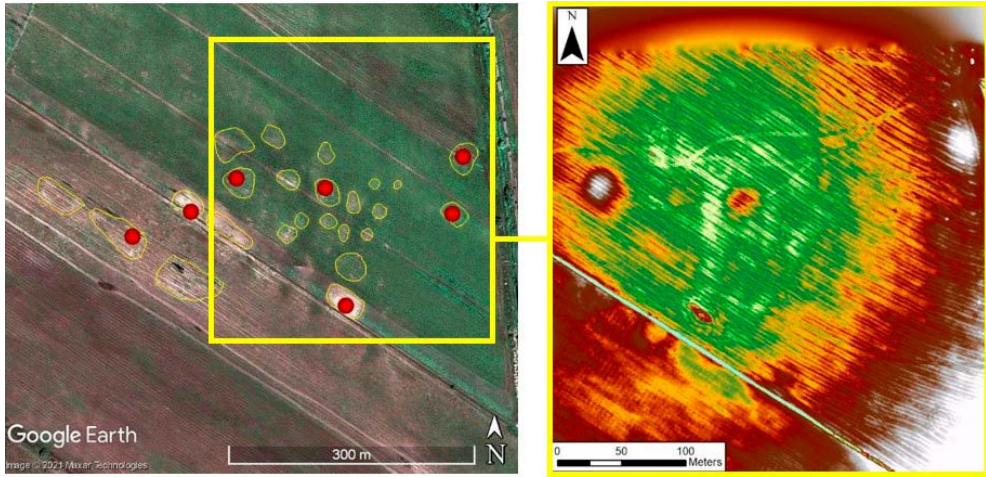


Fig. 3: Tseli Gorebi or Ulianokva Kurgans. The excavators noted twenty kurgans in the area in the 1970s. Today, possible mounds and soil discolourations are visible on a satellite image from 2009 (Image © 2021 Maxar Technologies). In a field visit in 2018, only seven of the mounds had any visible topography (indicated by red dots). Drone photography confirms this and demonstrates the significant impact of ploughing (Drone image and DEM by Giorgi Kirkitadze)

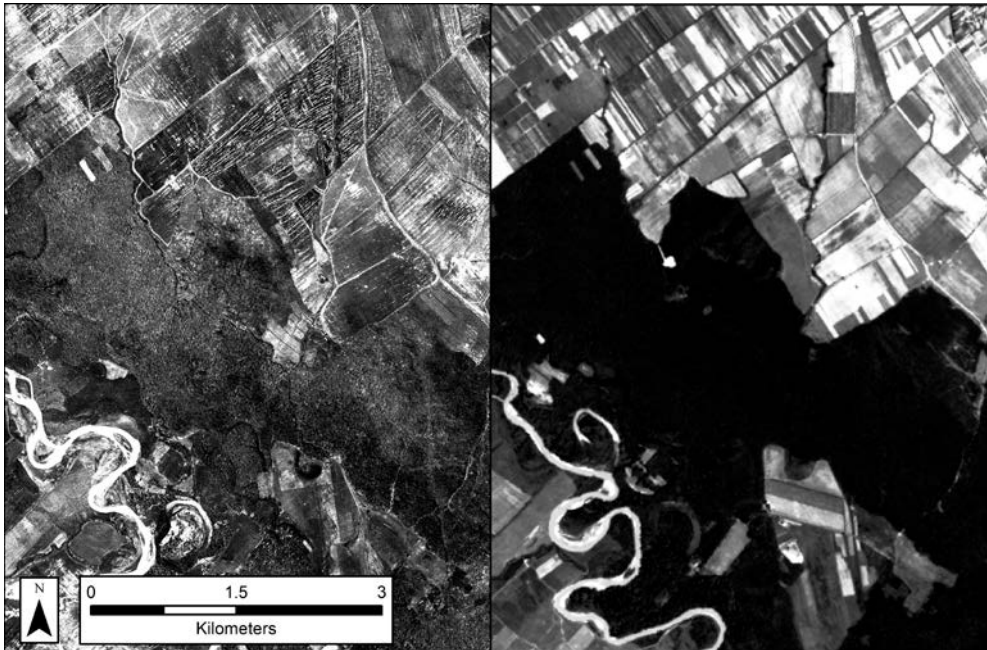


Fig. 4: The forested banks of the Alazani River in 1968 on a CORONA image (Left) and in 2018 on a Landsat 8 image (Right). Note the increase in forest area between the 1960s and present. Images courtesy of USGS

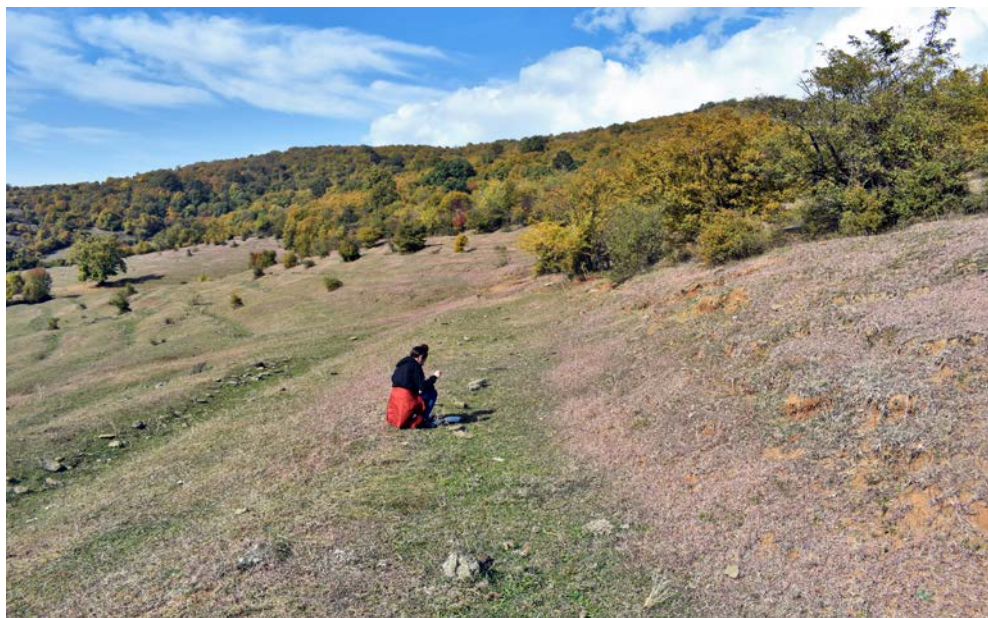


Fig. 5: Survey in upland landscapes. Here there are visible remains of abandoned terrace systems

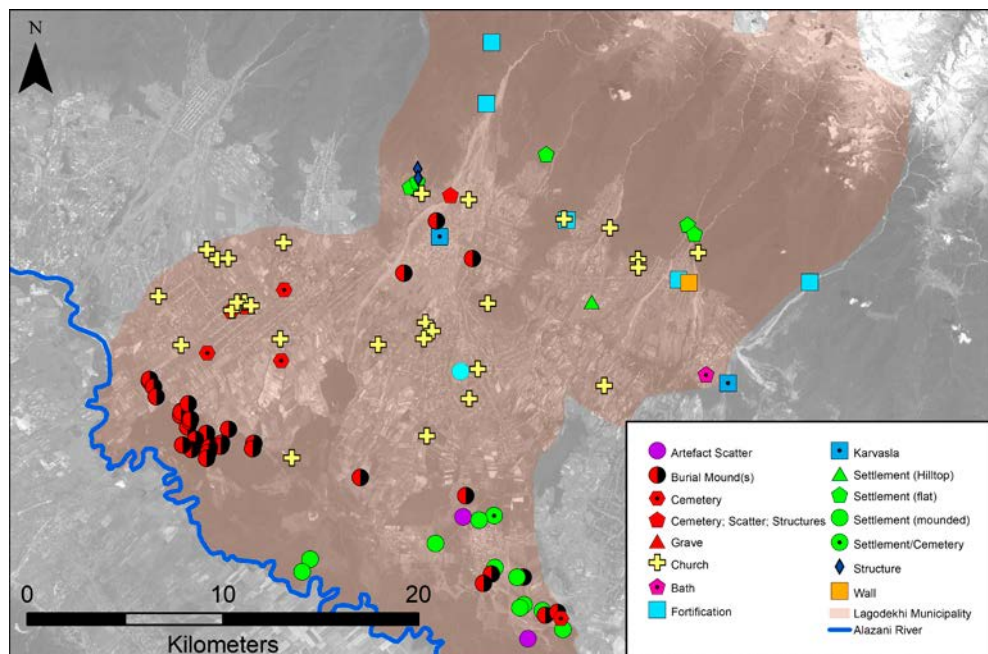


Fig. 6: Map showing site location and types located in the Lagodekhi Survey, supplemented by information from the Georgian National Cultural Heritage Database (<https://memkvidreoba.gov.ge>). Base map Landsat 8 (courtesy of the USGS)



Fig. 7: The kurgan located near the village of Kabali



Fig. 8: A possible hearth feature located in the upland landscapes. This may be part of a Medieval village



Fig. 9: The *karvasla* (*caravanersai*) near Kabali

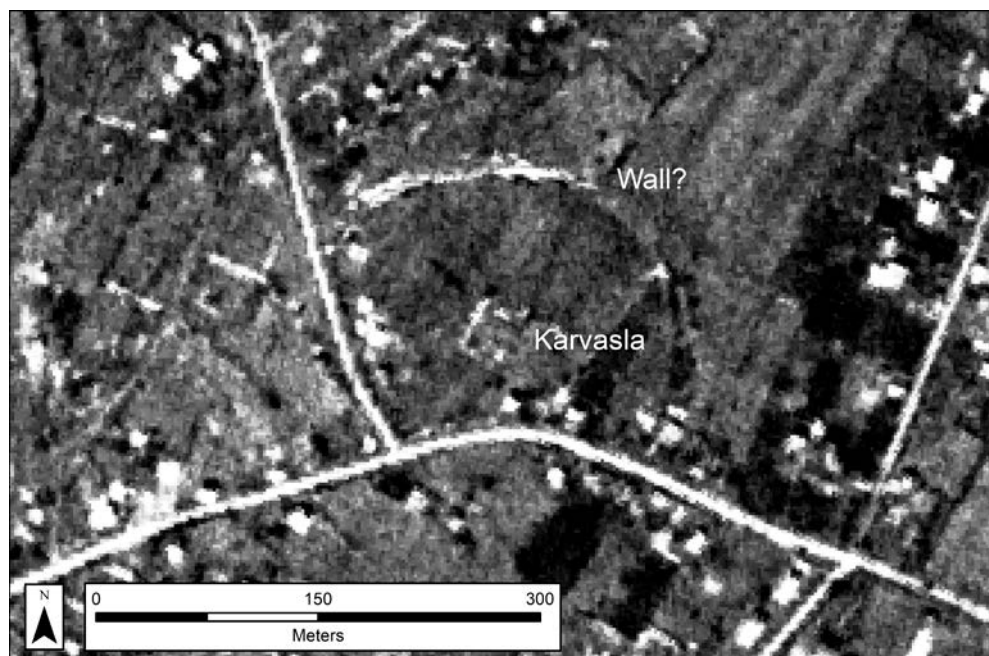


Fig. 10: Remains of a possible wall feature encircle the *karvasla* (also visible) on a CORONA image from 1968. Image courtesy of USGS