

**BAKÜ-TİFLİS-CEYHAN HAM PETROL BORU HATTI PROJESİ  
ARKEOLOJİK KURTARMA KAZILARI YAYINLARI: 2**

**BAKU-TBILISI-CEYHAN CRUDE OIL PIPELINE PROJECT  
PUBLICATIONS OF ARCHAEOLOGICAL SALVAGE EXCAVATIONS: 2**

**BÜYÜKARDIÇ**

**DOĞU ANADOLU'DA BİR ERKEN DEMİR ÇAĞI TEPE YERLEŞMESİ  
AN EARLY IRON AGE HILLTOP SETTLEMENT IN EASTERN ANATOLIA**

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**S. YÜCEL ŞENYURT**



**GAZİ ÜNİVERSİTESİ  
ARKEOLOJİK ÇEVRE DEĞERLERİ ARAŞTIRMA MERKEZİ**

**GAZI UNIVERSITY  
RESEARCH CENTER FOR ARCHAEOLOGY**

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## PREFACE

In the 1990s, the idea was born to tap into the rich natural gas and oil reserves of the Caspian Sea and transport them to the international energy markets. The idea was closely followed by the public throughout the decade which followed. This historic project is aiming to transport 50 million tons of crude oil in a year, mainly Azerbaijani, along a pipeline 1774 km in length. The pipeline starts in Baku and ends at the newly-constructed sea terminal in Ceyhan, from which it will be delivered to the world markets by tankers. The Baku-Tbilisi-Ceyhan Crude Oil Pipeline Project will consolidate Turkey's geopolitical power in the region, and provide a strong and safe "East-West Energy Corridor" which will connect the southern Caucasus and Central Asia to Turkey and the Mediterranean Sea. The project falls within the scope of an Inter-Governmental Agreement, signed by the Presidents of Azerbaijan, Georgia and Turkey. The agreement was signed at the last OSCE summit held in İstanbul on 18 November 1999, and witnessed by the President of the USA. This was followed up by the "Turn-Key Contracting Agreement" with BOTAŞ on 19 October 2000, which allowed for construction of the BTC Crude Oil Pipeline to begin.

The 1076 km-long section of the pipeline in Turkey passes through the provinces of Ardahan, Kars, Erzurum, Erzincan, Sivas, Kayseri, Kahramanmaraş and Adana. The pipeline enters Turkey from Posof, and passes over the Erzurum-Kars Plateau before entering the tectonic depressions near Horasan. The pipeline continues over the Erzurum Plain, through Tercan, Çayırlı, Erzincan. From the mountainous areas and plateaus north of Refahiye, the pipeline crosses the North Anatolian Fault and reaches Central Anatolia from south of Kızıldağ (Kızıl Mountain) (3025 m), the source of the Kızılırmak River. From here, the pipeline extends southwest, drawing a large arc from north of the Tecer Mountains range (southeast of the Sivas Basin) and entering Uzunyayla Plateau from Ulaş Basin and Altınyayla. Continuing past Zamantı Brook, the pipeline climbs over the Tahtalı Mountains at the northeast corner of the Middle Taurus Mountains from east of Pınarbaşı and follows the Sarız Brook Valley. Turning south from the valley, the pipeline passes through the high threshold between the Dibek Mountains (2230 m) and the Binboğa Mountains (2957 m) and reaches the Göksun Brook Valley. Passing through the mountain and high plateaus between Göksun and Andırın, it descends south of Kadirli to the east of the Çukurova Plain (in the Ceylan Plain section) and reaches the Mediterranean Sea.

The Baku-Tbilisi-Ceyhan Crude Oil Pipeline Project is an exemplary project in that it applied advanced technological standards, gave priority to health and safety, and was sensitive to natural, social and historical assets in the pipeline's path. In these

aspects, this project was a “first” in Turkey. The project undertook many measures to protect flora and fauna and to restore the land once construction was complete. The project has also applied the most sophisticated mitigation techniques in salvaging and protecting historical assets. Within the framework of the Cultural Heritage Management Plan, all historical assets, both under and above ground, have been identified using survey techniques which conform to nationally- and internationally-recognized standards and preserved through re-routing or archaeological excavation. Assimilating the data and placing salvaged artefacts in appropriate regional museums have made an enormous contribution to Turkey’s and the world’s cultural and natural heritages. By publishing the results of each excavation, the project has made a large contribution to Anatolian archaeology in particular.

BOTAŞ, the main contractor for the Turkish section of the pipeline, signed a protocol with the Turkish Ministry of Culture on 12 March 2002, aimed at protecting historical assets in the pipeline corridor. Furthermore, the United Nations conventions, particularly the UNESCO Convention for Protection of the World Cultural and Natural Heritage, Valetta convention, IFA-Archaeological Observation, Site Evaluation, Excavation Work Standard and Guiding Provisions, and the World Bank standards and other recognized international standards were taken into consideration in the protocol, created as Law no. 2863 on the Protection of Cultural and Natural Assets. The Cultural Heritage Management Plan (CHMP) included in the Environmental Impact Assessment (EIA) Report prepared in accordance with all of the above, formed the framework for the Archaeological Salvage Excavations under the BTC Crude Oil Pipeline Project.

Archaeological salvage excavations were carried out between 15 March 2003 and 20 November 2003 in ten sites where re-routing was not possible for various reasons. During that time, 125 archaeologists, art historians, antique age historians, anthropologists, geomorphology experts, geophysicists, surveyors, restorers and approximately 800 workers were employed. They operated under the supervision and consultancy of 25 academicians attached to the Gazi University Research Centre for Archaeology. A total of 17 separate excavations were carried out, including seven sites that emerged in 2004 as “random finds.”

The integrated execution of the archaeological survey and salvage works along the pipeline was of course the result of broad cooperation. The most important cooperation was with the Turkish Ministry of Culture (later the Ministry of Culture and Tourism), the BOTAŞ BTC Crude Oil Pipeline Project Directorate and the Gazi University Rectorate. Prof. Dr. Rıza AYHAN, former President of Gazi University, made important contributions at the award stage and later execution of the project. Prof.

Dr. Ahmet AKSOY and Prof. Dr. Metin AKTAŞ, Deputy Presidents of Gazi University, Prof. Dr. Cemil YILDIZ, Dean of the Faculty of Arts and Science, Prof. Dr. Ergun KASAP, Secretary General of the Rectorate, Prof. Dr. E. Semih YALÇIN, Head of the History Department and the pipeline's Archaeological Salvage Excavations Project Assistant Director, have made significant contributions and provided selfless supports to the execution of the project. Mr. Nadir AVCI, former Cultural Assets and Museums General Director of the Ministry of Culture and Tourism, Mr. İlhan KAYMAZ, Deputy General Director, Mr. Ömer ÇAKIR, Head of the Excavations and Museums Department, and employees of the General Directorate, particularly Ms. Güzen KÖKSAL, have made enormous contributions. Mr. Gökhan BİLDACI, former General Manager of BOTAS, who helped to bring the pipeline project to Turkey, and provided the infrastructure required for managing the archaeological assets of the project, Mr. M. Takiyüddin BİLGİÇ, General Manager of BOTAS, who was generous with his support at the later stages. The BTC Crude Oil Pipeline Project Directors Mr. Hüseyin ERSOY, Mr. H. Doğan ŞİRİKÇİ and Mr. Osman Zühtü GÖKSEL and the pipeline Project Site Director Ms. Burçin YANDIMATA have contributed greatly to execution of the project. Furthermore, Ms. Ebru DEMİREKLER, Manager of the Environmental Department of the pipeline Project Directorate, and all employees of the Cultural Heritage Management Unit, Mr. Gökhan MUSTAFAOĞLU, Mr. H. Uğur DAĞ, Mr. Kılıçhan SEVMEN, Mr. Murat YAZGI and Ms. Özgür GÖKDEMİR, have worked selflessly in executing this project.

BTC Co., the owner of the BTC Crude Oil Pipeline Project, has made big contributions to both Anatolian and the world cultural heritage. Becoming the protector of archaeological assets in the pipeline corridor in Turkey and extending financial support to this end, BTC Co. has of course made the largest contribution. The BTC Co. Turkish Section Environmental Department Manager Mr. Paul SUTHERLAND has been instrumental in the realization of the goal. Dr. Hugh ELTON, Director of the British Institute of Archaeology at Ankara and the archaeological consultant of BTC Co., has always been encouraging and supportive.

On this occasion, we cordially thank all entities and individuals who were involved in and contributed to the field and publication activities of the BTC Crude Oil Pipeline Project Archaeological Salvage Excavations Project executed by the Gazi University Research Centre for Archaeology.

Asst. Prof. Dr. S.Yücel ŞENYURT  
Baku-Tbilisi-Ceyhan Crude Oil Pipeline  
Archaeological Salvage Excavations Project Director





## INTRODUCTION

This paper contains the scientific results of the salvage excavation that have been carried out by Gazi Üniversitesi Arkeolojik Çevre Değerleri Araştırma Merkezi (GÜ-ARÇED) –Archeological Environmental Values Research Center - at Büyükdere Hill with an altitude of 2050 meters which is located in the immediate south of Gökdere Village of Tercan county, Erzincan, within Baku-Tbilisi-Ceyhan Crude Oil Pipeline Archeologic Salvage Excavations Project.

Büyükdere settlement had first been identified during the surveys carried out by Gazi Üniversitesi Arkeolojik Miras Yönetim ve Yürütme Ünitesi – Archeological Heritage Management and Implementation Unit - in 2002, within Basic and Detailed Engineering Study Phases of BTC HPBHP<sup>1</sup>. Büyükdere excavation has been carried out between August 11, 2003 and November 22, 2003 together with the excavation team gathered by Gazi Üniversitesi Arkeolojik Çevre Değerleri Araştırma Merkezi (GÜ-ARÇED), with the financial support of BTC HPBHP Directorate and by the permission of Kültür ve Turizm Bakanlığı Kültür Varlıkları ve Müzeler Genel Müdürlüğü – Cultural Assets and Museums General Directorate of Ministry of Culture and Tourism - within BTC HPBHP Archeologic Salvage Excavations Project.

Büyükdere salvage excavation has been carried out under the leadership of Mustafa Erkmen, Director of Erzurum Museum. Dr. Nakış Akgül, instructor at Gazi University Faculty of Architecture and Engineering, has been scientifically responsible for the excavation and has directed the site studies. Yalçın Yılmaz, an archeologist from Zonguldak Ereğli Museum, has been the representative of Ministry of Culture and Tourism during the excavations; Research Assistants Hakan Yılmaz and Ayşen Açıkkol from Ankara University department of Anthropology, Cartography Engineer (M.S.) and Instructor Gülşah Beyazoğlu from Gazi Üniversitesi Tapu-Kadastro Meslek Yüksek Okulu, Instructor Hakan Tekin from Selçuk University department of History of Arts, Archeologists Atakan Akçay, Resul İbiş, Hamza Ekmen, Erkan Atay, Mithat Gür, Filiz Canyurt, Ferya Aktaş, Atahan Çiçek, Yunus Derdiyok, Uğur Abaza, Erdem Güngör, Yunus Ayata, Gökhan Yıldız from<sup>2</sup> Gazi Üniversitesi Arkeolojik Çevre Değerleri Araştırma Merkezi and Restorator Emrah Karakurum have also participated in the excavations.

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<sup>1</sup> The scientific results of surveys are being prepared for publication by GÜ-ARÇED.

<sup>2</sup> Besides the strong winds over the settlement terrace of Büyükdere which impeded site studies from time to time, climate changes in October within Erzincan vicinity and all month long precipitations during November sometimes made it impossible to reach excavation site. I sincerely thank to the excavation team which accomplished their studies and to GÜ-ARÇED which carried out the detailed technical studies under such severe conditions.

Technical drawings of Büyükdıç ceramic have been prepared by Hamza Ekmen, Resul İbiş, Emrah Karakurum, Göknıl Arda, Z. Filiz Bilir, Melike Hakverdi and the statistical evaluations have been carried out by Atakan Akçay and Yalçın Kamış. Architectural drawings and drawings of small finds have been accomplished by Hamza Ekmen, Resul İbiş and Emsal Koçerdin; photography and computer arrangements have been carried out by Emrah Karakurum and Atakan Akçay; Atakan Akçay, Yalçın Kamış and Göknıl Arda have participated in archive and catalogue studies. The animal bones that were found during the excavations have been examined by Research Assistants Ayşen Açıkkol and Hakan Yılmaz and the results have been presented in a separate study (See Annex: 1)

XRF analysis of some slags and potsherd which were found during Büyükdıç excavation have been performed by Prof.Dr. Pervin Arıkan and Burcu Ender from Gazi University, Faculty of Science and Literature, Department of Physics and Abdullah Zararsız from Ankara Nuclear Fusion Laboratory, Turkish Atomic Energy Authority (ANAEM), and the results have been presented in separate studies (See Annex: 2 and 3)

Salvage excavations have been started within the pipeline corridor of size 28 x 50 m, on a rather tilted terrace at an altitude of 2022 m which is about 30 m below the summit and on the east side of Büyükdıç Hill of 2050 m high. In order to better understand the characteristics of the settlement which is a rare center with a steep slope 150 m higher than the Gökdere Village, the excavation study was extended to the west, outside the 28 m corridor, with the permission of Mustafa Erkmen, Director of Erzurum Museum.

Consequently, rectangular and circular planned, rough architectural remains which belong to rather irregular big stone foundations have been revealed. Furthermore, remains of an open air cookstove which is not connected to any other architectural elements have been identified. Potsherd and other small finds that have been gathered from and around of the architectural elements, which constitute the only settlement layer on the main rock, show Early Iron Age characteristics. The position of the settlement within a mountainous geography and especially the fact that the settlement had been established on a rather high altitude hill presents striking clues on the settlement strategies of Büyükdıç inhabitants and their life styles connected to these strategies. Archeological data that have been acquired as the result of Büyükdıç excavation are of the quality to provide considerable contributions to our limited knowledge on Eastern Anatolian Early Iron Age which may also be defined as the Urartian Protohistory.

## PART I

### GEOGRAPHICAL AND HISTORICAL SETTING

#### A. GEOGRAPHICAL POSITION AND CHARACTERISTICS

Eastern Anatolia Region is surrounded by big cultural geographies such as Trans-Caucasus in the north, north-west Iran in the east, northern Mesopotamia and northern Syria in the south and Central Anatolia in the west. Eastern Anatolian Region has a mountainous landscape and severe climate characteristics, and has always been in an important position as the center of political and cultural interactions between these cultural regions throughout the history.

Eastern Anatolia is rather an uneven geography in which high plains are scattered between high mountains and narrow depression areas, and where Alp system mountain chains converge to each other and squeeze. Central part of the region show a fortress-like landscape because of converging mountains.<sup>3</sup> In this respect, the region presents an isolated geographical integrity which is closed to outside world.



**Picture 4:** Eastern Anatolia and environs

<sup>3</sup> Erzen 1984: 2.

The region is positioned between the vast depression areas of Iran and Central Anatolian Plateaus. Kura and Aras rivers, Karasu and Muratsu which are two major branches of Euphrates River and the sources of Tigris river (**Fig. 2**) constitute the major rivers of the region.

Büyükardıç is a sharp pointed hill rising to an altitude of 2050 m in an uneven landscape to the south of Kılıçkaya Mountain Chain which includes Mesosoic<sup>4</sup> Meyram Mountains of 2669 m altitude located between Erzurum-Aşkale and Erzincan-Tercan. Kılıçkaya Mountain is located to the south of Otlukbeli Mountains, which form the northern curvature<sup>5</sup> of Central-Eastern Taurus Mountains, and is a mountainous land which is principally related with this mountain mass.

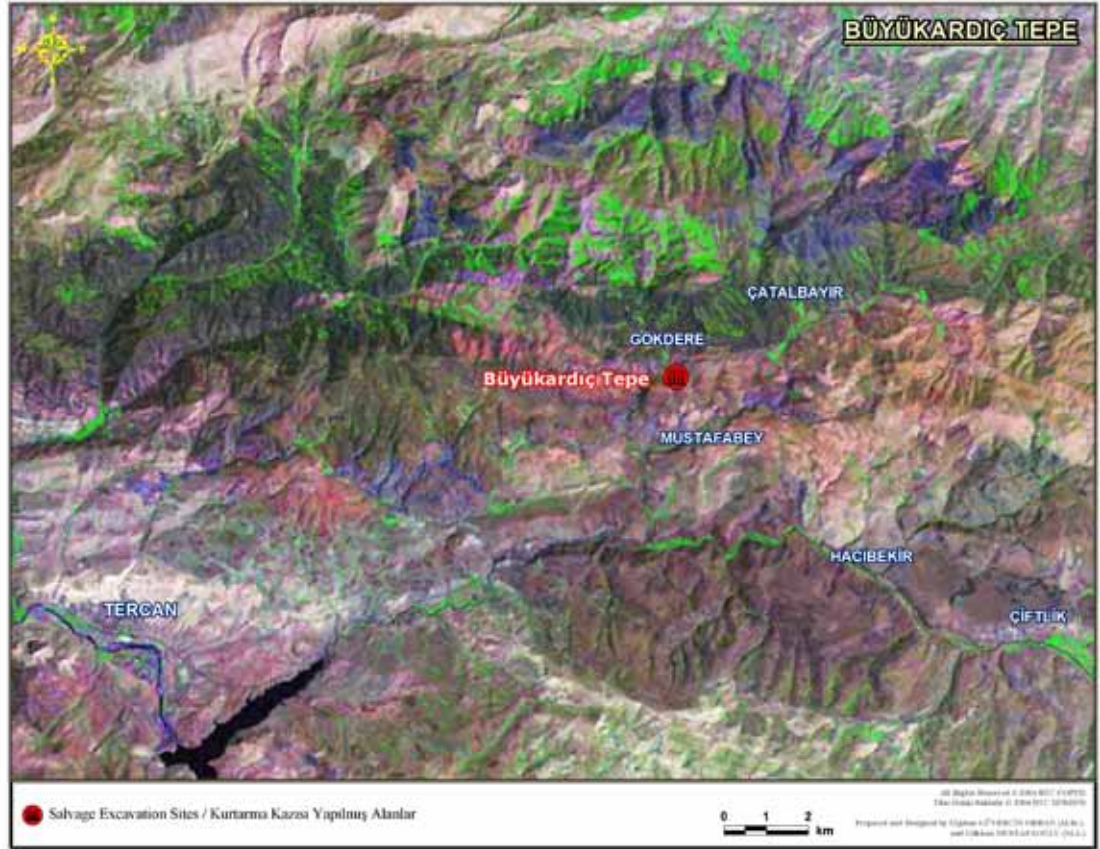


**Picture 5:** Eastern Anatolia and its major rivers.

<sup>4</sup> Altınlı 1963: 18.

<sup>5</sup> Altınlı 1963: 4.





**Resim 6:** Büyükardıç and its close environs.

Değirmen Deresi (stream) which flows on the immediate west foot of Büyükardıç Hill joins Kurugöl Deresi (stream) in the south which also flows on the eastern side of the hill, and later reaches to Karasu, a branch of Euphrates river, after joining to Tuz Çayı (creek) in the south and to Tuzla Deresi (stream) in the west.

Vast and fertile Aşkale Plain is located to the east of Büyükardıç; to the west there is the relatively smaller Tercan Plain and to the north there are the Çayırılı and Otlukbeli plateaus. Karasu forms the natural passage way between Erzurum and Erzinca Plains, and leaves its wide bank in Aşkale Plain and heads to south in the immediate north of Kılıçkaya Mountains by cross-cutting the northern curvature of Central-Eastern Taurus Mountains in Tercan.



**Picture 7:** Büyükardıç Hill and the settlement terrace from the east.

In terms of natural minerals, Erzincan and its environs are important because of their Oligo-Miosen Lignite Basins.<sup>6</sup> Lignite mine that had been operated for local needs until recently around Gökdere Village, in which Büyükardıç Hill is located, belongs to Eosen period. The lignite mine, which is between gray marls, is of low quality (37%)<sup>7</sup> and has only local importance. During the excavations, the lignite formations have been identified in the surface soil and sometimes below the cultural fillings, on the eastern terrace of the hill of about 2030 m altitude.

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<sup>6</sup> Stchepinsky 1940: 213, 215; Altınlı 1963: 49-50.

<sup>7</sup> Stchepinsky 1940: 216-217.



**Picture 8:** A3 trench. Eocene period lignite formations.

Besides the lignite layers, the region has a lot of very high quality salt mines.<sup>8</sup> Because the climate of the region is much more suitable for livestock breeding, these salt mines must have been very important since the ancient times,.

It is known that besides iron minerals such as magnetite and lemnite<sup>9</sup> there are magnesite and perlite layers<sup>10</sup> in and around Erzincan. There are important copper, lead and zinc layers in the immediate north-east of Büyükdıç (**Picture 9**). Even though any advanced workshops have not been encountered during the excavations, archeological finds which indicate local and small sized metal working suggest that the raw materials obtained from the above mentioned mines might have been processed to a somewhat limited extent.

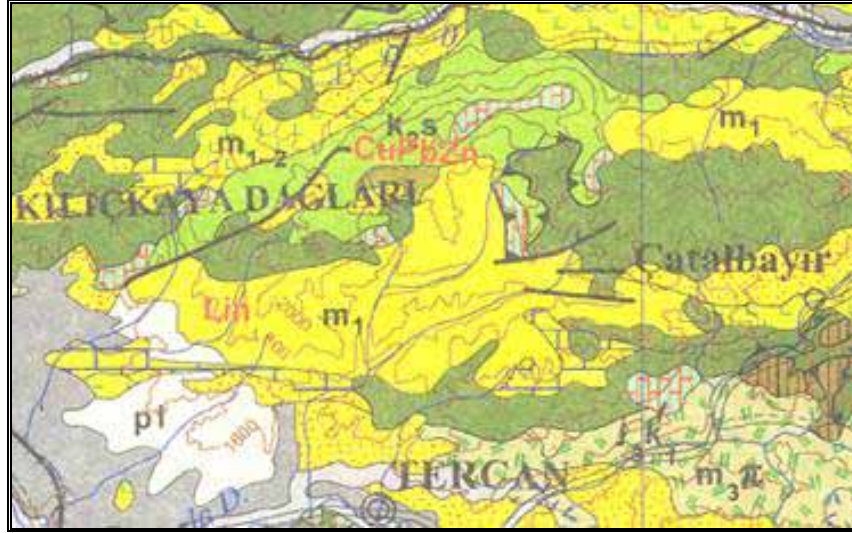
It is known that production of bronze involves usage of copper-lead, copper-zinc compounds besides copper-tin and copper-arsenic compounds. The detailed analysis of the Büyükdıç bronze finds might certainly provide more accurate clues on the types of ore that had been used.

<sup>8</sup> Stchepinsky 1940: 219-221.

<sup>9</sup> Altınlı 1963: 49.

<sup>10</sup> 1:2.000.000 scaled Map of Turkish Mineral Stratum, 2004, Maden Tetkik Arama General Directorate.





MTA Turkey Geology Map, Erzurum. 2002

**Picture 9:** Copper, lead, zinc and lignite layers in the environs of Büyükardıç.

Currently, strong continental and astropical climate conditions dominate Eastern Anatolia Region. Continental climate and tropical mountainous climate is present along rivers and narrow valleys. Long winters of 6 months from October to April dominate the region and annual temperature fluctuations exceed 25 degrees Celsius. 22% and 40% of the annual precipitation occur in Winter and Spring seasons respectively in the upper Euphrates region. About 4 months of the long winter season, which starts from October, is frosty<sup>11</sup>. Despite these general conditions, climate and precipitation differs depending on the elevation, relation between elevated and lower land pieces, availability of appropriate straits that enable humid and warmer winds to pass and other geographical factors<sup>12</sup>.

Alpine type of vegetation dominate the high altitude regions of Eastern Anatolia<sup>13</sup>. Pine trees are more common among the very limited tree types in the higher altitude forests of limited sizes. Oak forests can be found on lower regions which are away from the residential areas and somewhat conserved. Conforming to a climate which has a long winter season and lower precipitation rates, steppe-lands and heather-like vegetation is seen. Mountains are either naked (without vegetation) or are covered with oak trees in the upper Euphrates region<sup>14</sup>. Relatively bigger natural forest areas when compared to Central Anatolia and Iran is due to a more humid climate. Lower forest boundaries reach to elevations of 1100 m to the south, 1400 m to the north, 2400 m to the west and 2800 m to the east of the region. Yellow pine, oak, juniper, birch and

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<sup>11</sup> Altınlı 1966: 38-39.

<sup>12</sup> Altınlı 1963: 2.

<sup>13</sup> Altınlı 1966,: 38.

<sup>14</sup> Altınlı 1963: 2; 1966: 39.



aspen trees which can survive long winter seasons and severe cold can be seen in these forests that have been conserved in a very limited area<sup>15</sup>.



**Picture 10:** Eastern slope of Büyükardıç.

Today, the mountainous landscape surrounding Büyükardıç is quite naked (not vegetated). Besides seasonal herbs and very few short trees, general flora is constituted by small fertile pastures in the lower regions together with willow and poplar trees by the streams.

Agricultural productivity of Eastern Anatolian Region is quite low due to long, severe winter and hot, dry summer conditions. Except for big plains, grains are planted for local consumption on lower narrow valley terraces. On mountainous regions, cascaded terraces could be used for grain production<sup>16</sup>, as well. Majority of general economic income of the region's rural inhabitants is still provided by livestock breeding. Cold and severe climate conditions, insufficiency of appropriate land for vegetable growing and abundance of pastures have played an important role in the development of livestock breeding in the region, since ancient times. Besides sheep breeding, big cattle breeding is still common in the region. Because of this reason, shepherds migrate to higher plateaus in the summer season for pastures<sup>17</sup>. However, livestock breeding on plains of Erzurum and its environs, and on plains of Tercan and

<sup>15</sup> Erzen 1984: 5.

<sup>16</sup> Altınlı 1963. 2-3.

<sup>17</sup> Altınlı 1966. 38-39.

Erzincan have a nature which does not necessitate migration to higher pastures because of more intense grain agriculture<sup>18</sup>.



**Picture 11:** A view of Gökdere Village and nomad tents from Büyükdardıç.

On the other hand, limited fields on the narrow terraces in the mountainous landscape including Büyükdardıç between Aşkale and Tercan plains are insufficient for agriculture and this site is more appropriate for small cattle breeding. However, at the feet of the hills where hills meet stream valleys, very limited amount of barley and wheat are grown for local consumption on relatively small and smooth terraces. More steep and wet terraces are used as small pastures to obtain livestock feed for winter.

In Eastern Anatolia, which is formed by volcanic mountains, population mostly intensifies in small and narrow valleys which are appropriate for limited agricultural activity. Small settlements between uneven mountains of Eastern Anatolia are like islands in the sea in terms of their locations and relations with each other<sup>19</sup>. This is quite an appropriate definition especially when the hardships of winter transportation between these settlements are taken into consideration. In the ancient times, majority of the region's residents, which spend the winter time in lower and warmer regions, must have

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<sup>18</sup> Saraçoğlu 1956: 26-27.

<sup>19</sup> Zimansky 1985: 9.

migrated to neighbouring higher plateaus for pasturing purposes in summer time, as they do today<sup>20</sup>. Because the winter conditions come so suddenly and because the structure of region's mountains prohibit easy passage to southern areas, the region is not appropriate for a real nomadic-migratory life style<sup>21</sup>. After spending the winter time in sheltered valley homes made up of adobe or stone bricks, transhumant people must have migrated to regions closer to their winter residences and lived in tents in summer time. This type of transhumant life style still continues lively in Eastern Anatolia today. High plains settlements are very frequent around accessible spots of certain pastures and meadows.

Büyükardıç is located in the 8 km northwest (bird's flight) of caravanserai of Hacıbekir Hanı<sup>22</sup> (Çiftlik Village) which is on the route that connects Tercan to Aşkale that is known to be used in Middle Ages, and is to the north of 1.5 km of Erzurum-Erzincan highway. This is a route with an east-to-west orientation that follows the Aras and Karasu valleys and reaches to Erzincan.

Geomorphological characteristics of mountains and rivers of Eastern Anatolia are appropriate for the creation of natural road routes that are oriented from east to west. Besides the southeastern Taurus mountains and high mountains of Eastern Anatolia to the north, and flow directions of Euphrates and Tigris rivers do not enable the creation of appropriate natural routes with north-to-west orientation. Even today, it is known that a shorter route does not exist, which provides access to Erzincan from Elazığ and Malatya, other than the one that follows the Karasu valley.

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<sup>20</sup> For relationships of high plains pasturing and agricultural activities of the region with geography and climate see Yakar 2000: 392 v.d.

<sup>21</sup> Zimansky 1985: 15.

<sup>22</sup> Sinclair 1989: 217.



**Picture 12:** A view of Aşkale-Tercan Highway and environs from Büyükdıç.

The road which reaches to the eastern section of Central Anatolia by first following the Aras and Karasu valleys to Erzincan and then passes through Sivas and Kayseri; and the road to the west of Van Lake which reaches to Diyarbakır after passing through Maden are the major natural routes in the region with east-to-west orientation. These east-to-west oriented roads have secondary importance in north-east relationships although they are long and difficult courses. On the other hand, because of long and frosty winter season, commercial and military roads in Eastern Anatolia are not quite favourable, in every direction. Except for major arteries, it is known that by-roads could be closed more than 3 months in winter season<sup>23</sup>.

North to south relationships between Trans-Caucasus, Mesopotamia and Syria mostly are maintained through a longer but easier-to-pass route which follows the eastern part of Eastern Anatolia and passes the Urumiye Lake from the west and Zagros mountains from the north-west.

Despite the above mentioned geography and climate conditions, it is understood that Eastern Anatolia had been the stage to political and cultural north-south interactions from Prehistoric period to Late Iron Age. During and after the Acheamenid period, the region had been influenced by the western Antiquity cultures parallel to the political struggles<sup>24</sup> between eastern and western powers.

<sup>23</sup> Altınlı 1963: 2.

<sup>24</sup> Marro 2004: 91-92.

## B. HISTORICAL SETTING

A major change which affected the socio-political and cultural structure of the Southern Caucasus, Northwestern Iran and Anatolia is observed starting from the fifteenth century B.C. detailed surface research and recent excavations in Tsakahovit Plain to the north of Yerevan have shown the existence of an intensive settlement which has the feature of being the earliest fortified settlement system in the Late Bronze Age.<sup>25</sup> In Northwestern Iran, the remains of material culture of that change are dated to earlier than the thirteenth century B.C. and this phase is defined as Iron I.<sup>26</sup> Surface research conducted around Sivas, to the east of Central Anatolia, has also shown that the number of small settlements increased during the Late Bronze Age, that people began to settle on naturally guarded steep rocks and plateaus, that some of the larger centres were surrounded by walls, and that smaller centres tended to concentrate around the larger centres that were surrounded by walls.<sup>27</sup> This socio-political differentiation in Central Anatolia is related with the adverse environmental conditions caused by the period of cooling that the earth went through in the mid-second millennium B.C.,<sup>28</sup> and with intensive internal disturbances.<sup>29</sup>

In the mid-twelfth century B.C., the Central Anatolian, Levantine and Aegean world became the scene of a sudden collapse of states. This major destruction, which was formerly linked only with the migration of the “Sea Peoples” on the basis of Egyptian sources, in fact greatly changed the socio-political order not only of Egypt but of the entire Near East and its periphery. The Hittite Empire, which became increasingly weaker under the influence of internal and external impacts,<sup>30</sup> suddenly collapsed in the mid-twelfth century B.C. It appears that this calamity was occasioned by massive migrations and invasions arising from a sudden climatic change and a drought, coupled with local disturbances. There must be an important relationship between the eruption of the volcano Hekla 3 in the year 1100 + 50 B.C., the effects of which are stated to have continued for several decades over an area extending from the North Pole to China,<sup>31</sup> and the fact that Shuppiluliuma II, who succeeded to the Hittite throne during the years of famine,<sup>32</sup> was the last king of this empire.

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<sup>25</sup> Smith and Thompson 2004: 569-572; Smith et al. 2005: 175-185.

<sup>26</sup> Burton-Brown 1951:267; Burney and Lang 1971: 106,113, 115-117; Muscarella 1974:54; Kromer and Lippert 1976:81; Lippert 1979:137; Çilingiroğlu 2001, 371.

<sup>27</sup> Ünal 1981/83:21 ff; Yakar 1992:510; Ökse 1998:322, 324, 329.

<sup>28</sup> Neumann and Parpola 1987: 162; Ökse 1998:324.

<sup>29</sup> Ökse 1998:324-327.

<sup>30</sup> Ökse 1998:327; Bartl 2001:384.

<sup>31</sup> Kuniholm 1990:653.

<sup>32</sup> Hawkins 1994:92.



With the collapse of the Hittite Empire, the Late Bronze Age ended in Anatolia and the Early Iron Age started. This period includes a long interval of time of about 300 years until the establishment of the Phrygian Kingdom in Central Anatolia and the Urartu Kingdom in Eastern Anatolia in the ninth to eighth centuries B.C. The Early Iron Age of Central Anatolia, which was formerly little known and called the “Dark Age” due to the silence of written sources, is gradually coming into light through the excavations of Gordion,<sup>33</sup> Boğazköy-Büyükaya<sup>34</sup> and Kaman-Kalehöyük.<sup>35</sup> This work, particularly in Boğazköy, has shown that after the downfall of the Hittite Empire small villages consisting of small and simple structures became widespread inside the Kızılırmak curve.<sup>36</sup>

Towards the end of the Late Bronze Age, a new phase began to develop also in Eastern Anatolia, which was marked by a change in patterns of settlement and by a differentiation and regression in the pottery technology and tradition. As in Central Anatolia, the change here is also explained by a wave of migration.<sup>37</sup> Although the Early Iron Age settlements, mostly in the character of villages, that were established on the layers of the Late Bronze Age suggest at first sight that the population decreased during this phase, recent excavations and research in the area point to the existence of what may be considered a dense population between the mid-twelfth century B.C. and the tenth century B.C.<sup>38</sup> The fact that archaeological data indicate a smaller number of settlements in Eastern Anatolia during the Late Bronze and Early Iron Ages in comparison with the earlier periods<sup>39</sup> must be related with the population living in scattered and small groups rather than the region being abandoned.<sup>40</sup> A similar theory has been put forward concerning the strategy of settlement in Central Anatolia during the same periods.<sup>41</sup> According to it, people must have withdrawn to high, mountainous areas with plenty of water and grass both for the purpose of defence and because of intense drought.<sup>42</sup> Archaeological excavations and research in Northwestern Iran have also shown that in the Early Iron Age the number of settlements actually increased, with some of them in the form of small, fortified settlements.<sup>43</sup>

The surface research conducted in the areas of dams built on the Euphrates and Tigris,<sup>44</sup> the salvage excavations performed in such important sites as Norşuntepe,<sup>45</sup>

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<sup>33</sup> Henrickson and Voight: 1988.

<sup>34</sup> Seeher 1998:2000.

<sup>35</sup> Omura 1995.

<sup>36</sup> Genz 2000:40.

<sup>37</sup> Burney 1980:157-167; Sevin 1991:87-97; Bartl 2001:385.

<sup>38</sup> Bartl 1993:205.

<sup>39</sup> Rothman 2004:147 and footnote 174; Burney 1958; Burney and Lang: 1971.

<sup>40</sup> Rothman 2004:147.

<sup>41</sup> Omura 1998:95.

<sup>42</sup> Erzen 1984:20; Dodd 2003:128 ff.

<sup>43</sup> Bartl 2001:396; Kroll 1984:127 ff.

<sup>44</sup> Durbin 1971; Özdoğan 1977; Serdaroğlu 1977; Whallon 1979; Yakar and Gürsan - Salzmann 1979; Russell 1980; Algaze et al. 1991.

Değir-mentepe,<sup>46</sup> Korutepe<sup>47</sup> and Lidar Höyük<sup>48</sup>, and the excavations performed in Urartu citadels, have made important contributions to the Early Iron Age archaeology of the region. Our knowledge of the region is gradually increasing thanks to the excavations of Büyüktepe Höyük<sup>49</sup>, Sos Höyük<sup>50</sup>, Bulamaç Höyük<sup>51</sup>, Dilkaya<sup>52</sup> and Ayanis<sup>53</sup> carried out in recent years and to the surface research in Eastern Anatolia<sup>54</sup>. In addition, important data have begun to be obtained from new work performed in Iranian Azerbaijan<sup>55</sup> and in Armenia<sup>56</sup>.

In spite of this important differentiation in the strategy of settlement, the centres of settlement in the vast region including Eastern Anatolia were not completely destroyed at the end of the Late Bronze Age. In those centres where no destruction is observed, the transition to the Early Iron Age took place almost without interruption.<sup>57</sup> Moreover, some of the centres that did suffer destruction were resettled within quite a short time, even if in the character of villages now.<sup>58</sup> Another interesting situation is the fact that Late Bronze Age ceramics continued to be used in the earliest Early Iron Age settlement at Korucutepe<sup>59</sup> and Norşuntepe.<sup>60</sup> The excavations at Sos Höyük, Erzurum, which is situated closer to Büyükkardıç than the others, have revealed similar characteristics also in the phase of transition between the Late Bronze and Early Iron Ages. In the layers dated to the Late Bronze Age that were unearthed in trenches M15 and L16 at Sos Höyük, it is noted that the features of the Early Iron Age had begun to make themselves felt. In particular, the fact that the ceramics recovered in trench L16 are mostly hand-shaped<sup>61</sup> sufficiently proves that the change was gradual. It appears, therefore, that the hiatus theory expressed as the “Dark Age” is not valid for Eastern Anatolia and its periphery.<sup>62</sup> However, a change took place again in the character of the

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<sup>45</sup> Hauptmann 1969/70: 1976; 1979.

<sup>46</sup> Duru 1979.

<sup>47</sup> van Loon 1980; Winn 1980.

<sup>48</sup> Müller 1999.

<sup>49</sup> Sagona et al. 1992.

<sup>50</sup> Sagona et al. 1996; Sagona 1999.

<sup>51</sup> Güneri et al. 2003;

<sup>52</sup> Çilingiroğlu 1991.

<sup>53</sup> Çilingiroğlu 1994; Kozbe et al. 2001:85-153.

<sup>54</sup> Marro and Özfirat 2003; 2004; Ceylan 2001, Köroğlu 1998; Sagona C. 1999; For the western areas neighbouring Eastern Anatolia, see Ökse 1998.

<sup>55</sup> Muscarella 1974; Kromer and Lippert 1976; Lippert 1979; Pecorella and Salvini 1984; Kroll 1984.

<sup>56</sup> Tumanyan 2002; Badaljan et al. 1993; 1994.

<sup>57</sup> For the fact that the transition from the Late Bronze Age to the Early Iron Age represents a continuity rather than a cultural break, see Müller 2003.

<sup>58</sup> Bartl 2001: 384; In addition, Winn (1980:155) suggests that at Korucutepe the transition from the LBA to the EIA was a continuous one without any interval.

<sup>59</sup> See Winn 1980:155.

<sup>60</sup> Bartl 1994:480.

<sup>61</sup> Sagona 1999:153.

<sup>62</sup> Pelon (1994:159) states that the Early Iron Age layer on the Late Bronze Age at Porsuk immediately begins, without a sterile deposit that would indicate a hiatus.

centres settled after the Late Bronze Age<sup>63</sup> and the previous urban architecture gave way to a cruder village architecture.

Hittite sources in Central Anatolia and Assyrian and Mitanni sources in Northern Mesopotamia offer important information on the socio-cultural and socio-political differences evidenced by archaeological documents relating to the Late Bronze and Early Iron Ages and on the communities that caused this change. From both Hittite and Assyrian documents,

it appears that the communities who lived in and around Eastern Anatolia during the Late Bronze Age presented a continuous threat for both Anatolia and Northern Mesopotamia. In fact, there are many written documents today which describe the struggles and victories of Hittite and Assyrian kings against the numerous communities and federations trying to move from Eastern Anatolia into the west and south.

According to Hittite sources, the kingdoms of Isuwa and Alse/Alzi ruled to the south of Eastern Anatolia during the fifteenth and fourteenth centuries B.C. For some time, these two kingdoms acted like a buffer as independent kingdoms between the Hittites in Central Anatolia and the Mitannis in northeastern Syria.<sup>64</sup> The Isuwa country was captured by the Hittites during the North Syria campaign of Suppiluliuma I and this area remained subject to the Hittite Kingdom until the end of the imperial period. The Isuwa country, mentioned in Hittite documents from the second half of the fifteenth century B.C., is ascribed to the Elaziğ area on the Muratsu with the help of archaeological data obtained in the Keban Dam salvage excavations.<sup>65</sup> Alse/Alzi is localized again in the same area, immediately to the southeast of Isuwa.<sup>66</sup> Although it is suggested that it was an important unit of the Isuwa country<sup>67</sup>, it is stated that the Alse/Alzi country covered almost all of the previous Isuwa country during the reign of Tiglat Pileser I.<sup>68</sup>

In the Late Bronze Age, the Plain of Malatya was known as the Armata country and the Plain of Tohma Su as the Tagarama country.<sup>69</sup> These countries, which appear from Hittite sources to have been to the north of Kizzuwatna and to the south of Isuwa, were in commercial and political relations with Central Anatolia throughout the second millennium B.C..<sup>70</sup> At the beginning of the Early Iron Age, the region of Malatya was known as the Milid Kingdom, under a dynasty formed by rulers of Hittite origin who

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<sup>63</sup> Bartl 2001:384.

<sup>64</sup> Bartl 2001:383.

<sup>65</sup> Russel 1984:180; Yakar 1992:507-508; Yakar 2000:428; Bartl 2001:383.

<sup>66</sup> Russel 1984:180; Haas (1986:22) localizes Alse to the east of Isuwa.

<sup>67</sup> Russel 1984:180 ff, map 2.

<sup>68</sup> Yakar 2000:429.

<sup>69</sup> Yakar 2000:430.

<sup>70</sup> Yakar 2000:430 and footnote 274.



carried the title “country lord” (1150-1075 B.C.). It is argued that this kingdom was influential up to the Muratsu and Karasu rivers in the north and up to the Plain of Elbistan in the south.<sup>71</sup>

The yearbooks of Mursili II show that there were the kingdoms of Azzi and Hayasa to the east of the Hittite country. These yearbooks mention attacks on the cities of the Upper Country from the directions of Azzi and Hayasa.<sup>72</sup> It is currently a matter of debate whether the two entities designated as Azzi and Hayasa were two separate political authorities ruled by a single king or were a single political authority in the form of a confederation of tribes spread over two separate geographical regions.<sup>73</sup> Among the events in the ninth year of Mursili, it is told that the king of Azzi-Hayasa, attacking the “Upper Country”, invaded the territories of Istitina and besieged the city of Kannuwara.<sup>74</sup>

The fact that in a peace treaty he made with Hukkanu of Hayasa (KUB 18/CTH 42), Suppiluliuma I addressed not only the king but also the people of Hayasa indicates that the tribal assembly of this people was important in the decision-making mechanism.<sup>75</sup>

In the document that relates the events in the tenth and eleventh years of Mursili, the Hittites appear to have been in relations more with the Azzi country. It is of interest that the Hittite king, capturing Dukkamma / Tukrama, the centre of Azzi, now met with the oldest people of this country rather than the Azzi king. The Hittite prisoners (100 men) were taken back and the Azzi country came under Hittite rule, placing their soldiers and chariot-mounted warriors under the king’s order.<sup>76</sup> The statement that the Azzi people, frightened by the power of Mursili II, were able to hold on steep hills, high mountains and fortified towns provides an important piece of information about the Azzi geography and social structure.

Based on the opinion that the Hittite Upper Country was surrounded to the east by the Upper Kızılırmak in Sivas and by the valleys of Yeşilırmak and Kelkit in Tokat, the Azzi and Hayasa countries are localized to the east of Sivas and the areas of Erzincan and Erzurum.<sup>77</sup> Hayasa is ascribed to the northeast of Alse<sup>78</sup> and to the

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<sup>71</sup> Yakar 2000:430.

<sup>72</sup> Güneri 199:150, footnote 5; Garstang and Gurney 1959:29 ff.

<sup>73</sup> Yakar 2000: 430-431.

<sup>74</sup> Yakar 1992:507, footnote 1.

<sup>75</sup> Diakonoff 1984: 51-52; Yakar 2000:431-432.

<sup>76</sup> Diakonoff 1984: 45, 51-54, n. 51; Yakar 2000: 431.

<sup>77</sup> del Monte and Tischler 1978; Macqueen 1986; 46-48, 54, 78; Yakar 1992:508; Yakar 2000:431.

<sup>78</sup> Bartl 2001:383.

Erzurum-Erzincan area including the Çoruh Valley<sup>79</sup>. For the Azzi country, the area extending from the boundary of the Upper Country to the Black Sea coasts is mentioned more.<sup>80</sup> The fact that the Azzi town of Aripsa is generally identified with Giresun is considered an important support for this localization.<sup>81</sup> In this way, Azzi and Hayasa are located between Isuwa to the southeast of the Upper Country and the Eastern Black Sea region. The name Hayasa is identified with “Hayastan”<sup>82</sup> which occurs in Armenian and which certain scholars locate around the Karasu in connection with the proposed localization of Isuwa. Like Isuwa, Hayasa also remained subject to the Hittite Kingdom from the late fourteenth century B.C. to the downfall of Hattusa.<sup>83</sup>

The Assyrians, challenging and gradually weakening the Hittite political domination in the Upper Euphrates region during the second half of the thirteenth century B.C., finally reached as far as the vicinity of Isuwa.<sup>84</sup> For this reason, the Mid-Assyrian sources are of great importance for the Late Bronze Age and Early Iron Age history of Eastern Anatolia. The yearbooks of Salmanasar I (1274-1245 B.C.) are the oldest documents that relate the struggles against the feudal lords who presented a great danger in the north of the Assyrian country. It is told that 8 countries and 51 towns were destroyed in the region called “**Uruatri**” during the struggle that the king started against these principalities in Eastern Anatolia in the first year of his succession.<sup>85</sup> These expressions prove the existence of a confederation established against the Assyrians to the south, like the Azzi-Hayasa confederation established against the Hittites.

In the yearbooks of Tukulti-Ninurta I (1244-1208 B.C.), the son of Salmanasar I, it is related that the countries of “**Nairi**” were captured, their 40 kings were defeated and chained, and that the region was made tributary as far as the Upper Sea.<sup>86</sup> I. The fact that Tukulti-Ninurta I uses the name “Nairi” instead of “Uruatri” must be due to the existence of another confederation whose main element was the people of Nairi, rather than implying two separate regions in Eastern Anatolia. It appears that, with the rule of Tukulti-Ninurta I becoming weaker in the early twelfth century B.C., the Assyrians withdrew from the Upper Euphrates region and the region came under the control of tribes who are suggested to have come from the outside.<sup>87</sup>

In the yearbooks of Tiglat-Pileser I (1115-1077 B.C.), the information on the events in his year of succession indicates that an important community named Mushki

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<sup>79</sup> Yakar 2000:431

<sup>80</sup> Yakar 2000:431.

<sup>81</sup> Diakonoff 1984:45, 49 n.15; Yakar 2000:431.

<sup>82</sup> Rothman 2004:143; Lang 1978:114.

<sup>83</sup> Seher 1999:167.

<sup>84</sup> Yakar 2000:429.

<sup>85</sup> Luckenbill 1926:39, text 114; Erzen 1984:24; Yakar 2000:432; Çilingiroğlu 2001: 373, 376..

<sup>86</sup> Luckenbill 1926:53, text 152; Erzen 1984:24-25.

<sup>87</sup> Yakar 2000:429.

lived in Eastern Anatolia in the mid-twelfth century. While telling that he defeated a 20,000-strong Mushki army under the command of 5 united kings, the Assyrian king also states that this community held the Alzi and Purukuzzi countries for 50 years. From these expressions, it appears that the Mushkis came down to the valleys of the Upper Euphrates around 1164 B.C. and maintained their existence as a community in this region for 50 years.<sup>88</sup> The words of the Assyrian king clearly show that this people was a community who had recently come to the region.

The written document relating the Nairi campaign of 1112 B.C. in the third year of the Assyrian king Tiglat-Pileser I<sup>89</sup> offers important data on the geography, natural resources and roads of Eastern Anatolia and the socio-economic and political structures of the communities living in this difficult region. While the text in question relates how the Assyrian army went through difficult paths and through narrow passages whose inner parts were unknown to any king before, the king himself states with great emphasis that he passed over the mountains. In the text, it is stated that 16 large mountains were passed over, that roads were opened and woods cleared with bronze axes, and that bridges were constructed for the passage of the army. The king praises himself for conducting this campaign against 22,000 warriors under the command of 23 kings of the Nairi country and defeating them near the Karasu or Muratsu Valley.<sup>90</sup> The yearbook of Tiglat-Pileser I goes on to relate his struggle against sixty kings of the Nairi country.<sup>91</sup> Even if this expression is intended to mean all of the Eastern Anatolia region, a social structure with so many kings is an indication that the people lived in small principalities as some kind of tribal organization.<sup>92</sup> The 1,200 horses, the 2,000 head of cattle, the herds of sheep and goats and the mules that the Assyrian king states to have captured suggest that the people of Nairi had a way of life based mainly on animal husbandry.

Also, the statement by the Assyrian kings that they collected various metals in annual tax shows that Eastern Anatolia was so rich in mineral resources as to arouse the strong interest of the Assyrians. Thus, an important part of the people must have been engaged in mining. This is clearly shown by the very large number of bronze and iron objects recovered in the excavations in and around Eastern Anatolia, particularly in the form of tomb finds.

From Assyrian and Hittite written sources as well as the archaeological evidence described above, it is clear that the change that ended the Late Bronze Age in Eastern Anatolia and its periphery was not such as to create a long hiatus. The inscriptions of Tiglat-Pileser I indicate that the Mushkis migrated to the region around 1164 B.C. This

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<sup>88</sup> Luckenbill 1926; Vol.I, 74-75, text 221-225; Bartl 1993: 205; Yakar 2000:429; Bartl 2001:384.

<sup>89</sup> Luckenbill 1926; 81-82, text 236-239.

<sup>90</sup> Diakonoff 1984:69, n. 124; Yakar 2000:434.

<sup>91</sup> Luckenbill 1926:81-82, text 236, 239.

<sup>92</sup> Rothman 2004:136.

migration did not completely change the demographic structure in the region. As a matter of fact, the name Kuzi-Tushep<sup>93</sup>, king of Kargamish, son of Talmi-Teshup, a contemporary of the last Hittite king Suppiluliuma II, that was encountered on a bulla<sup>94</sup> recovered in the excavations of Lidar Höyük, is considered an important piece of evidence that the local people of the Late Bronze Age continued to live together with the newcomers into the region.<sup>95</sup>

Debates are continuing as to where from and when the Mushkis came down to Eastern Anatolia. It is argued that the grooved ceramics that begin to appear in Transcaucasian settlements from the end of the Late Bronze Age and that spread as far as Southeastern Anatolia during the Early Iron and Middle Iron Ages are Mushki ceramics.<sup>96</sup> This hypothesis, which has led to a major debate, is not yet fully proven. The socio-political changes emerging in Transcaucasia and Eastern Anatolia in the Late Bronze Age are related with an important migration movement that probably included the Mushkis.<sup>97</sup>

Based on a document from about the end of the Hittite imperial period,<sup>98</sup> a prince named Mita, who is thought to have ruled the area to the north of Southeastern Anatolia, was able to intrude as far as the core Hittite area. This name, which occurs as “Mita of Pahhuwa” in Hittite sources, is compared with “Mushki King Mita” who is mentioned in the yearbooks of Sargon II during the New Assyrian age and who is identified with the Phrygian King Midas.<sup>99</sup> The yearbooks of Sargon II clearly show that the Mushkis maintained their existence in Eastern Anatolia until the mid-eighth century B.C. However, the comments that the name “Mita” may have been used after “Mita of Pahhuwa” as a title like Caesar or Augustus and that the people mentioned by the Hittites may have been the Mushki people are not yet fully proven.<sup>100</sup>

The federal structures of the Eastern Anatolia communities in the Late Bronze and Early Iron Ages continued into the Middle Iron Age. The said tribal princes of Eastern Anatolia, who needed to defend themselves against the attacks of the large Assyrian army, came together to create a more powerful confederation, the Urartu confederation<sup>101</sup>, which brought together the settled local communities, new

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<sup>93</sup> Bartl 2001:384.

<sup>94</sup> Hawkins 1988:1995.

<sup>95</sup> For the end of the Bronze Age in Anatolia and the socio-political process that developed afterwards, see Hawkins 1994:91 ff.

<sup>96</sup> Burney and Lang 1971:98; Sevin 1991a:96.

<sup>97</sup> Bartl 1993:206; 2001:397; Haas 1986; Strobel 1976:46; Mellaart 1974:493-526.

<sup>98</sup> Haas 1986. Also see Diakonoff 1984:57.

<sup>99</sup> Winckler 1898:136; Mellink 1965.

<sup>100</sup> For the debates on the subject, see Mellink 1965.

<sup>101</sup> Rothman 2004: 136; Zimansky 1985.

communities of mostly pastoral migrants<sup>102</sup>, and communities of artisans who had probably good knowledge of metal technology. In the tenth and ninth centuries B.C., the Upper Country became the Urartu Kingdom<sup>103</sup> and the group that promoted the God Haldi as the chief god rose to a distinguished position as the rulers of the new structure that had come into being.

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<sup>102</sup> Rothman 2004: 137.

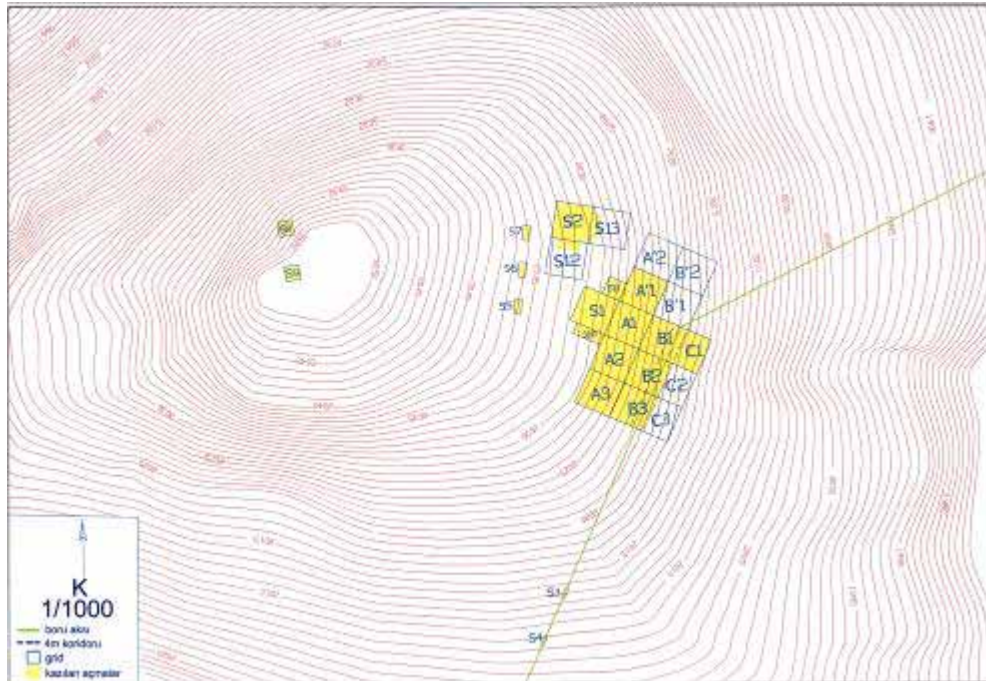
<sup>103</sup> Bartl 2001: 384.

## PART II

### A. EXCAVATION WORKS

Büyükardıç salvage excavations have been carried out, within about 45 days between August 11, 2003 and November 22, 2003, as far as the climate conditions were favourable, together with 6 archeologists and 30 workers under the scientific responsibility of Dr. Nakış Akgül.

The excavation studies had to be carried out within the 28 m corridor as a requirement of BTC HPBH Project, and the archeologically sensitive area, which had been indentified by observing the scatter of potsherd on the land surface, were divided into grids of 10 x 10 m size. The pipeline corridor on the south of Büyükardıç Hill rises to the summit and changes its direction with a bend to the north-east on a terrace at an altitude of 2020-2035 m. Because of this technical shortcoming, gridding could only be applied in the pipeline corridor rather than the whole archeological site on the terrace. According to this, the area to the south of the bending point of the 28 m corridor was gridded as A-1 – A-3 (10 x 10 m), B-1 – B-3 (10 x 10 m) and C-1 – C3 (8 x 10 m), and the area to the north, which is less sensible in archeological terms because of the steepness of the slope, was gridded as A'-1 – A'-2 ( 10 x 10 m) and B'-1 – B'-2 (10 x 10 m).



**Picture 1:** Topographical Map of Büyükardıç.

The very small amount of scattered potsherd that were found on a narrow terrace to the south of the settlement terrace, probably were the drifted materials. But despite this fact, to prevent the probable damage that might be caused by the pipeline construction, two soundings of size 1 x 2 m were opened which were named as S-3 and S-4.

Except for the very few finds that were acquired within A-1, B-1 and C-1 trenches, sufficient data could not be gathered to define the Büyükardıç settlement during the studies that were carried out in the 28 m corridor, according to the technical character of the project, in which archeological findings had been expected to be found. In order to identify the architectural context that the acquired archeological material are linked to, there has been a need to expand the excavation area to the outside of the 28 m corridor.



**Picture 2:** View of Büyükardıç excavation site from East.

With the permission<sup>104</sup> of Mustafa Erkmen, Erzurum Museum Director, 9 different sounding trenches of different sizes were identified in the north-west portion of the existing gridding and in the areas that were led by the results obtained from different points of the settlement terrace. The first of these soundings is the S-1 trench

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<sup>104</sup> We would like to thank to Mustafa Erkmen, Excavation Leader and Director of Erzurum Museum, because of his appropriate decision which enabled the continuation of Büyükardıç Excavation.



of size 10 x 10 m which is next to A-1 trench. S-2 sounding trench of size 10 x 10 m to the north of the excavation site, on a higher section of the settlement terrace, was drilled. S-5, S-6 and S-7 soundings of size 2 x 4 m were drilled. S-12 and S-13 soundings of sizes 6 x 2 m and 5 x 2 m respectively were drilled to the east and to the south of S-2 in order to track the architecture that had been revealed. On the Büyükdıç summit, in a rather narrow area, excavations were carried out in S-8 and S-9 Soundings of sizes 4 x 4 m, for probable archeological findings .

The excavations needed to be carried out in a broader area than the predefined program because a settlement with this kind of a difficult topographic character had never been encountered in Eastern Anatolia and its suroounding cultural regions, and the acquired archeological materials would shed light to the relation between Late Bronze and Early Iron Ages in this vast geography which is not yet fully understood.



**Picture 3:** A view from the excavation.



## PART III

### ARCHITECTURAL FINDS

It appears that the architectural remains from a single period, unearthed during the excavations conducted on the eastern terrace of Büyükardıç Hill, have been exposed to considerable erosion over the ages. Of the structures, mostly the first rows of the stone foundations have been uncovered and the western sections leaning against the terrace are partially protected. The remains of structures that it has been possible to identify on this small and sloped terrace, which is actually not suitable for settlement, reflect a rather irregular construction technique. Probably due to the extremely difficult conditions of the settlement ground, the structures and spaces that have been uncovered have a rather scattered and simple character. The reason for this unplanned and irregular structuring must, without doubt, be looked for in the extraordinary conditions that made it necessary to choose such a hill, which is not suitable for settlement at all. The inhabitants of Büyükardıç, which is difficult to climb and far from sources of water, probably adopted a settlement strategy of temporary or seasonal character without any planning. For the Early Iron Age architecture in the region, it is agreed that there was generally no planning in advance and that the village character was dominant.<sup>105</sup>

The architectural finds recovered in the excavations on the eastern terrace of Büyükardıç represent three separate entities: 1) The Structure with a Circular Plan; 2) The Structures with a Rectangular Plan; and 3) The Outdoor Kiln (Workshop).

#### A. THE STRUCTURE WITH A CIRCULAR PLAN

In a rather sloped section on the eastern terrace of the hill, the excessively destroyed foundations of a structure with a circular plan extending over an area of about 10x8 metres have been uncovered. The southern wall of the structure, most of which is located within trench S-2, is included within trench S-12. Of the structure, which has a circular form in terms of general plan characteristics, the foundation stones, with their only first row protected, are made of collected stones of medium size in the dimensions of 30x25x15 cm and large size in the dimensions of 95x40x30 cm. Due to the excessively sloped hill, the foundation stones have drifted eastwards and formed a heap there. Although the first row of foundation stones, which stand in a very loose condition, show the general plan of the structure, they are not sufficiently protected to indicate the wall thickness. From the protected

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<sup>105</sup> Bartl 1994: 516.

sections, it appears that randomly collected stones were used to build the wall in a rather crude style, in the dry-stone walling technique. Apart from the fact that the material used was coarse and unprocessed, the crude workmanship indicates that this space was not intended as a well-planned and permanent settlement.

In addition to the partial levelling of the ground through the grading of the bedrock, it is observed that the eastern wall of the structure could be built on a 2-metre fill. The stones of smaller size that concentrate in the inner part must have belonged to the upper row stones of the western wall. Again because of the excessive slope, only a single row is protected of the northern wall's foundation stones.

As can be seen in sections C-C and D-D of the structure with a circular plan, there were differences in elevation, near 2 metres in places at the foundation level, between the western and southern external walls and the eastern and northern external walls. This excessive difference in level was eliminated by filling soil in the eastern part of the structure. The line of walls to the east also displays the character of a terrace support wall made of larger stones, protecting that fill. This idea is supported by the large quantity of animal bone fragments, amorphous potsherds of a coarse quality, stones and earth fill recovered in the inner part of the structure. The bones recovered in trench S-2 belong to domestic animals such as cattle, horses, donkeys, sheep and goats, and traces of cutting and fire have been identified on the bones.

The lack of architectural features such as the hearth, the bench and the floor suggests that this space may have been an animal shelter (a stable or fold) rather than a house. There have been no finds indicating that sun-dried bricks were used in the upper part of the walls of the structure. Considering that the place was used as an animal shelter in addition to the irregularity of the foundation remains, it may be concluded that the top of this space was covered with wood or tree branches.

## **B. THE STRUCTURES WITH A RECTANGULAR PLAN**

Within trenches S-1, S-11, A-1, A-2 and A-10 on the eastern terrace, architectural remains have been identified of two structures with a rectangular plan, of which the whole of one (Structure D-1) and a small part of the other (Structure D-2) have been unearthed, and which it is not fully understood whether they are independent of each other.

### ***Structure D-1***

The structure D-1 in the dimensions of 16x12 metres, the foundation remains of which have been uncovered in trenches S-1, A-1, A-2 and A-10, extends in an east-west direction, in the same direction as the slope of the hill. Coarse, randomly collected stones of medium size in the dimensions of 40x25x20 cm and large size in the dimensions of 40x30x95 cm were used in the structure, with only a single row of foundation stones protected. Although no traces of smoothing have been encountered, a more careful workmanship is observed in the alignment of the stones.

The main space of the structure D-1, which consists of two separate spaces, has the dimensions of 11x13 metres. The ground, levelled through the grading of the bedrock, was filled with earth to eliminate the difference in elevation, as can be seen in section B-B. And the eastern wall of the structure was made about 4 to 4.5 - metre thick for it to bear the fill material in question. The scattered debris stones of smaller size recovered from inside the space indicate that the walls to the west collapsed eastwards, in the same direction as the slope of the terrace.

The small rectangular part in the dimensions of about 3x10 metres, adjacent to the western wall of the main space, is the other space within the structure D-1. The bones belonging to three head of cattle, one dog, three goats and one sheep (**Figures 20 and 21**) recovered in situ in this part give important clues as to the function of this space. This part, which is adjacent to the main space with a rectangular plan, was probably used as an animal shelter. The lack of any traces of cutting or burning on the bones, and the layer of ashy earth identified in the large part of the space, indicate that the animals died as the result of a fire and that the structure was abandoned after this fire.

Three grinding stones of basalt, one spindle-whorl of stone, one awl/needle of bone and two arrowheads of bronze as well as a large number of ceramic finds have been recovered from inside the main space of the structure D-1, the most important architectural entity unearthed in the Büyükdıç excavation.

### ***Structure D-2***

The other structure, named the structure D-2, is the structure located in trench S-11, two and a half metres to the north of the structure D-1, of which the southern and eastern walls have been partly uncovered. In the southern wall, whose 4 or 5 lines of stonework are preserved, it has been found that, in addition to the large stones in the foundation, smaller stones and earthfill were used as the internal fill material for the wall. The eastern wall is

preserved at the foundation level and has a width of 2 metres. The structure D-2, which suggests a rectangular form although it has not been fully uncovered, displays plan characteristics similar to D-1.

The main settlement sites of the Early Iron Age at Büyükdıç are the structures with a rectangular plan which we name D-1 and D-2. The finds of more special, decorated ceramics, made for storing, that have been recovered from inside these structures prove that they were used as living spaces.

### C. THE OUTDOOR KILN (WORKSHOP)

No kiln arrangement has been encountered inside the architectural structures unearthed during the work at Büyükdıç. However, an outdoor kiln has been identified in trench B-1, having a rectangular floor of baked clay and crudely surrounded by stones of middle size. A large number of burnt bone and ceramic pieces have been recovered around the kiln, leaning against the mass of rock that bounds the eastern part of the eastern terrace. The northern and eastern parts of the kiln, whose southern part is protected by the mass of rock, are exposed to the wind. The potsherds recovered around the kiln belong to cooking and storage vessels with a rather large form. The fact that some of the potsherds are hardly fired to resist high temperature gives clues as to the intended purpose of the kiln. The fact that the hardly fired vessel in the form of a bottle with traces of an iron oxide leakage overflowing in the two holes on its shoulder and with copper oxide remains in its bottom (**Figure 85:1**) has been found in the immediate vicinity of the kiln suggests that this place may have been used also as a metal workshop.

As mentioned above, on Büyükdıç Hill there are layers of coal which, although not very rich in carbon, have a use-value of secondary degree for today. It seems that the kiln was constructed within a source of fuel as raw material, in the best position to receive the strong winds, and in a protected section of the main rock. Likewise, it is known that there are fire places connected with metallurgy in the Early Iron Age layers at Boğazköy.<sup>106</sup> Outdoor fire places with a square plan are also encountered frequently in the Early Iron Age architecture at Norşuntepe.<sup>107</sup>

The architectural structures unearthed at Büyükdıç appear to be simple structures with a stone foundation. Their eastern walls have thicker foundations due to the excessive slope of the terrace. Generally with the aim of eliminating the elevation difference, the lower

<sup>106</sup> Seeher 2000, 19-20.

<sup>107</sup> Bartl 1994, 476.

walls in the eastern part were filled with mixed fill material and raised to the foundation level of the upper walls in the western part. As identified in the structure D-2, large stones were preferred on the outer parts in the walls of the structures while smaller stones were used as wall fill material. In places, earth fill is observed as a connecting element between the stones. Although no smoothing was made on the floors of the structures, compacted ground fill is noted in some places on the main rock.

The natural position of the hill, the plan and material characteristics of the architectural structures unearthed during the excavations, and other archaeological finds, all point to the use of the hill for a temporary and more special purpose. Büyükdıç Hill and its foothills (**Figure 11**), which pastoral nomadic communities use as a camp area during the spring and summer months even today, must have been used for the same purpose also by the communities of the Early Iron Age. It could be thought that the inhabitants of Büyükdıç lived during the winter months in the areas with a temperate climate in the lower valleys of creeks, or perhaps in their villages on the plains around where they had better protected dwellings. On the other hand, the position of the hill, overlooking the Plain of Aşkale-Tercan in the east-west direction and the high plains between the Kılıçkaya Mountains in the north-south direction, makes it a natural watchtower.

Based on the remains of Early Iron Age structures unearthed in the Boğazköy excavations, it is emphasized that after the collapse of the Hittite capital, small villages consisting of small structures, mostly wooden and with fences, came into being especially within the Kızılırmak curve.<sup>108</sup> In addition, the fact that the Early Iron Age settlements unearthed in Upper Euprates centres such as Norşuntepe, Korucutepe, Tepecik and Değirmentepe are in the character of villages and do not have an internal settlement structure is related with the complex structures of the communities of this period.<sup>109</sup> Like the above-mentioned centres, the Büyükdıç settlement also displays the features of a characteristic Early Iron Age settlement in terms of its overall architectural features that it has been possible to uncover.

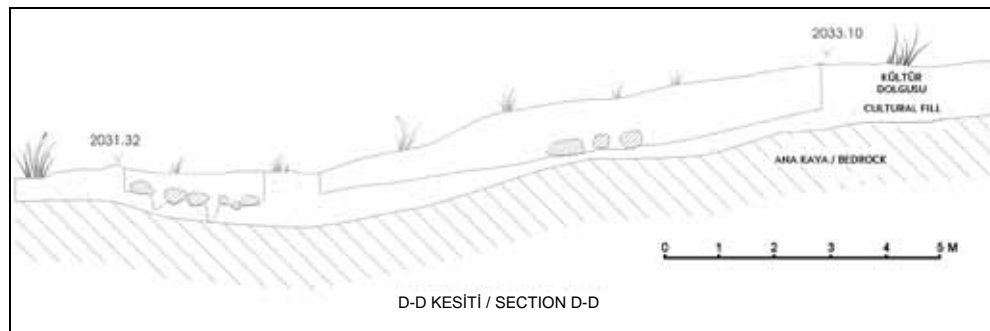
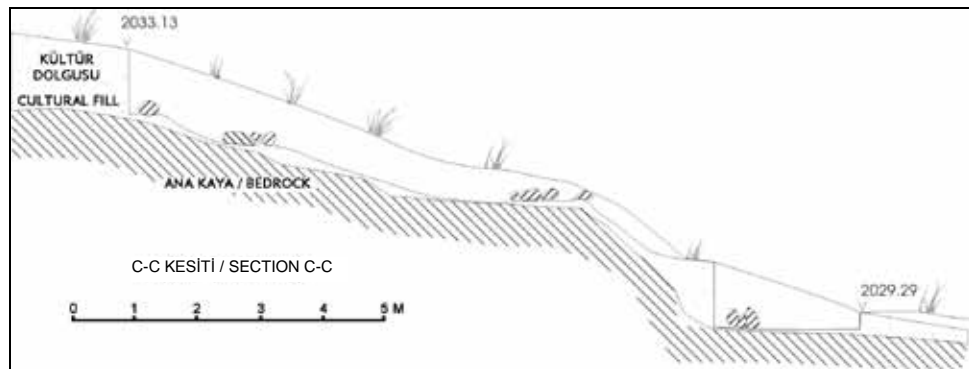
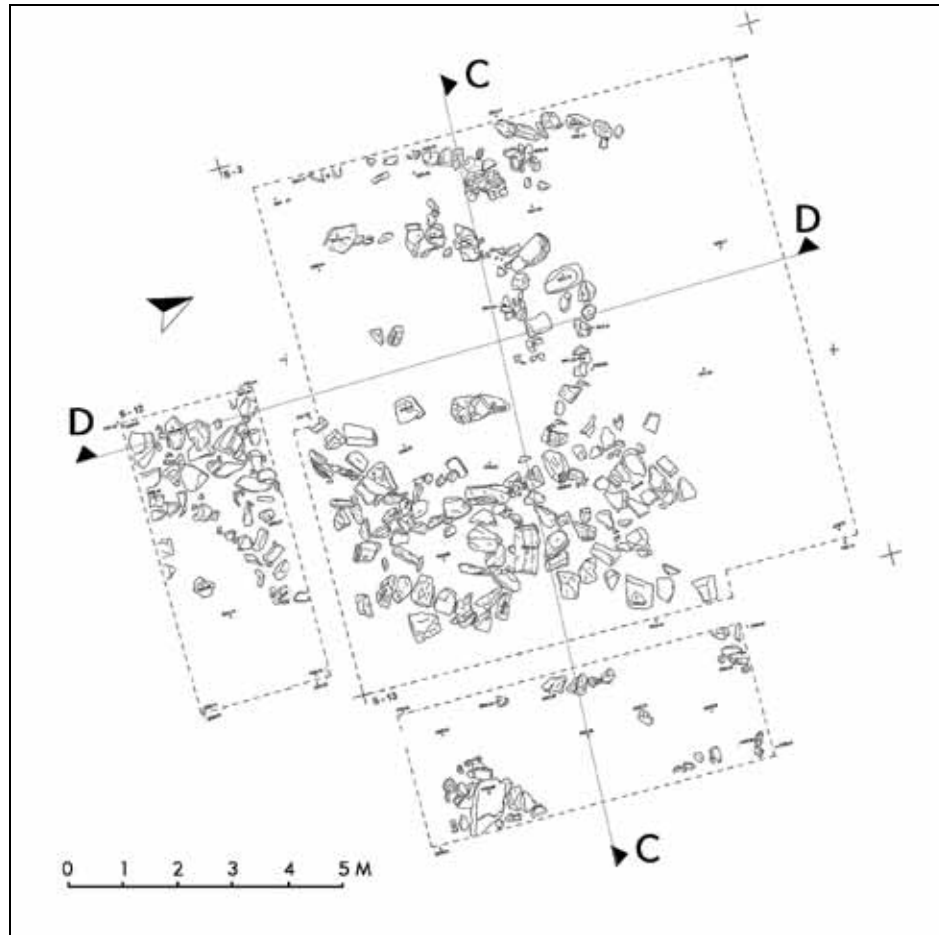
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<sup>108</sup> Seeher 2000: 19 ff, figures 8-9. Genz 2000: 40; For the Early Iron Age settlement strategy at Boğazköy, also see Seeher 1998: 71 ff.

<sup>109</sup> Bartl 1994: 479.



**Figure 13:** Büyükdici Early Iron Age architectural remains.



**Figure 14:** General layout and sections of the structure with a circular plan.

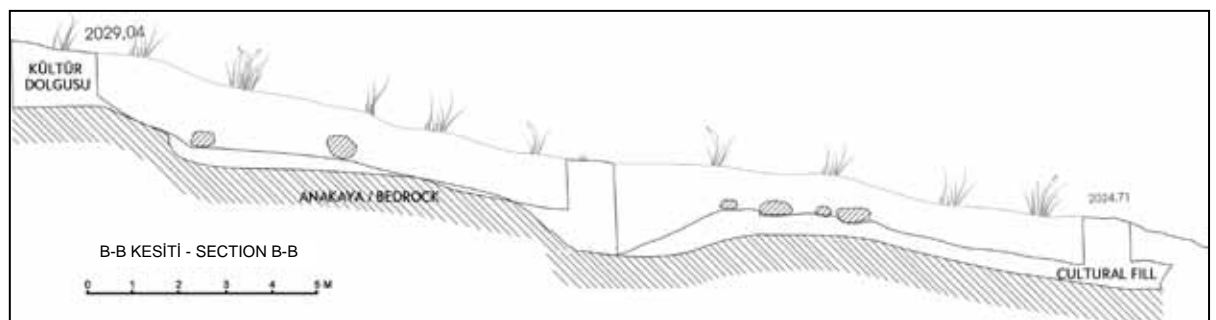
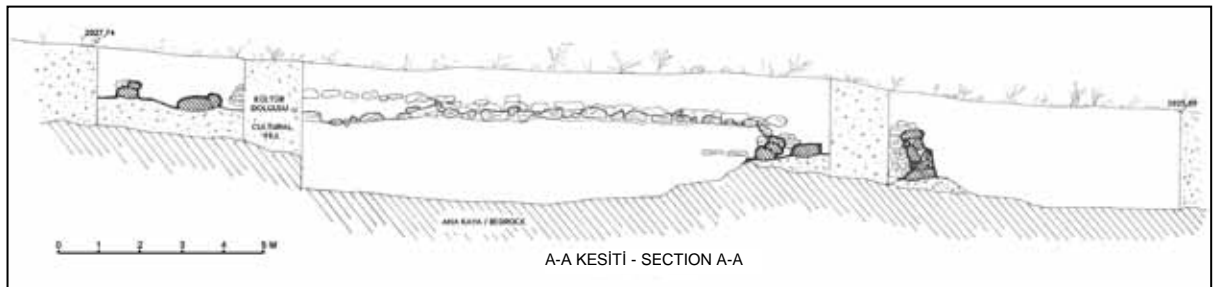
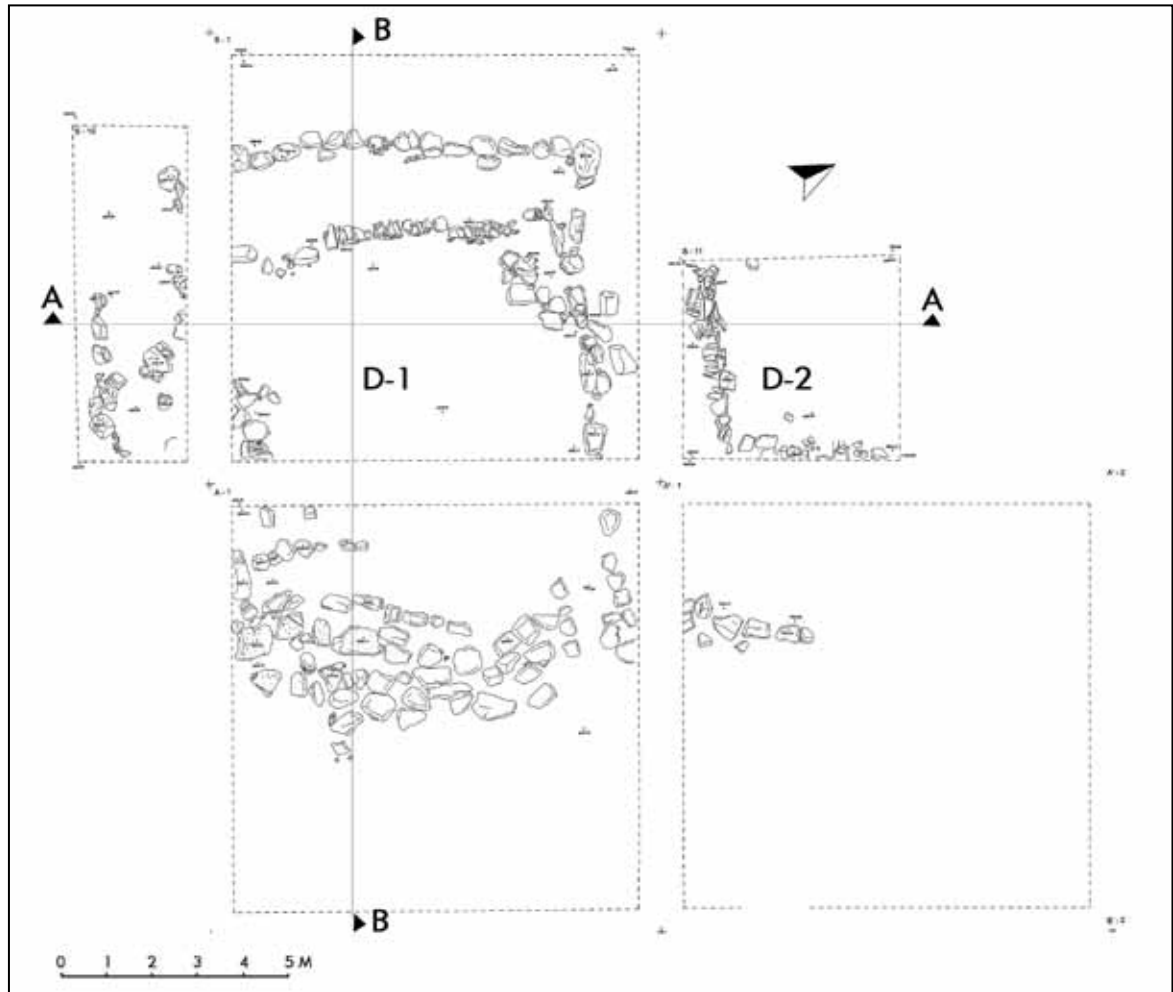


**Figure 15:** Structure with a circular plan.  
View from the east during early stages of excavation.



**Figure 16:** Structure with a circular plan. View from the northeast.





**Figure 17:** Layouts and sections of the structures with a rectangular plan.



**Figure 18:** Eastern support wall of structure D-1. View from the east and the north.



**Figure 19:** General view of structure D-1 from the west.





**Figure 20:** Animal shelter inside structure D-1.



**Figure 21:** In-situ animal bones from the animal shelter.



**Figure 22:** View of the walls of structure D-2 from the north.



**Figure 23:** Southern wall of structure D-2.



**Figure 24:** Compacted floor of structure D-2.





**Figure 25:** General view of the outdoor kiln (workshop).



**Figure 26:** Detail view of the outdoor kiln (workshop).

## SECTION IV

### SMALL FINDS

The limited number of small finds recovered in the Büyükardıç excavation are treated in three groups, as metal, bone and stone finds, according to the materials of which they are made.

#### A. METAL FINDS

The small number of metal finds recovered consist of one bronze arrowhead (**Figure 27:1**), one iron arrowhead (**Figure 27:2**) and one iron chisel (?) (**Figure 27:3**). The small metal-smelting bottle, the iron chisel (?) and the metal slag recovered immediately to the west of the outdoor kiln (workshop), unearthed in trench B-1, as well as the arrowheads discovered in the eastern part of structure D-1, which is located immediately to the west of that context, suggest the existence of a small-scale metal processing workshop at Büyükardıç.

Likes of the Büyükardıç arrowheads with bronze wings have been found in Pulur, Erzurum, in tombs belonging to the end of the Late Bronze Age.<sup>110</sup> The arrowheads in Pulur are dated to 1200-1100 B.C.<sup>111</sup> Based on their likes from Trialeti, Tepe Sialk and Tepe Giyan, winged arrowheads of this type are generally dated to the fourteenth to twelfth centuries B.C.<sup>112</sup> Similar arrowheads have been encountered in Late Bronze-Early Iron Age tombs in Western Georgia other than Trialeti.<sup>113</sup> Despite the hole on it, the arrowhead with a bronze wing recovered in the Narekvavi cemetery, dated to the eighth to sixth centuries B.C., to the north of Kalandadzis Gora 8, an Early Iron Age settlement located in Mtskheta, Georgia,<sup>114</sup> is important as it shows that winged arrowheads continued to be used in later periods. Accordingly, the Büyükardıç arrowheads must also be considered typologically within the group of Late Bronze - Early Iron Age winged arrowheads as a rule.

<sup>110</sup> Koşay and Vary 1964: 49-51, plate XCIX: Sixth work from the left in the upper row, CI: 241a.

<sup>111</sup> Koşay and Vary 1964: 50.

<sup>112</sup> Yakar 1992: 512-514; Yakar 2000: 412, footnote 266.

<sup>113</sup> For the similar arrowheads found in the centres around the holiday resort of Ureki on the sea coast in Western Georgia, see Sadradze and Amiranashvili 2005: 74, pl. XV: 13, 15.

<sup>114</sup> Apakidze et al. 2003: 47, pl. IV: 1072.

**Catalogue:**

**1. A-1007: (Figure 27: 1)** Bronze arrowhead. L: 3.27 cm. Recovered in trench A-1, in grid 5/a, immediately outside the eastern wall of structure D-1, this arrowhead has a wing and a short tang. However, the fact that the tang gets thinner towards the tip suggests that, like the one in A-1016, this arrowhead too may have been with a base and a long bolt.

**2. A-1016: (Figure 27: 2)** Iron arrowhead. Measurable L: 8.4 cm. Recovered in trench A-1, in grid 2/g, at the northeastern end of structure D-1, this winged arrowhead has a bent tang. Although it has been recovered with a bent tang, it is very important for the identification of this type that its long bolt and its base are preserved.

**3. B-1019: (Figure 27: 3)** Iron Chisel (?). L: 11.7 cm. Recovered in trench B-1, in grid 3/a, immediately to the west of the outdoor kiln (workshop), the excessively corroded iron chisel is broken in its tip.

**B. BONE FINDS**

The bone finds recovered in the Büyükkardıç excavation consist of one winged arrowhead, one pendant and one awl. Their number is remarkably small compared with the area excavated.

**Catalogue:**

**1. B-1019: (Figure 28: 1)** Bone arrowhead. L: 3.15 cm, W: 1.6 cm. Recovered in trench B-1, where the outdoor kiln (workshop) is located, the winged arrowhead has one wing and the tang broken. The arrowhead has a flat body with a conical profile and its surface is finished.

**2. B-1059: (Figure 28: 2)** Bone pendant. L: 3.3 cm. Traces of finishing are observed in places on the pendant, recovered around the outdoor kiln (workshop).

**3. S-1011: (Figure 28: 3)** Bone awl. L: 13.6 cm, T: 0.7 cm. The awl, recovered within structure D-1, has its pointed end broken towards the tip.



### C. STONE FINDS

The stone finds recovered at Büyükdıç consist of grinding stones, one stone plate, one processed object and one spindle-whorl. The larger number of stone implements compared with implements made of other materials may imply that grinding, crushing and similar activities were dominant at Büyükdıç.

#### Catalogue:

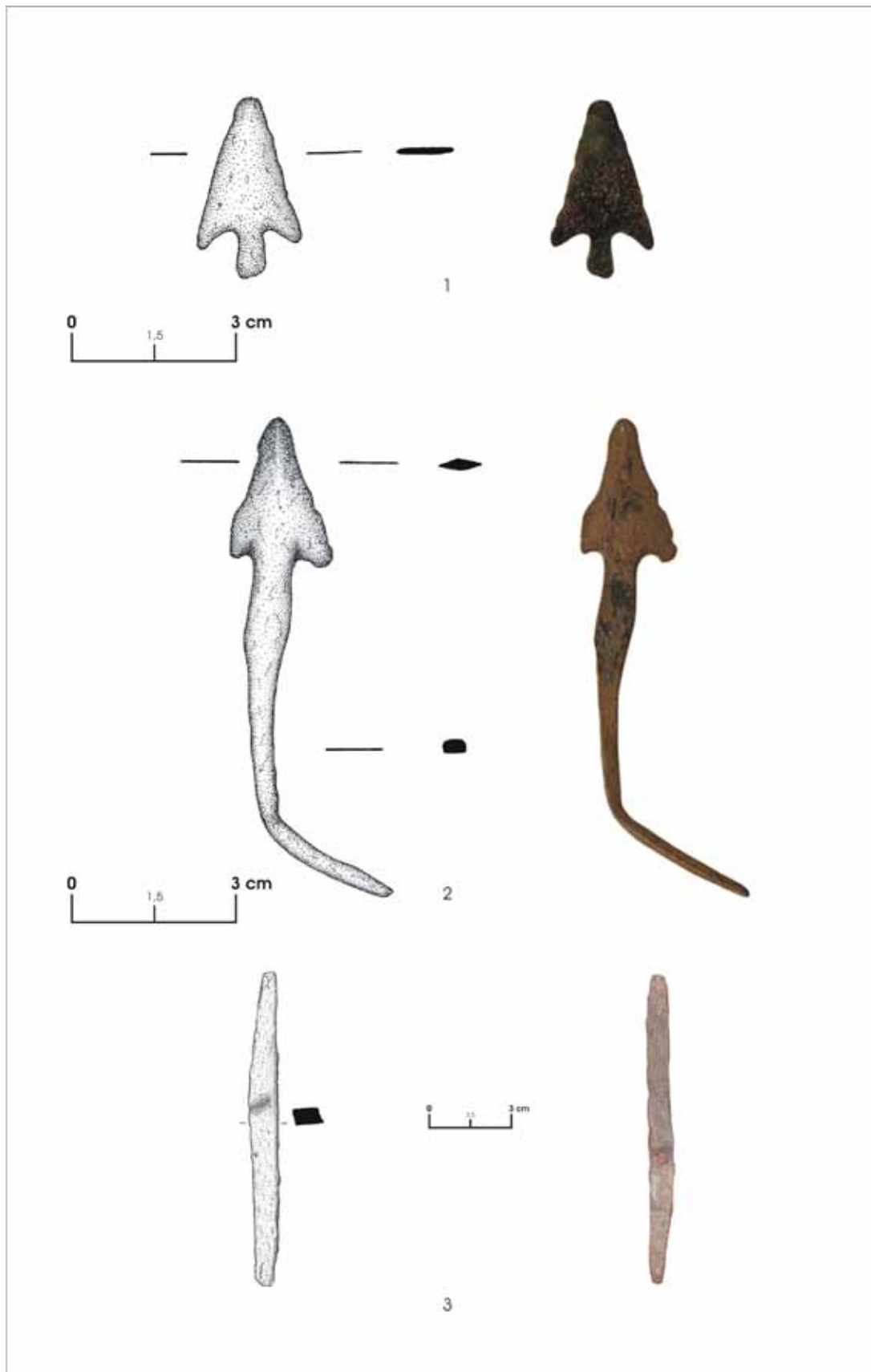
- 1. B-1050: (Figure 29: 1)** Grinding stone. T: 6.5 cm, W: 13.5 cm. One half of the basalt grinding stone has been recovered from inside the outdoor kiln (workshop) complex. Of the stone with a cylindrical form, the business surface is flattened while the back part was left oval-shaped.
- 2. A-1044: (Figure 29: 2)** Grinding stone. L: 8 cm, W: 6.5 cm, T: 3 cm. No smoothing was made on the basalt grinding stone with an oval form, which has been recovered within structure D-2.
- 3. A-3003: (Figure 29: 3)** Grinding stone. L: 14 cm, W: 10 cm, T: 3 cm. On the plate-shaped grinding stone of basalt, recovered in three pieces, traces of corrosion are observed in places.
- 4. B-1051: (Figure 30: 1)** Grinding stone. L: 39 cm, W: 10 cm. The basalt grinding stone with a cylindrical form has been recovered in three pieces from inside the outdoor kiln (workshop) complex.
- 5. S-10011: (Figure 30: 2)** Grinding stone. L: 16 cm, W: 5 cm, T: 3 cm. The oval-shaped grinding stone, in the form of a hand-axe, recovered from inside structure D-1, is more pointed in its tip. Traces of corrosion are observed on the surface in places.
- 6. S-11014: (Figure 30: 3)** Grinding stone. L: 7.2 cm, W: 6.3. Recovered within structure D-2, the grinding stone has its bottom surface smoothed completely and its top and side surfaces partly.
- 7. S-1019: (Figure 31: 1)** Grinding stone (?). L: 5.8 cm, W: 5 cm, T: 2.4 cm. Recovered within structure D-1, the grinding stone with a rounded form has a roughly shaped cavity in its inner surface.

**8. S-2013: (Figure 31: 2)** Stone chisel. L: 8.5 cm, W: 6 cm, T: 2 cm. Recovered within structure D-1, the stone chisel has a rather pointed tip and a thick bottom and looks more like a hand-axe.

**9. S-1020: (Figure 32: 1)** Stone weight (?). L: 7.3 cm, W: 2.8 cm, T: 2.7 cm. The stone with a triangular section, recovered within structure D-1, has a node in its tip, which was probably used for attaching the suspension rope.

**10. S-1033: (Figure 32: 2)** Stone spindle-whorl. D: 7.7 cm, T: 1.4 cm. Although the rims of the rounded spindle-whorl, recovered within structure D-1, are partly broken, the hole in its middle is quite finely made. It is possible that this instrument may have been used also as a loom weight.

**11. A-2004: (Figure 32: 3)** Processed stone object. L: 2.8 cm, W: 1.6 cm, T: 0.7 cm. There are incised decorations, made by the scratching technique, on both surfaces of the rhomboidal stone with an oval section, recovered within structure D-1.



**Figure 27:** Metal finds.

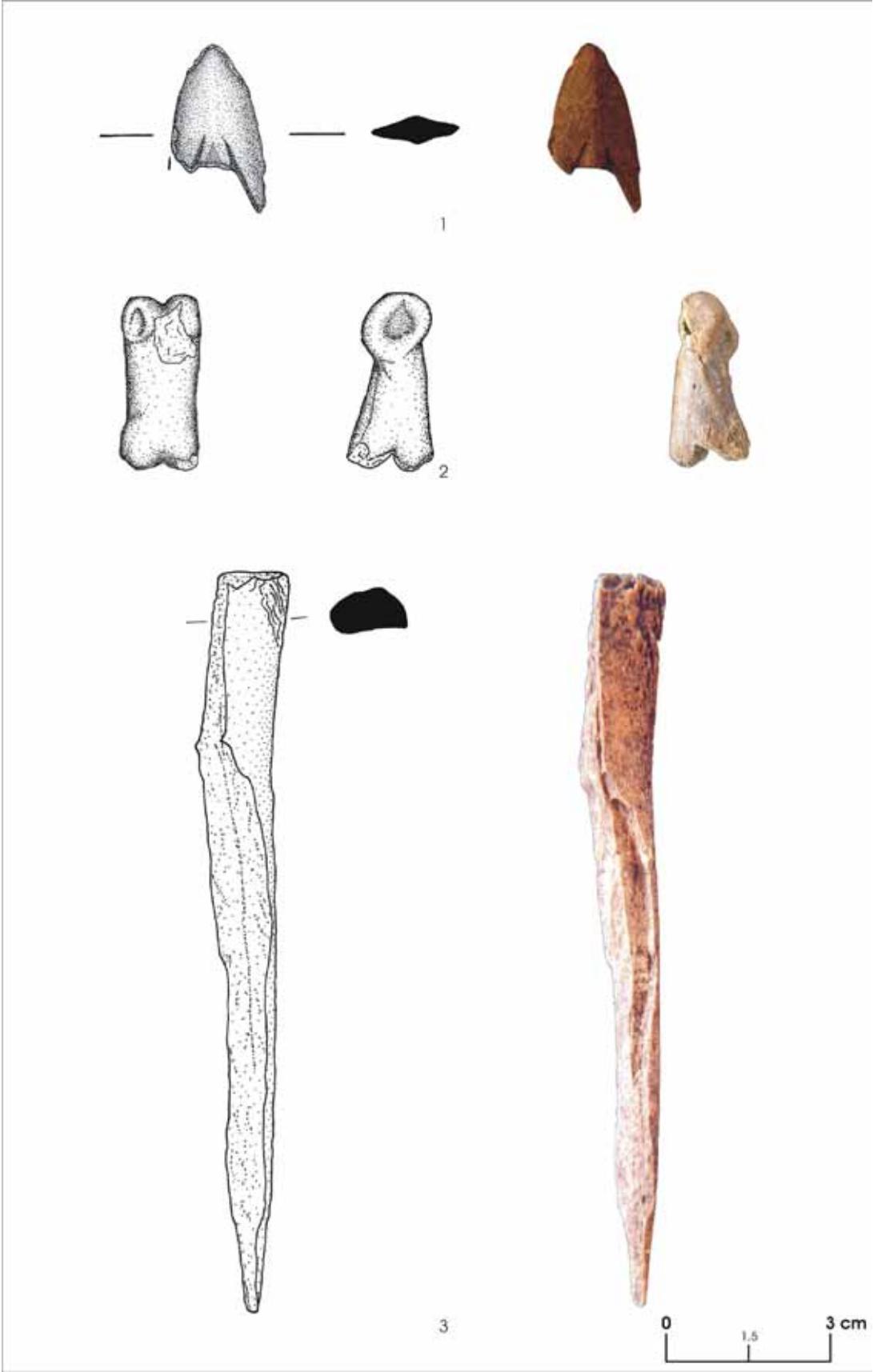
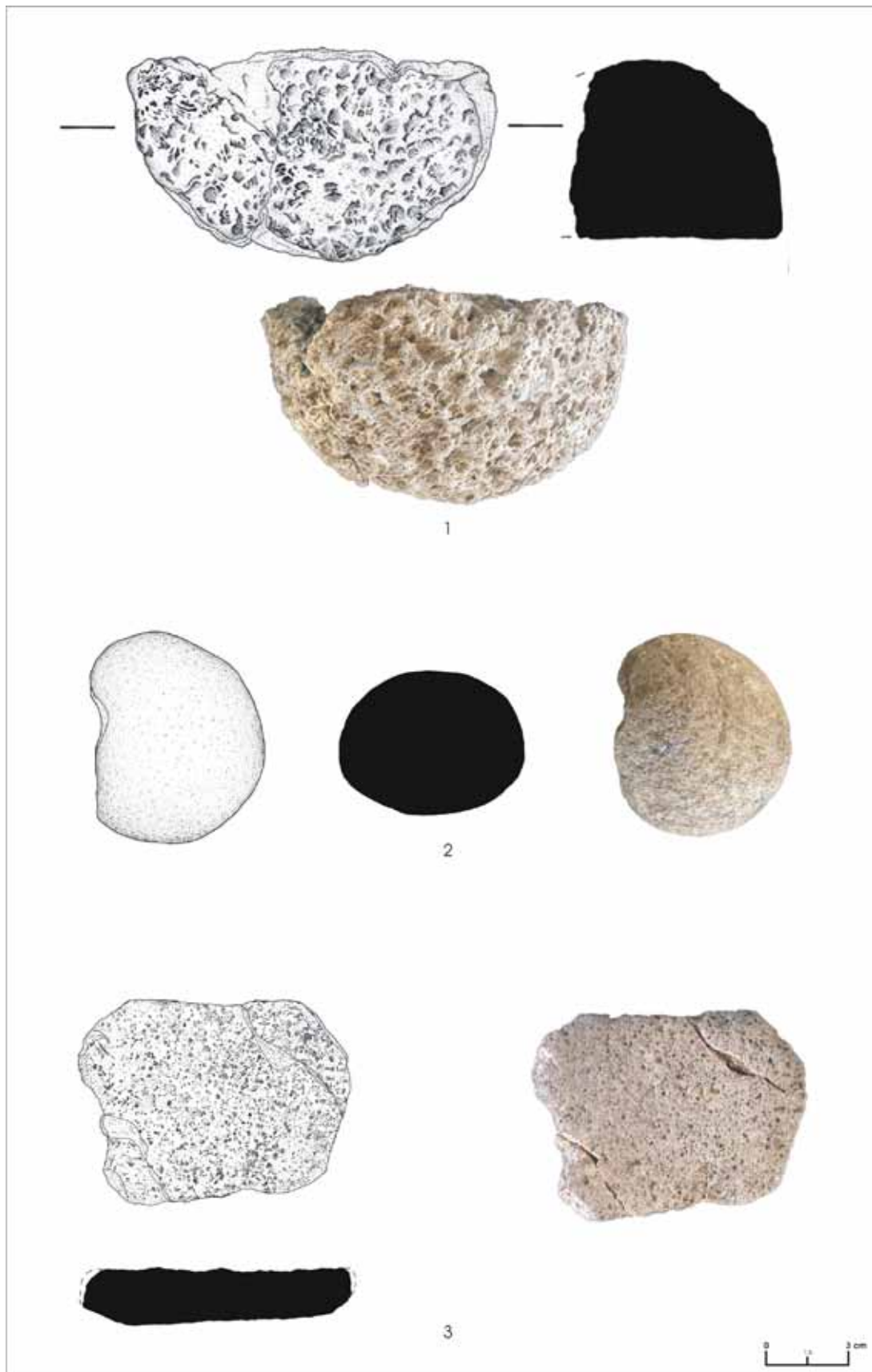


Figure 28: Bone finds.



**Figure 29:** Stone finds.

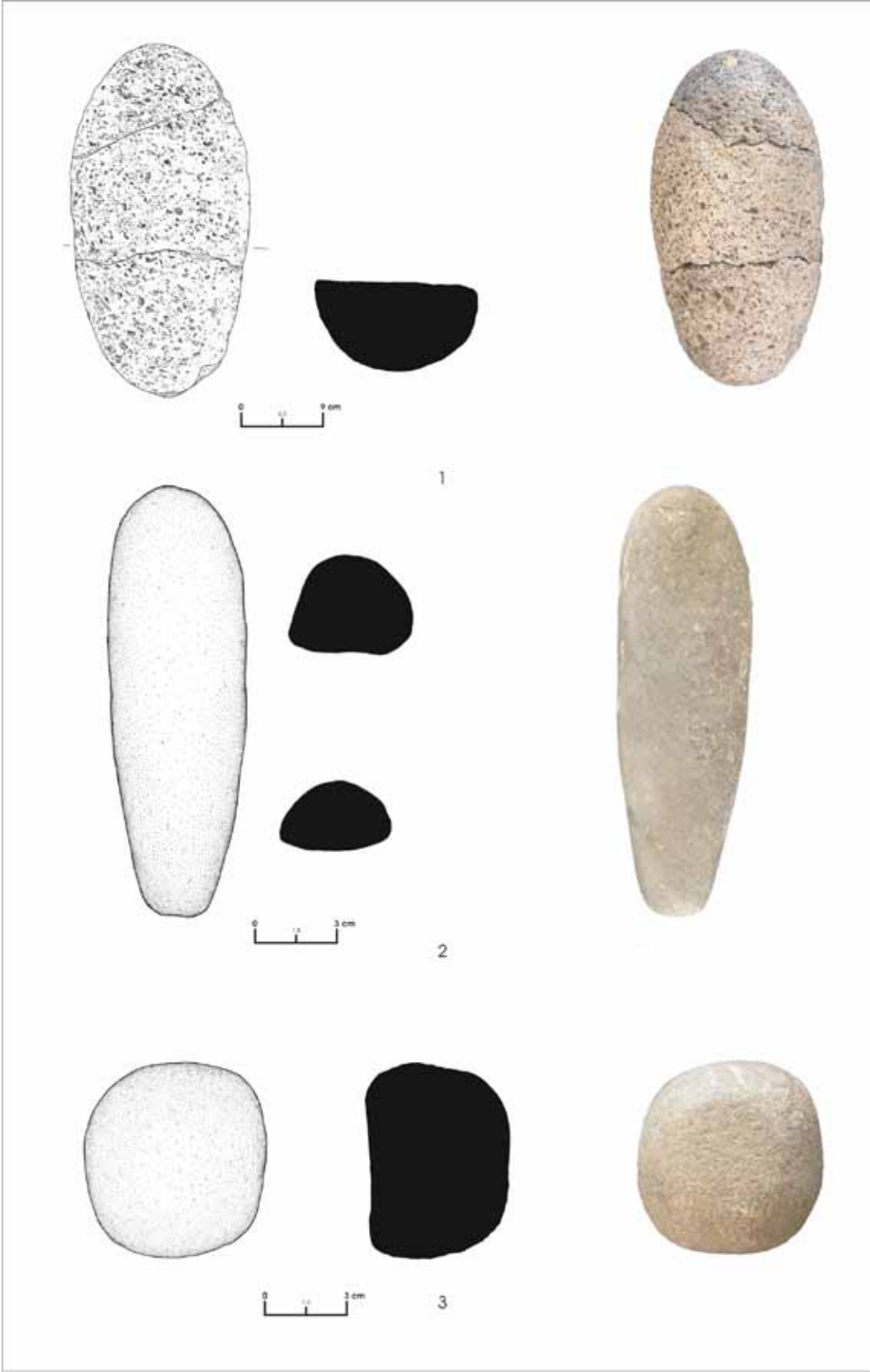
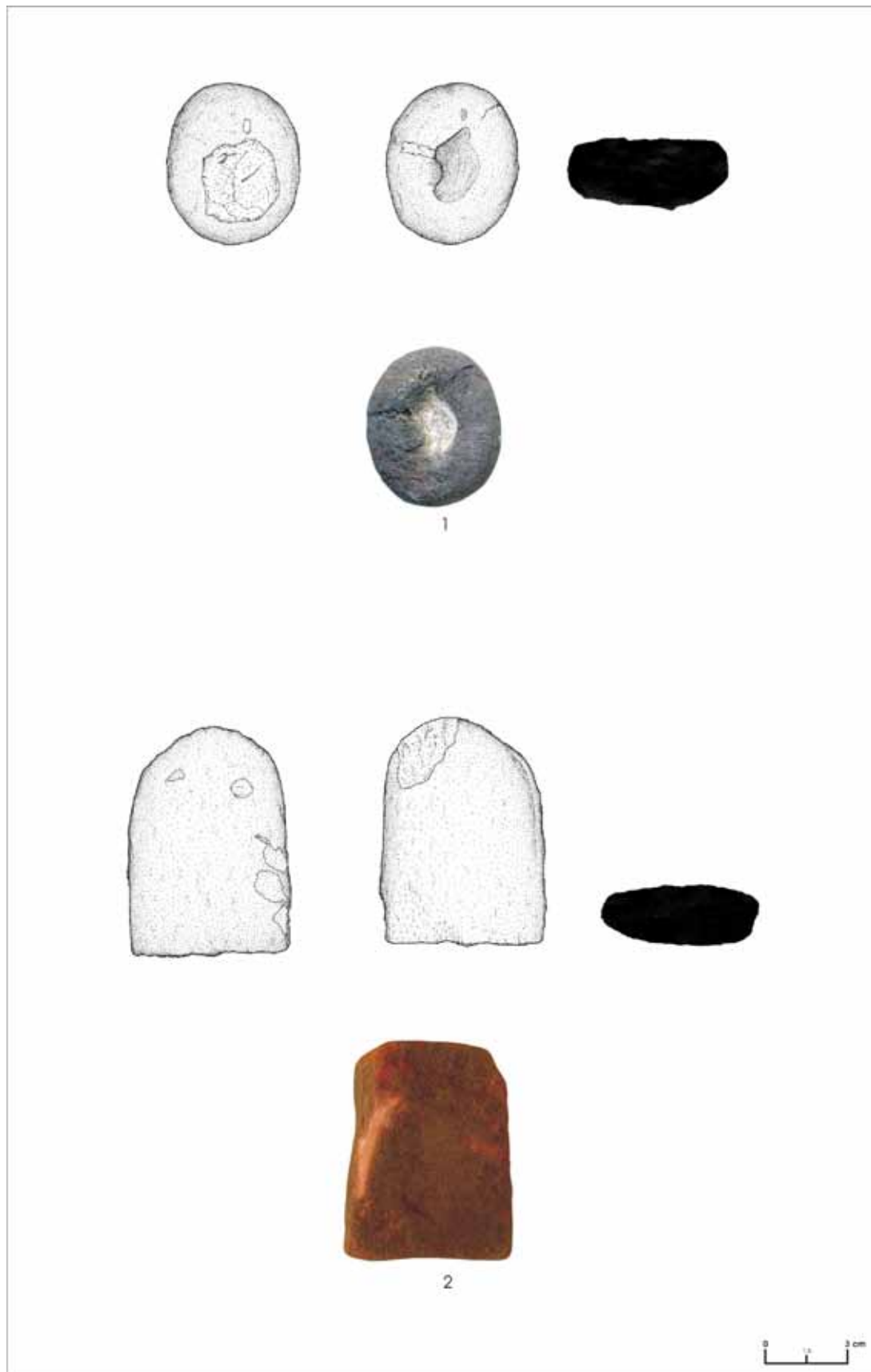
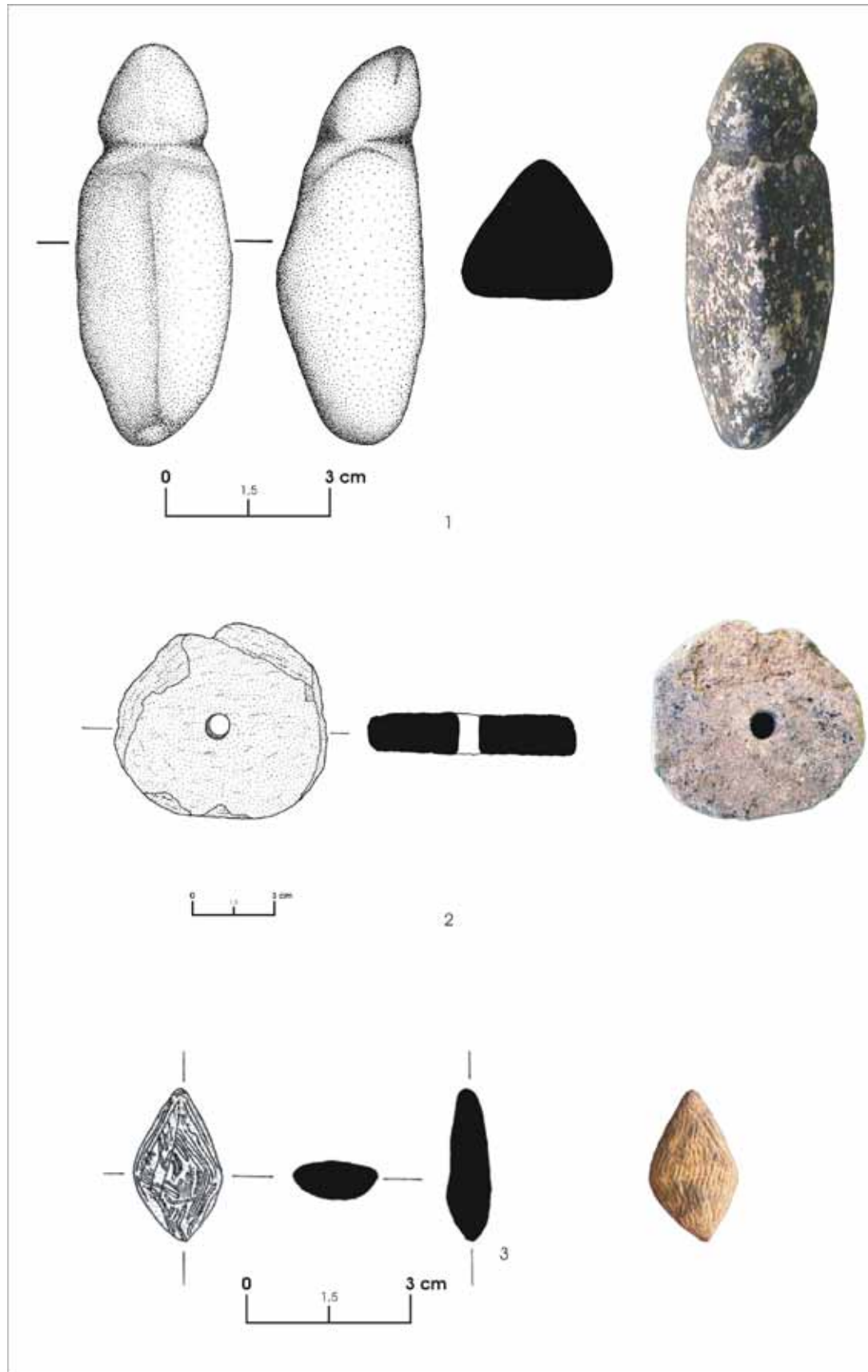


Figure 30: Stone finds.



**Figure 31:** Stone finds.





**Figure 32:** Stone finds.

## SECTION V

## POTTERY FINDS

The pottery recovered in the Büyükkardıç salvage excavation displays the characteristics of the Eastern Anatolia Early Iron Age in terms of technical features and vessel forms. As it has been unearthed in the settlement layer, the Büyükkardıç pottery contributes to better knowledge of the little known ceramic tradition of this period. The Late Bronze-Early Iron Ages with their transition phases have been studied mostly in multi-layered centres and, as a result, inconsistencies have sometimes emerged in the definition of Early Iron Age ceramics.<sup>115</sup> Before starting to evaluate the pottery finds, it will be useful to outline the known characteristics of Early Iron Age ceramics in and around Eastern Anatolia and their problems awaiting to be resolved.

The spread of the new ceramic techniques represented by pottery shaped on the slow wheel or by hand after the 1300s B.C.<sup>116</sup> has been the first and most decisive criterion in the definition of the ceramics of this period. In fact, the pottery made on the fast wheel, produced in mass in the ceramic workshops subject to the central organization in Late Bronze Age settlements, came to an end. However, it is known that the use of the wheel did not completely disappear.<sup>117</sup>

The general and common feature of the Early Iron Age ceramic paste in and around Eastern Anatolia is that it is heavily gritty. In classifications made according to inclusions, this group is called “Gritty Ware”.<sup>118</sup> Such ware continued to be used in the region during the Middle Iron Age.<sup>119</sup>

The pottery called “Grey Ware” in classifications based on the surface colour is also a characteristic ware group of the Early Iron Age. However, it is an important question to define the grey ceramics that occur in Eastern Anatolia, Northwestern Iran

<sup>115</sup> For the debate on the inconsistency between the Early Iron Age layers at Lidar Höyük and Tille Höyük in the upper Euphrates region, see Müller 2003:137 ff.

<sup>116</sup> Rothman 2004:135 and footnote 88.

<sup>117</sup> To shed light on this subject, it is important that Bartl (2001:384) suggests that the Norşuntepe EIA ceramics, although “almost completely hand-made”, involved the use of the wheel even if to a limited extent.

<sup>118</sup> For the Eastern Anatolia Early Iron Age gritty ceramics, see Winn 1980:158, 161; Başgelen and Özfirat 1996:143-144; Marro and Özfirat 2003; 2004. Although the term “grit” is not used, the sand and limestone tempered ware of Norşuntepe may be considered within this group. As a matter of fact, Bartl (1994:481) defines the paste inclusions of the first and second groups as sand and limestone and that of the third and fourth groups as fine sand.

<sup>119</sup> For the Middle Iron Age gritty ware, see Kroll 1976.

and Transcaucasia<sup>120</sup> and to clarify whether there is a relationship between such ceramics and the grey ceramics that are widespread in Central Anatolia and to the west of it.<sup>121</sup> Another widespread group of the Early Iron Age in Eastern Anatolia is the group of ceramics known as “Mottled Ware”<sup>122</sup> which are camelhair coloured or brown and grey. Slipped or unslipped vessels with their external surfaces camelhair coloured or brownish were also popular in this period.<sup>123</sup>

Types of decoration are also used in defining the Early Iron Age ceramics. The group known as “Grooved/Groovy Ware”<sup>124</sup> is considered to be the most characteristic and well-known pottery group of this period in and around Eastern Anatolia. In addition, paint decorated vessels constitute another group named after decoration among the ceramics of this period.<sup>125</sup>

It is argued that the stock of Eastern Anatolia Early Iron Age pottery is generally limited to specific types of pottery.<sup>126</sup> The reason for this judgement must be the treatment of the vessel forms unearthed in the Norşuntepe excavations under only four main types as round or carinated bowls, spouted and handled neckless pots, and vase-shaped pots with a neck.<sup>127</sup>

From the general descriptions given above of the Early Iron Age pottery, it is difficult to judge that these ceramics have actually the same features throughout Eastern Anatolia. The relations between the coarse ceramics of this period which were shaped by hand or on the slow wheel and the known ceramics of a similar type from provincial settlements of both the Late Bronze Age and the Urartu period are not yet fully clarified, either. Although they are the most characteristic products of the period,

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<sup>120</sup> Bartl (2001:396) emphasizes that the pre-Urartu pottery in Armenia, being mostly grey or black, differs from the Early Iron Age ceramics in Eastern Anatolia but that the inconsistency between the chronologies of Armenia, Iran and Eastern Anatolia is an obstacle to understanding the ceramics in question.

<sup>121</sup> For recent studies concerning this debate, see Summers 1994; Köroğlu 2003.

<sup>122</sup> Winn (1980: 156) defines the thick camelhair-coloured slipped group in the Korucutepe Early Iron Age ceramics as “mottled cream-orange”.

<sup>123</sup> Winn (1980: 156) states that the Korucutepe slipped camelhair-coloured ware is characteristic for the Early Iron Age. Bartl (1994:481) reports that the first and second groups of ware at Norşuntepe consist of pottery in shades of camelhair colour and brown.

<sup>124</sup> Burney and Lang 1971:98; Sevin 1991:96; Bilgi (2000:136) has named vessels with this decoration as pottery “with groove decoration below the rim”.

<sup>125</sup> Bartl (1994:481-481, Abb. 15) considers the reddish brown paint decorated pottery of Norşuntepe as a separate group.

<sup>126</sup> Winn 1980:156; Bartl 2001:385-386.

<sup>127</sup> Bartl 2001: 386, fig.: 2-5.

grooved vessels continue to be the subject of many debates.<sup>128</sup> Grooved vessels recovered in Late Bronze and Middle Iron Age<sup>129</sup> centres as well as in Early Iron Age layers have raised the question of when this type of decoration actually came into being and for how long it remained in use. Recent studies concerning the subject show that grooved ceramics had a tradition known from the Early Bronze Age onwards in and around Eastern Anatolia.<sup>130</sup> In addition, the relationship between the development of ceramics with coarse lines of paint decoration, even if not very widespread, and the ceramics of neighbouring regions is not yet fully understood, either.<sup>131</sup> The types of applied, knobbed, incised and notched decoration, which continued in and around Eastern Anatolia since the Chalcolithic Age, are observed also in the Early Iron Age.<sup>132</sup> More detailed information is needed concerning questions of this group such as its density within Early Iron Age ceramics, its area of extension and its dating.

Early Iron Age ceramics are different from the industrial types of pottery known from Late Bronze Age Hittite and Middle Assyrian settlements.<sup>133</sup> The fact that Büyükardıç is located in a geographical position far from the Hittite and Assyrian cultural atmosphere is quite important from the point of gaining knowledge of Eastern Anatolia Early Iron Age ceramics in their more local and original aspects.

A total of 6,650 potsherds, including 4 intact vessels, have been unearthed in the Büyükardıç salvage excavation. The ceramic evaluation work involving the registration of each sherd together with the context information has taken place in three main stages. The first stage is the work performed in the excavation house. With a view to identifying the groups of ware, each sherd was examined regarding production techniques, inclusions, firing temperatures and surface treatment characteristics. After finding out the common features of the sherds recovered, a classification of ware groups was made mainly on the basis of the surface colours of the sherds, and ware group statistics were completed. In addition, drawings of the rims, bottoms, handles and other special body parts were made in the excavation house, again in the first stage. The second stage consists of technical studies and assessments after the excavation. In this

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<sup>128</sup> The description of grooved ceramics by certain scholars as Mushki ceramics, and the attempt to explain in this way the arrival of the Mushkis in the region, is a theory that lacks sufficient evidence for the time being. See Burney and Lang 1971:98; Sevin 1991:96; Summers 1994:245-246; Köroğlu 2003; Rothman 2004:135.

<sup>129</sup> For the grooved ceramics found in Middle Iron Age layers at Kaleköy and Köşkerbaba, see Ökse 1988:39, 56; For Geoy Tepe A, see Burton-Burton 1948: fig.36, 643;

<sup>130</sup> Müller 2003: 143.

<sup>131</sup> For the EIA paint decorated ceramics recovered at Boğazköy, see Genz 2000:36-37, Abb. 5:4-9; 9; 10.

<sup>132</sup> Müller 2003: 143.

<sup>133</sup> Bartl 2001: 386.

stage, each sherd was subjected to a typological assessment according to vessel forms, and the necessary statistical assessment results were obtained. The last stage in the assessment of the Büyükdıç ceramics involved comparing the data obtained in the first two stages with Early Iron Age pottery unearthed through archaeological excavations and surface research in Eastern Anatolia, Transcaucasia, Northwestern Iran, and Central Anatolia, the results of which have been published.

## A. WARE GROUPS

As mentioned above, paste inclusions, surface colours, surface treatment characteristics and, even, types of decoration are taken as a basis in the definition of Early Iron Age ceramics and in the formation of ware groups, while different and complex definitions involving several features have also been used at times. Although the Büyükdıç ceramics include examples that may be defined by any of these features, a classification based mainly on the surface colour of the pottery has been adopted, using a system by which all of these features can be traced if desired.

The first group of ware, which accounts for 11.5 % of the Büyükdıç ceramics, and which forms an exception with its heavy inclusion of mica, is named “Micaceous Grey Ware” using a description that reflects the nature of the inclusion. The general characteristic of the Büyükdıç ceramics, including the Micaceous Grey Ware group, is that they are gritty.<sup>134</sup> For this reason, it is not considered necessary to use the term “gritty” in the name of each ware group. Decoration has not been treated as a distinguishing element for any ware group. Instead, each type of decoration has been addressed under a separate heading, regardless of the ware group to which it belongs. The Büyükdıç Early Iron Age ceramics have been divided into a total of 21 ware groups, with 11 main groups and 10 secondary groups. The character of the sherds as being slipped, unslipped or burnished has been considered as a distinguishing feature in the identification of the secondary groups.

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<sup>134</sup> The same characteristics are observed also in the Korucutepe ceramics. As a matter of fact, Winn (1980:156) states that the Korucutepe EIA ceramics are generally tempered with black grits of medium size.

*1. Micaceous Grey Ware*

766 sherds 11.5 %

1. A. Non-burnished 4 %

1. B. Burnished 96 %

Inclusions	Large, medium and small grits, heavy mica, limestone,
Paste Colour	Very dark grey (10YR 3/1) and black (7.5YR 2.5/1)
Surface Colour	Grey (10YR 3/1) and dark grey (7.5YR 4/1) on the inside and
Firing	Underfired and moderately fired
Production Technique	Hand-made

The most salient characteristic of this ware group is the heavy mica inclusion in the paste. The heavy mica inclusion on the internal and external surfaces of the vessels makes a natural brightness. This ware group, all shaped by hand, is generally underfired. As a result, some of the examples have a porous and hollow appearance. It seems that, in some of the burnished pieces, the polishing operation was made by means of wet smoothing.

The quite rare non-burnished examples of the micaceous ware (**Figure 33: 1A**) are found among the bell-shaped bowls (Type 6:4) and the long-necked pots (Type 19: 1, 14 and 19). In contrast, the burnished examples (**Figure 33: 1B**), which constitute 96 % of this group, occur in almost every vessel form. This ware group is found in the types of bowl with a shallow body (Type 1: 2), bowl with a round body (Type 2: 1), bowl with a semi-spherical body (Type 4: 2-3), bell-shaped bowl (Type 6: 1, 5, 6), deep bowl with a straight profile (Type 8: 1-3), deep bowl with a spherical body (Type 9: 1), beaker (Type 10: 1), pot with a broad rim and broad belly (Type 13: 1), pot with a broad rim and long body (Type 14: 1-2), pot with a broad rim, an S-profile and a long body (Type 15: 2), pot without a neck (Type 16: 3), pot with a very short, broad neck (Type 17: 1-2, 9, 14), pot with a short, broad neck (Type 18: 1-2, 5) and pot with a long neck (Type 19: 1-2, 5, 12-13, 19). This ware group is represented by a total of 52 rim fragments among all profile fragments. The mottled surface colour which shades from grey to greyish brown and especially their paste heavily tempered with grits and mica, as well as their low quality, indicate that these vessels were used mainly as cooking vessels. Although they occur in almost every vessel form, their concentration in the types of deep bowl points that these vessels were used for the purpose of cooking or heating. Even if the ware group of 1A is reminiscent of the Sos Höyük Late Bronze and

Early Iron Age grey-black pottery group<sup>135</sup> especially in terms of the surface colour and surface characteristics, it may actually be considered within the group of coarse cooking vessels of the Erzurum-Bayburt area in shades that vary from dark grey to brown.<sup>136</sup>

## 2. Grey Ware

346 sherds 5.2 %

2. A. Non-burnished 26 %

2. B. Wet smoothed 74 %

Inclusions	Large, generally medium and small heavy grits, little mica, chamotte, limestone, finely chopped grass
Paste Colour	Very dark grey (10YR 3/1) and black (2.5YR 2.5/1)
Surface Colour	Very dark grey (10YR 3/1) and dark grey (7.5YR 4/1) on the inside and outside
Firing	Underfired and moderately fired
Production Technique	Hand-made

The non-burnished examples of the grey ware group (**Figure 33: 2A**) occur less frequently. A total of four rim fragments in the types of bowl with a semi-spherical body (Type 4: 3), bell-shaped bowl (Type 6: 6), deep bowl with a straight profile (Type 8: 2) and pot with a very short, broad neck (Type 17: 7) belong to this ware group.

The wet-smoothed examples of this ware group (**Figure 33: 2B**), which are more widespread, occur in the types of bowl with a semi-spherical body (Type 4: 2), bell-shaped bowl (Type 6: 5), deep bowl with a straight profile (Type 8: 2), deep bowl with a spherical body (Type 9: 1-2), and especially pot without a neck (Type 16: 3), pot with a very short, broad neck (Type 17: 2, 7, 8, 13), pot with a short, broad neck (Type 18: 1-2, 6) and pot with a long neck (Type 19: 4, 13, 15, 16 and 19). This group tends to concentrate in vessels with a pot form, including pots without a neck in particular.

The heavily gritty grey ware group may be considered within the Büyükdıç cooking vessels due to both its mottled grey surfaces and its inclusions. As a matter of fact, like the micaceous ware group, this group also has similar characteristics to the group of Late Bronze-Early Iron Age coarse cooking vessels from the Bayburt-Erzurum area.<sup>137</sup>

<sup>135</sup> For the dark grey paste, sooty black and occasionally little burnished LBA ceramics from trench M15 at Sos Höyük and the black, well-burnished EIA ceramics from trenches L16 and J14, see Sagona 1999:153,157.

<sup>136</sup> Sagona and Sagona 2004: 180-181.

<sup>137</sup> Sagona and Sagona 2004: 180-181.



### 3. Greyish Brown Ware

707 sherds 10.6 %

3. A. Non-burnished 19 %

3. B. Burnished 81 %

Inclusions	Large, generally medium and small heavy grits, limestone, chamotte, very little mica
Paste Colour	Very dark grey (10YR 3/1) and dark grey (10YR 4/1)
Surface Colour	Dark greyish brown (10YR 4/2–2.5Y 5/2) on the inside and
Firing	Moderately and hardly fired
Production Technique	Hand-made

The greyish brown ware group differs from the gritty brown ware group as its paste is dark grey (10YR 4/1) and its vessel surface greyish brown. The non-burnished examples of this group (**Figure 34: 3A**) occur in the Büyükkardıç ceramics in a small number. Four different vessel forms represented by one example each at Büyükkardıç attract attention in this paste group. The bowl with a round body, with a groove below the rim, and with a single row of decorations consisting of short diagonal notches on the shoulder (Type 2: 5), and the bowl with a semi-spherical body (Type 4:3), are dated to the Late Bronze<sup>138</sup> and Early Iron<sup>139</sup> Ages in terms of their forms and technical features. The deep bowl with a vertical handle and a straight profile (Type 8: 1) and the bottle with two holes on its shoulder (Type 12: 1), which was probably used in metal smelting, are individual examples from this ware group. A bottle similar to the Büyükkardıç bottle in terms of form and paste characteristics was found at Martuni in the Sevan area, Armenia<sup>140</sup>. Group 3A has also been identified in the types of pot with a broad rim and long body (Type 14: 2), pot with a very short, broad neck (Type 17: 9), pot with a long neck (Type 19: 5, 19) and pot with a conical neck (Type 20:6).

Burnished examples from the greyish brown ware group (**Figure 34: 3B**), which are more common, occur among the types of bowl with a shallow body (Type 1: 2), especially bowl with a semi-spherical body (Type 4: 2-4), bell-shaped bowl (Type 6: 1, 6), deep bowl with a straight profile (Type 8: 1), deep bowl with a spherical body (Type 9: 1), beaker (Type 10: 1), oil lamp (Type 11: 1), pot with a broad rim and broad belly (Type 13: 1), pot with a broad rim and long body (Type 14: 1), pot with a broad rim, an S-profile and a long body (Type 15: 4), pot without a neck (Type 16: 1, 3), pot with a

<sup>138</sup> The similar bowl in Rothman 2004:168-169, fig. 6:14.12 is greyish brown.

<sup>139</sup> Sevin 1996: fig. 5: 3; Müller 1999: Abb. 2, AB 04; Özfiat 2001: drawing 9:10; Sagona and Sagona 2004:184, fig. 138:14.

<sup>140</sup> Tumanyan 2002: Tab. 8:2.

very short, broad neck (Type 17: 2-3), pot with a short, broad neck (Type 18: 2, 6) and pot with a long neck (Type 19: 1, 4-5, 9, 11-14, 19). It appears that the ware group of 3B with a proportion of about 9 % is widespread among the Büyükdere ceramics.

#### 4. Brown Ware

1,090 sherds 16.4 %

4. A.	Non-burnished	18 %
4. B.	Burnished	66 %
4.C.	Slipped	16 %

Inclusions	Large, generally medium and small heavy grits, very little mica, limestone, chamotte, finely chopped grass
Paste Colour	Brown (7.5YR 4/4, 7.5YR 5/4), sometimes with very dark grey core (10YR 3/1)
Surface Colour	Brown (7.5YR 4/4–7.5YR 5/4) and dark reddish brown (5YR 3/4–5YR 4/4)
Firing	Underfired and moderately fired
Production Technique	Hand-made

The brown ware group, represented by 1,090 sherds, is one of the most common groups among the Büyükdere ceramics. This group, consisting mostly of burnished fragments (**Figure 34: 4B**), includes also slipped examples (**Figure 34: 4C**) as well as those with a simple and non-burnished surface (**Figure 34: 4A**). This ware group occurs more frequently in the types of bowl with a semi-spherical body (Type 4) and pot with a long, narrow neck (Type 19).

Non-burnished and simple examples (4A) from this ware group occur in the types of bowl with a round body (Type 2: 1-2), especially bowl with a semi-spherical body (Type 4: 2, 4-5), bell-shaped bowl (Type 6: 1-2), deep bowl with a straight profile (Type 8: 2), pot with a broad rim and broad belly (Type 13.1), pot with a broad rim and long body (Type 14: 1), pot with a broad rim and an S-profile (Type 15: 2), pot without a neck (Type 16: 1), pot with a short, broad neck (Type 18: 2, 4, 6, 8) and pot with a long neck (Type 19: 5, 13-14, 19).

Burnished examples (4B) include the types of bowl with a shallow body (Type 1: 2), bowl with a round body (Type 2: 1, 3-4), bowl with a semi-spherical body (Type 4: 1-4), bell-shaped bowl (Type 6: 1), deep bowl with a straight profile (Type 8: 1, 3), beaker (Type 10: 1-3), bottle (Type 12: 2), pot with a broad rim and broad belly (Type 13: 1), pot with a broad rim and long body (Type 14: 1-3), pot with a broad rim, an S-profile and a long body (Type 15: 5), pot without a neck (Type 16: 2-3), pot with a very

short, broad neck (Type 17: 2), pot with a short, broad neck (Type 18: 2, 6-8, 13) and pot with a long neck (Type 19: 4-5, 7, 10, 13-14, 17-20). The slipped examples from this group (4C) are distributed among the more limited and select vessel types such as the bowl with a shallow body (Type 1. 5), the bowl with a semi-spherical body (Type 4: 2-3, 5), the pot without a neck (Type 16: 1, 3-4), the pot with a long neck (Type 19: 1-2, 13-14, 19) and the pot with a conical neck (Type 20: 4).

### 5. Ware Brown on the Outside, Red on the Inside

363 sherds 5.5 %

5. A. Non-burnished 8 %

5. B. Burnished 92 %

Inclusions	Large, generally medium and fine grits, very little mica, limestone, finely chopped grass
Paste Colour	Reddish brown (5YR 5/4), sometimes with very dark grey core (10YR 3/1)
Surface Colour	Brown (10YR 5/2) and dark greyish brown (10YR 4/2) on the outside Red (2.5YR 5/6, 2.5YR 4/6) and sometimes yellowish red (5YR 5/6) on the inside
Firing	Moderately and hardly fired
Production Technique	Hand-made

This ware group is the only group at Büyükkardıç with different internal and external surface colours. It differs from the brown ware group (ware group 4) only in that its internal surface colour is reddish brown (7,5 YR 5/4). The paste colour, generally in shades of brownish red, has turned into shades of grey in some of the fragments due to the effect of firing.

The non-burnished examples (**Figure 35: 5A**) occur in only two sherds, among the types of bowl with a round body (Type 2: 1) and bell-shaped bowl (Type 6: 5) and only in the type of pot with a broad rim, an S-profile and a long body (Type 15: 1) among the types of pot.

The burnished examples from this ware group (**Figure 35: 5B**), which are more common, are widespread in the types of pot with a shallow body (Type 1: 2), bowl with a semi-spherical body (Type 4: 2-4), bell-shaped bowl (Type 6: 5), bowl with an S-profile (Type 7: 1), pot with a broad rim and long body (Type 14: 1), pot with a very short, broad neck (Type 17: 4, 10, 13), pot with a short, broad neck (Type 18: 2, 6) and pot with a long neck (Type 19: 1, 5, 10-13, 19). It appears that the application of a slip

was preferred in a great majority of this gritty ware group, which is brown on the outside and red on the inside. The colour difference in the internal and external surfaces and the application of a slip indicate that this group consists of select vessels.

## 6. Reddish Ware

863 sherds 13 %

6. A. Non-burnished 21 %

6. B. Burnished 79 %

Inclusions	Medium and fine grits, limestone, finely chopped grass
Paste Colour	Red (2.5YR 4/6), some with very dark grey core (10YR
Surface Colour	Red and shades of red on the inside and outside (2.5YR 5/6, 5YR 4/6)
Firing	Underfired and moderately fired
Production Technique	Hand-made

The reddish ware, one of the widespread ware groups in the Büyükdere ceramics, occurs in most vessel forms. The slip application is more common also in this ware group. The non-burnished examples (**Figure 35: 6A**) occur in the types of bowl with a round body (Type 2: 1-2), bowl with a semi-spherical body (Type 4: 2-3), bell-shaped bowl (Type 6: 1), deep bowl with a straight profile (Type 8: 1, 3), deep bowl with a spherical body (Type 9: 1), pot without a neck (Type 16: 1, 4), pot with a short, broad neck (Type 18: 2) and pot with a long neck (Type 19: 10-11, 13-14, 19) while the burnished examples (**Figure 35: 6B**), which are more common, occur in the types of bowl with a shallow body (Type 1: 1-2, 4), bowl with a round body (Type 2: 2), bowl with a semi-spherical body (Type 4: 1, 3), carinated bowl (Type 5: 1), bell-shaped bowl (Type 6: 3-4), deep bowl with a straight profile (Type 8: 1, 3), pot with a broad rim and broad belly (Type 13: 1), pot with a broad rim and long body (Type 14: 1-3), pot without a neck (Type 16: 1, 3), pot with a very short, broad neck (Type 17: 1-2, 12), pot with a short, broad neck (Type 18: 2, 5-6, 8) and pot with a long neck (Type 19: 1, 5-6, 8, 10, 13-16, 19). It is observed that the gritty, red burnished ware group concentrates mainly in the forms of pot with a short, broad neck (Type 18) and pot with a long neck (Type 19).

## 7. Greenish Beige Ware

27 sherds

0.4 %

Inclusions	Large, generally medium grits, heavy limestone, grass
Paste Colour	Light greenish brown (2.5YR 6/3, 2.5Y 6/4), some with grey core (2.5Y 4/1)
Surface Colour	Wet smoothed, light greenish brown and shades of it on the inside and outside (2.5Y 6/3)
Firing	Underfired
Production Technique	Hand-made

The greenish beige ware (**Figure 36: 7**) is represented at Büyükdere by only 27 sherds. Their coarse production technique indicates that they were not imported materials but locally produced although their number is so small. If they are not products that were accidentally obtained during firing, they belong to the group of light coloured ceramics, which is considered together with the yellowish beige ware (group 8) and the light greyish beige ware (group 9), both represented again by a relatively small number of examples. The examples without any surface treatment feature occur in a limited way, in the types of bowl with a shallow body (Type 1: 3), bowl with a round body (Type 2: 2), bowl with a semi-spherical body (Type 4: 3), deep bowl with a spherical body (Type 9: 3), pot with a short, broad neck (Type 18: 5, 12) and pot with a long neck (Type 19: 3).

## 8. Yellowish Beige Ware

317 sherds

4.8 %

8. A.	Non-burnished	40 %
8. B.	Burnished	60 %

Inclusions	Plenty of grits, most of them large, limestone, fine grass
Paste Colour	Pale yellow (2.5Y 7/4), some with dark grey core (2.5Y 4/1)
Surface Colour	Pale yellow (2.5Y 7/4, 2.5Y 7/3)
Firing	Underfired
Production Technique	Hand-made

The yellowish beige ware, all hand-made and again of a coarse quality, occurs in almost every vessel form. The non-burnished examples from this group (**Figure 36: 8A**) occur only in a bowl with a semi-spherical body (Type 4: 2) and a deep bowl with a

spherical body (Type 8: 3) while the types of pot with a broad rim and broad belly (Type 13: 1-2), pot with a broad rim and long body (Type 14: 1), pot without a neck (Type 16: 3), pot with a very short, broad neck (Type 17: 1, 6, 8, 10), pot with a short, broad neck (Type 18: 10) and pot with a long neck (Type 19: 1, 13-14, 16) indicate that mainly pot vessels were preferred in this group. It appears that the types of bowl with a shallow body (Type 1: 3), bowl with a semi-spherical body (Type 4: 1, 2-3), bell-shaped bowl (Type 6: 1, 5), deep bowl with a straight profile (Type 8: 3) and deep bowl with a spherical body (Type 9: 1) were preferred in the burnished examples (**Figure 36: 8B**), which are more select and widespread than the non-burnished examples from this group, even if in a small number, in the types of pot with a broad rim, an S-profile and a long body (Type 15: 3), pot without a neck (Type 16: 3), pot with a very short, broad neck (Type 17: 1), pot with a short, broad neck (Type 18: 6) and pot with a long neck (Type 19: 12, 16).

### 9. Light Greyish Beige Ware

355 sherds 5.3%

9. A. Non-burnished 7%  
9. B. Burnished 93%

Inclusions	Fine and sparse grits, heavy limestone, very little mica,
Paste Colour	Greyish beige (2.5Y 5/1)
Surface Colour	Light brownish grey (2.5Y 6/2) Cream-coloured, grey and yellowish brown (10YR 5/4) on the inside
Firing	Hardly fired
Production Technique	Hand-made

The non-burnished examples in the generally hardly-fired light greyish beige ware group (**Figure 36: 9A**) are very few and represented by only 25 body fragments. The burnished examples from this ware group (**Figure 36: 9B**) occur less in open vessel forms such as the bowl with a round body (Type 2: 2, 4), the bowl with a semi-spherical body (Type 4: 3-5) and the deep bowl with a straight profile (Type 8: 2), with a greater preference for the types of pot with a very short, broad neck (Type 17: 3, 11), pot with a short, broad neck (Type 18: 2-3, 7-8, 11-12) and pot with a long neck (Type 19: 5, 10, 12-14, 16, 19). It is quite notable that this group occurs in almost every type of pot with a conical neck (Type 20: 2-6).

### 10. Red Slipped, Burnished Ware

332 sherds

5%

Inclusions	Medium and fine grits, chamotte, little limestone, little mica,
Paste Colour	Yellowish red (5YR 5/6), some with dark grey core
Surface Colour	Red (2.5YR 4/6) and dark red (10YR 3/6). Vessel surface with sometimes thin and sometimes thick slip. Some examples very well burnished.
Firing	Moderately and hardly fired
Production Technique	Hand-made. Although mostly hand-made, slow wheel

All the sherds in this group, hand-made or shaped on the slow wheel, are slipped and burnished. The rim fragments belonging to this group (**Figure 37: 10**), which constitutes the most select examples of the Büyükdere ceramics, are widespread among the types of bowl with a shallow body (Type 1: 2), bowl with a round body (Type 2: 1-2, 4), carinated shallow bowl (Type 3: 1-2), bowl with a semi-spherical body (Type 4: 2-3, 5), bell-shaped bowl (Type 6: 7), bowl with an S-profile (Type 7: 3), deep bowl with a straight profile (Type 8: 1), deep bowl with a spherical body (Type 9: 1), beaker (Type 10: 1), oil lamp (Type 11: 2), bottle (Type 12: 2), pot with a broad rim and broad belly (Type 13: 1), pot with a broad rim and long body (Type 14: 1), pot with a very short, broad neck (Type 17: 9), pot with a short, broad neck (Type 18: 2, 6-7, 11, 13) and pot with a long neck (Type 19: 1, 4-5, 10-11, 13-14, 16, 18-19). There is one example from this group in the type of pot with a conical neck (Type 20: 4).

### 11. Camelhair Slipped Ware

1,484 sherds

22.3%

11. A. Non-burnished 5%

11. B. Burnished 95%

Inclusions	Fine grits, little mica, limestone, medium sand, chamotte, finely chopped grass
Paste Colour	Pinkish camelhair in own colour (7.5YR 6/4), some with very dark grey core (10YR 3/1)
Surface Colour	Pinkish camelhair, camelhair (7.5YR 6/4, 7.5YR 6/3)
Firing	Moderately fired
Production	Mostly hand-made, some wheel-made



The camelhair slipped fragments are the most common ware group among the Büyükdıç ceramics. Although it has examples in almost every vessel form, this group occurs mainly in large vessels of the pot form. The non-burnished examples from the camelhair slipped ware (**Figure 37: 11A**) do not occur at all in open vessels such as the bowl, the deep bowl and the beaker. On the other hand, there are camelhair slipped non-burnished examples, even if few in number, in the types of pot with a very short, broad neck (Type 17: 2), pot with a short, broad neck (Type 18: 1-2, 12), pot with a long neck (Type 19: 14, 19) and pot with a conical neck (Type 20: 2, 5).

The burnished examples from this group (**Figure 37: 11B**) appear commonly in almost all vessel forms. This widespread ware group of the Büyükdıç ceramics occurs in large numbers among the types of bowl with a shallow body (Type 1: 2), bowl with a round body (Type 2: 1), bowl with a semi-spherical body (Type 4: 2-5), bell-shaped bowl (Type 6: 1, 5), S-profile bowl (Type 7: 2), deep bowl with a straight profile (Type 8: 1-3), deep bowl with a spherical body (Type 9: 1), pot with a broad rim and broad belly (Type 13: 1-3), pot with a broad rim and long body (Type 14: 1), pot with a broad rim, an S-profile and a long body (Type 15: 2), pot without a neck (Type 16: 1, 3), pot with a very short, broad neck (Type 17: 2, 5, 13), pot with a short, broad neck (Type 18: 2-3, 6-9, 11-13), pot with a long neck (Type 19: 1, 3, 8, 10-14, 16, 18-20) and pot with a conical neck (Type 20: 1-6).

As is generally the case with Early Iron Age centres, hand-made pottery is dominant at Büyükdıç. It has been found that the slow wheel was used in only some of the sherds that belong to the red slipped ware (group 10). As the characteristics of the Early Iron age pottery, it is observed that Büyükdıç pottery is mostly underfired or moderately fired. However, there are also moderately and hardly fired examples in groups 3, 5 and 10 as well as the examples in group 9, which are all hardly fired. It is notable that the heavily limestone-tempered greenish beige ware (group 7) consists of rather underfired pieces.

It may be conjectured that the character of the Büyükdıç ceramics as being tempered with grits of large, medium and small size was related with the intended purpose of the pottery. It is known that grit-tempered ceramics are usually connected with heat conductivity.<sup>141</sup> Thus, it appears that the purpose of cooking and heating was in the forefront in the production of pottery. It has been found that very hardly fired, grit-tempered ceramics (**Figure 85: 1, 103**) were used also in metal smelting at Büyükdıç, in connection with individual metal-processing activities.

<sup>141</sup> Winn (1980:156) argues that the calcite-containing grit inclusion in the Korucutepe EIA ceramics was intended for cooking. Ökse (2002:93) states that the coarse mineral inclusion was used in cooking vessels because it provided heat resistance.

The micaceous grey ware (group 1) with its heavy inclusion of mica, which appears to have been related again with cooking, in addition to its inclusions of mineralogical grits in black, white and red colours and in different sizes, constitutes an exception among all ware groups. Finely chopped grass inclusion is generally observed in ware groups 2, 4-8 and 10-11 while no organic inclusion is noted in ware groups 1, 3 and 9. Various proportions of limestone, chamotte, sand and fine mica inclusions in addition to the grit inclusion are observed in most of the ware groups. It is notable that the examples from the greenish beige ware (group 7) contain a heavy inclusion of limestone.

Ware groups of Eastern Anatolia Early Iron Age ceramics are known to have quite different surface characteristics.<sup>142</sup> The Büyükardıç ceramics are similar in this regard. Despite the limited and monotonous range of forms, the diversity observed in the surface characteristics of the pottery may be explained by individual workmanship, in which personal needs, tastes and skills were in the forefront, and which replaced industrial pottery.

While examples without the application of any surface treatment technique are relatively uncommon, it is observed that the slip application is the most common surface treatment feature in a great majority of the Büyükardıç ceramics. In forming the ware groups, the non-burnished and burnished examples with the same surface colour have been brought together in one group and the non-slipped ones, marked with the letter A, and the slipped ones, marked with the letter B, have been divided as the sub-groups of the main ware group. In all ware groups, it is observed that a polishing operation was applied, with real burnishing in most and wet smoothing<sup>143</sup> in some. The vessels in the greenish beige ware (group 7) and in sub-group 2B of the grey ware are wet smoothed. As is known from Norşuntepe<sup>144</sup>, Lidar Höyük<sup>145</sup> and Korucutepe<sup>146</sup>, the burnishing or polishing operation is a common feature of Early Iron Age ceramics.

The slip application occurs at the rate of 30 % in total in the groups of brown ware (4C), red slipped burnished ware (10) and camelhair slipped ware (11). The slipped pieces (4C) in the brown ware group constitute 16 % of this group while the proportion is only 2.6 % for all ceramics. On the other hand, the red slipped burnished ware constitutes 5 % of all ceramics and the camelhair slipped ware 22.3 %. These data are in line with the first ware group of the Norşuntepe Early Iron Age ceramics.<sup>147</sup> The red slipped burnished ware group at Büyükardıç (group 10) must also be identical with

<sup>142</sup> For an overall assessment of Eastern Anatolia EIA ware groups in the light of the Norşuntepe finds, see Bartl 2001: 386.

<sup>143</sup> For detailed information concerning this technique, see Ökse 1999:331.

<sup>144</sup> Bartl 1994: 481; 2001:386.

<sup>145</sup> Müller 1999:406.

<sup>146</sup> Winn (1980:156, 158) stresses that Early Iron Age ceramics were usually subjected to a typical burnishing process, even where they were slipped.

<sup>147</sup> Bartl 1994:481.

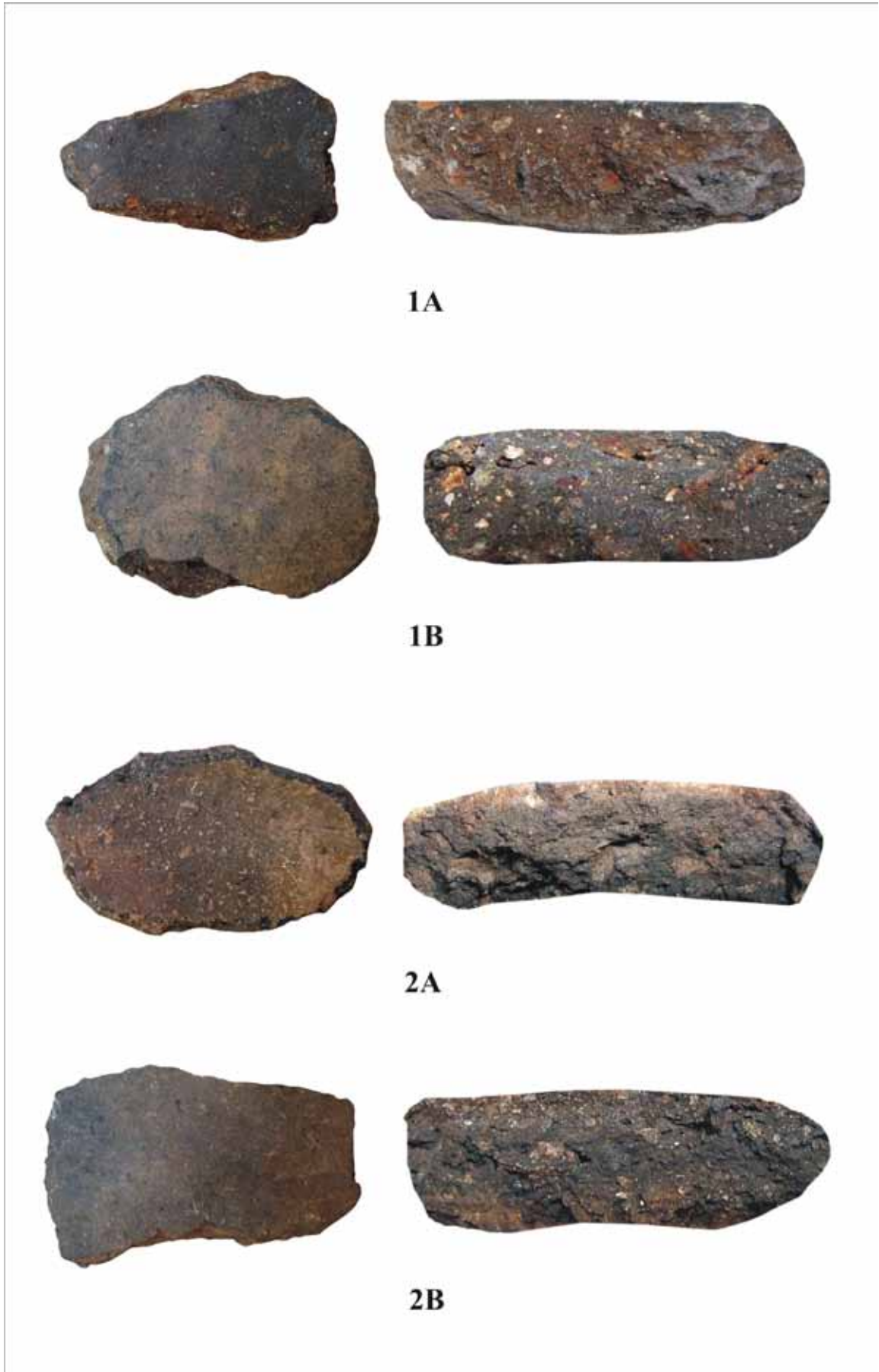
the brick reddish examples in the first ware group at Norşuntepe, which are both slipped and well-burnished.<sup>148</sup>

Although represented by a rather small number of examples, beige pottery is encountered among the Büyükardıç Early Iron Age ceramics. Greenish beige ware (group 7), yellowish beige ware (group 8) and light greyish beige ware (group 9) are represented at 10.5 % in total. The slipped examples from ware groups 7 to 9 at Büyükardıç may be compared with the second ware group at Norşuntepe, which is the most common ware group there.<sup>149</sup>

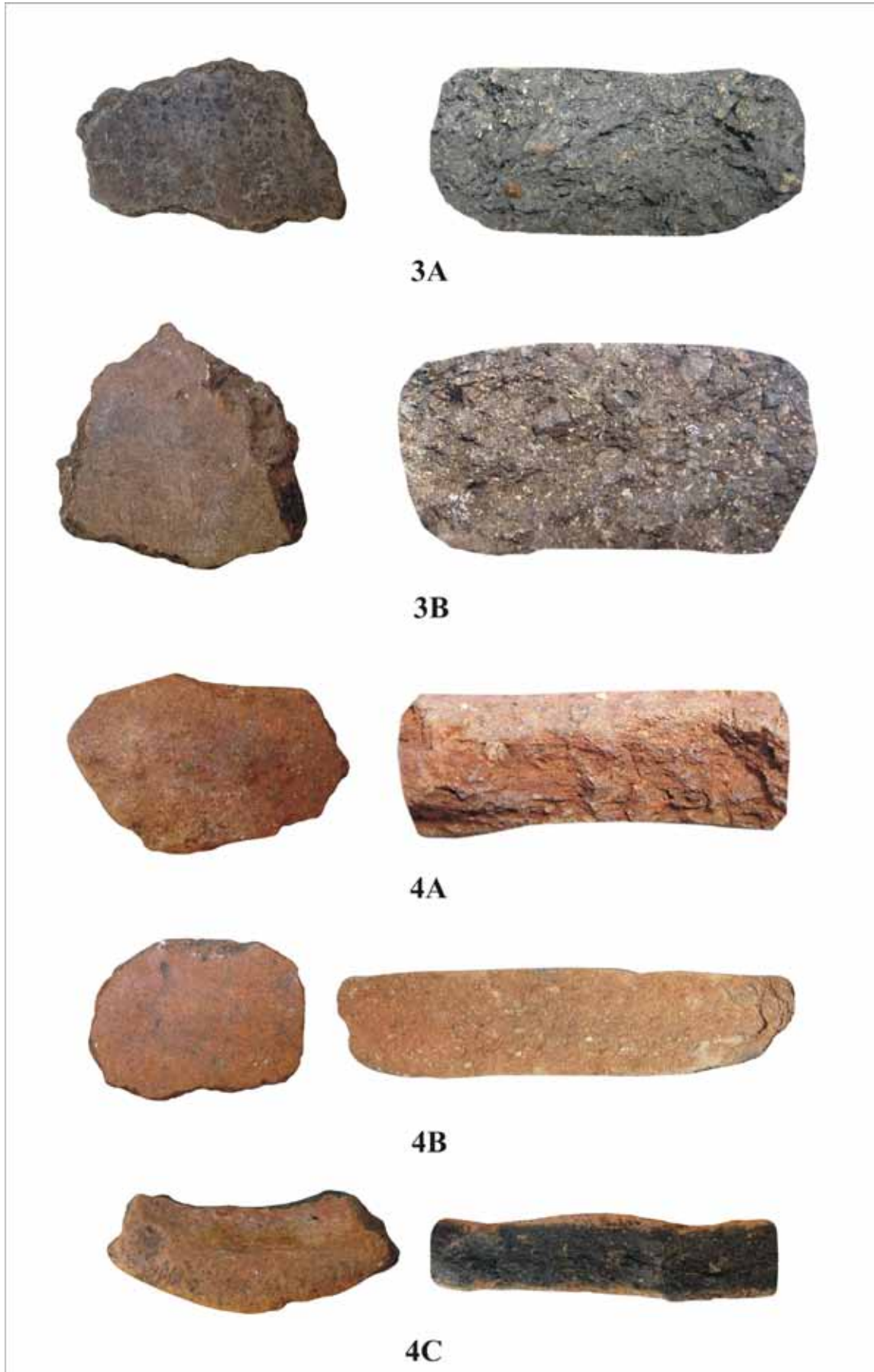
---

<sup>148</sup> For the Norşuntepe examples, see Bartl 1994:481.

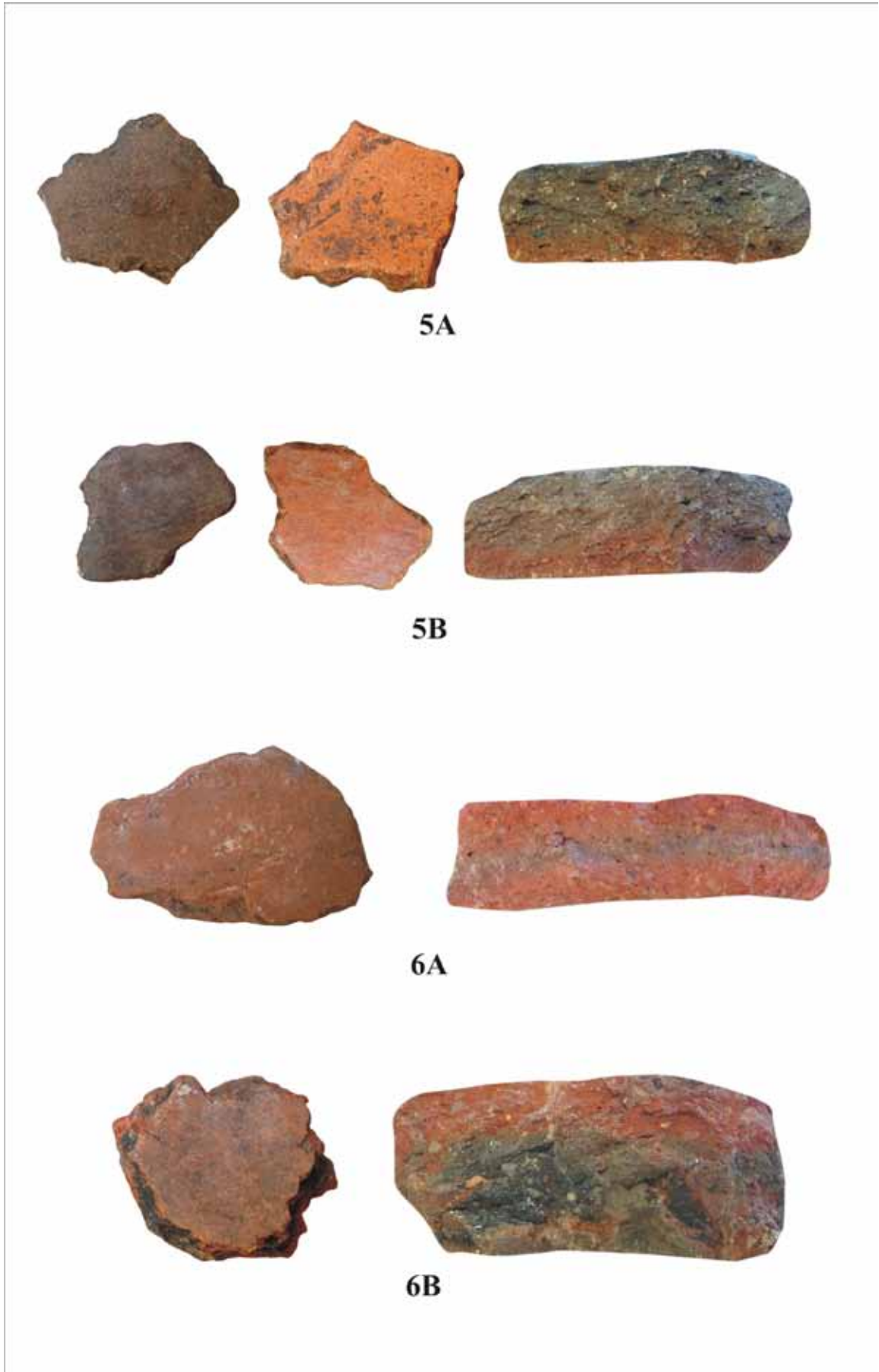
<sup>149</sup> Bartl 1994:481.



**Figure 33:** Büyükardıç ware groups 1 and 2.

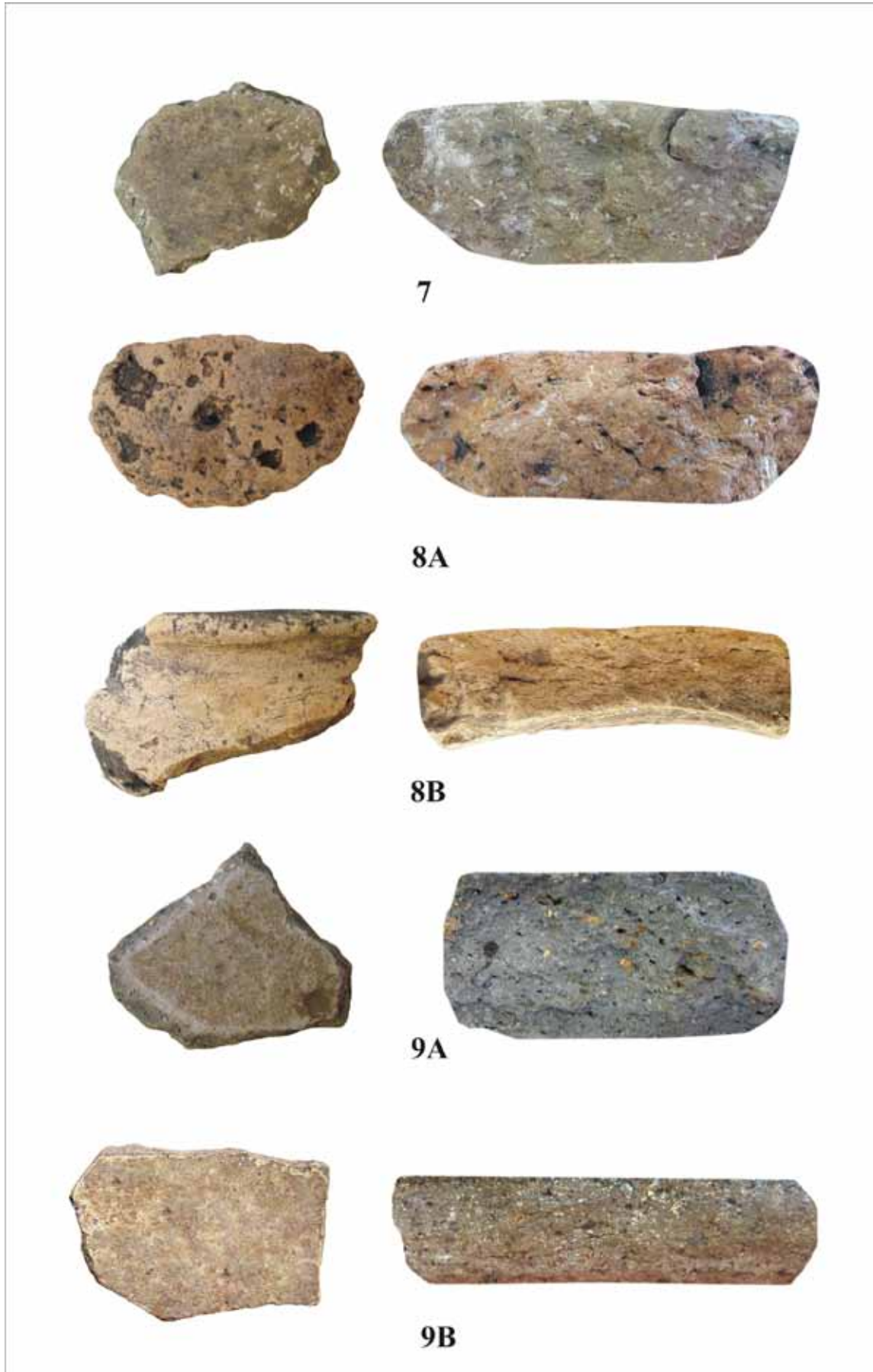


**Figure 34:** Büyükardıç ware groups 3 and 4.



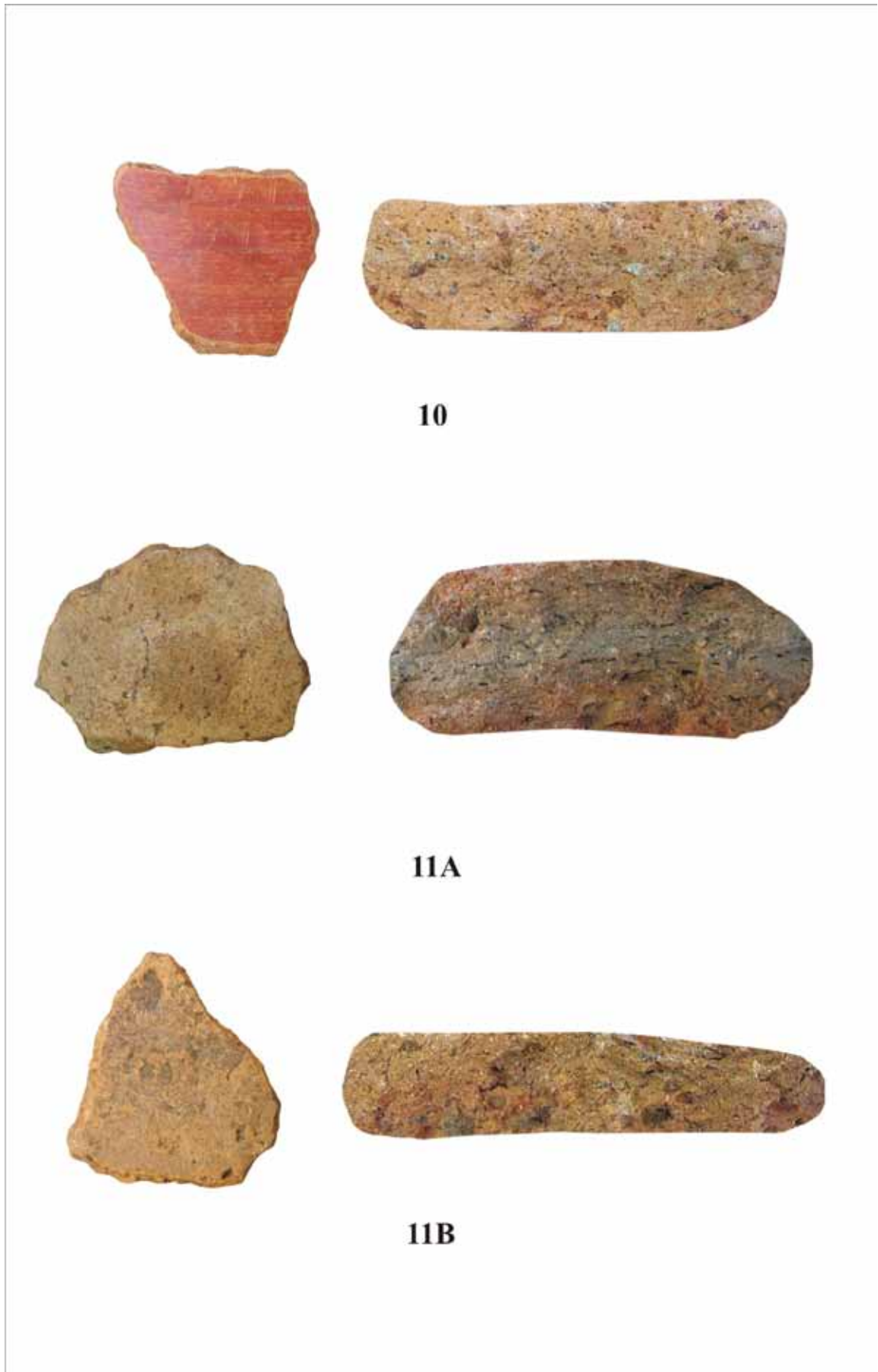
**Figure 35:** Büyükardıç ware groups 5 and 6.





**Figure 36:** Büyükardıç ware groups 7 to 9.





**Figure 37:** Büyükardıç ware groups 10 and 11.

## B. VESSEL FORMS

Only four vessels whose form can be fully understood have been unearthed in the Büyükdıç excavations (**Figures 4: 6, 12: 1-3**). For this reason, it has only been possible to determine the whole set of vessels through the 613 rim fragments that have been recovered. Typological statistics (**Table 3**) have been made of all rim fragments together with the intact examples. In the typological assessment, the emphasis has been placed on the characteristics of the lip, the rim, the neck, the shoulder, the body and the bottom, which set the form of the vessel, and on their interrelations.

Due to the small number of intact vessels or of fragments which show the rim-body relationship, the typological work has been based fully on the profile characteristics of the sherds. Since the body width and height indicate the form of the vessel and its purpose of utilization, it has not been possible to make a complete typological distinction of the sherds with regard to the purpose of utilization. For this reason, the sizes of vessels have not been addressed as a difference from the typological point of view. To the contrary, the rim fragments of small, medium, large and very large size that have the same formal characteristic have been assessed under the same type number. In this way, the possibility has been created for an internal comparison between the rim fragments that display the same profile characteristic. With the vessels of the pot type, it has not been possible to find out whether the fragments with a large rim diameter belong to large pots or to pithoi since their body heights are not known. For this reason, the term “pithos” has not been used in the form typology. Likewise, the rim fragments with a handle or ledge and with different types of decoration have also not been treated as being of different types and, instead, have been considered within the types to which they belong in terms of their profile characteristics.

However, the characteristics of vessels that indicate their likely purpose of utilization such as cooking, serving, storing, metal-smelting, etc. have been considered separately within each type with regard to their approximate sizes as well as their production technique, inclusions and general characteristics of form.

The Büyükdıç ceramics are divided first into 10 groups in view of their main vessel forms as bowls (Types 1 to 7), deep bowls (Types 8 and 9), beakers (Type 10), oil lamps (Type 11), bottles (Type 12), pots with a broad neck (Types 13 to 15), pots without a neck (Type 16), pots with a short neck (Types 17 and 18), pots with a long neck (Type 19) and pots with a conical neck (Types 20 and 21). In addition, each main form is considered under secondary forms in which more specific features are in the forefront. Accordingly, the bowls are divided into seven secondary forms as bowls with a shallow body (Type 1), bowls with a round body (Type 2), carinated shallow bowls (Type 3), bowls with a semi-spherical body (Type 4), carinated bowls (Type 5), bell-shaped bowls (Type 6) and bowls with an S profile (Type 7). The deep bowls have two

secondary forms: deep bowls with a straight profile (Type 8) and deep bowls with a spherical body (Type 9).

The pots, which have five main forms, are the group where secondary forms are the most numerous. The pot with a broad rim are divided into three secondary forms as those with a broad rim and broad belly (Type 13), those with a broad rim and long body (Type 14) and those with a broad rim and an S-profile (Type 15), while the pots with a short neck are divided into two secondary forms as those with a very short, broad neck (Type 17) and those with a short, broad neck (Type 18). On the other hand, the pots without a neck (Type 16), the pots with a long neck (Type 19) and the pots with a conical neck (Type 20) have no secondary forms.

### ***Bowls (Types 1 to 7)***

The vessels with a pot form at Büyükkardıç are represented by 7 secondary forms (Types 1 to 7).

#### ***Type 1: Bowls with a Shallow Body***

The bowl fragments with a shallow body, which generally have a simple rim, are reminiscent of dish forms since they have a large rim diameter and are relatively shallow as far as can be understood from what is preserved of them. However, since no whole vessel belonging to this type has been recovered, the term “bowl with a shallow body” is used for this group of sherds. The sherds in this secondary form are divided into five separate types according to the shapes of their rims in particular:

##### *Type 1.1.*

Only one example with a slightly inverted rim and a shallow body has been recovered in this type (**Figure 38: 1**). In the example, only a small part of which is preserved, the rim is round and slightly inverted. EIA examples of this simple type of bowl, which has a rather shallow appearance and is observed in almost every period, occur at Korucutepe<sup>150</sup> and at Barsikkale, Elazığ<sup>151</sup>. The similar examples found on hills 2 and 3 at Çayıryolu, Bayburt<sup>152</sup> are also dated to the Iron Age. A similar example known from Kaleköy, Malatya<sup>153</sup> shows that this type continued into the MIA.

<sup>150</sup> Winn 1980: pl. 15: c.

<sup>151</sup> Sevin 1987: fig. 2:3.

<sup>152</sup> Sagona and Sagona 2004: 184, fig. 138:2, 139:1.

<sup>153</sup> Ökse 1988: Abb. 873.

*Type 1.2.*

This type, consisting of bowl fragments with a flat or round, simple rim and with a shallow body (**Figure 38: 2-4**), constitutes a relatively common group represented by 13 rim fragments at Büyükdıç. Among the examples with a rather simple form, one encounters large bowls about 40 cm wide (**Figure 38: 4**), as well as those with a rim diameter of 20 cm. Of these vessels, which were used as service vessels, the larger examples in particular suggest a crowded family structure.

EIA-dated similar examples of these simple-form bowls have been recovered at Toprakkale, Erzurum<sup>154</sup>, at Genefik, Elazığ<sup>155</sup> and in all EIA layers of Lidar Höyük.<sup>156</sup> Although it has a rather simple form, there are similar examples of this type also among the EIA ceramics at Gordion.<sup>157</sup> A similar fragment uncovered on the Hill 3 settlement at Çayırlyolu, Bayburt is dated to the Iron Age while another example of this type, dated to the MIA, has been identified at Kaleköy, Malatya.<sup>158</sup>

*Type 1.3.*

This type of bowls with a shallow body consists of fragments with a pointed, simple rim (**Figure 38: 5-6**). EIA-dated similar examples of this simple type, which is represented by only three rim fragments, have been encountered at Korucutepe<sup>159</sup> and Lidar Höyük<sup>160</sup>. The examples recovered at Kilise Tepe, Bayburt<sup>161</sup> and at Pulur (Gökçedere)<sup>162</sup> are considered among Iron Age ceramics. Within this type, there are also large bowls about 35 cm wide as well as examples of a normal size (**Figure 38: 6**).

*Type 1.4.*

This type of bowl, represented by a single example (**Figure 38: 7**), has a slightly everted, simple rim and a shallow and undulated body. A similar example of this type from Gordion<sup>163</sup> is dated to the LBA. Similar examples recovered in the EIA layers of Korucutepe<sup>164</sup> and Lidar Höyük<sup>165</sup> prove the continuity of this type.

<sup>154</sup> Başgelen and Özfiat 1996: pl. VIII: 9.

<sup>155</sup> Sevin 1987: fig. 22: 2.

<sup>156</sup> Müller 1999: Abb. 2, AB03 (1200-1100 B.C.); Abb. 7, AB 09 and AA 01 (1075-1000 B.C.); Abb. 10, AA 01 and AA 05 (1000-900 B.C.); Abb. 13, AA 06 (900-850 B.C.).

<sup>157</sup> Henrickson and Voigt 1998: fig. 14: 3.

<sup>158</sup> Ökse 1988: Abb. 317.

<sup>159</sup> Winn 1980: pl. 15: i.

<sup>160</sup> Müller 1999: Abb. 4, AA 04 (1100-1075 B.C.); Abb. 7, AA 04 (1075-1000 B.C.); Abb. 10, AA 04 (1000-900 B.C.).

<sup>161</sup> Sagona and Sagona 2004: 184, fig. 172: 13.

<sup>162</sup> Sagona and Sagona 2004: 184, fig. 158: 3.

<sup>163</sup> Henrickson 1994: fig. 10.2.1: h.

<sup>164</sup> Winn 1980: pl. 15: e.

<sup>165</sup> Müller 1999: Abb. 2, AA 01(1200-1100 B.C.); Abb. 10, AA 03 (1000-900 B.C.).

*Type 1.5.*

The fragment of a bowl with an everted rim and a shallow body, represented by only a single example at Büyükdıç (Figure 38: 8), is considered a separate type. Although this rim fragment, which belongs to the brown slipped ware (group 4), is of the LBA forms<sup>166</sup> known from Norşuntepe<sup>167</sup> and Gordion<sup>168</sup>, similar examples belonging to the EIA and the MIA occur at Lidar Höyük<sup>169</sup>.

***Type 2: Bowls with a Round Body***

The bowls of this type, most of which have a simple rim, are notable with their rim diameter being quite large in comparison with their likely vessel depth. As in Type 1, these bowls, whose real depth can only be guessed because no intact example has been recovered, may also be considered as a dish form. Since they have a round slope from the rim towards the neck and the body, the description “bowl with a round body” is used for the vessels of this group. The fragments that belong to this secondary form of bowls are divided into five different types with regard in particular to the shape of the rim:

*Type 2.1.*

The vessels of this type with eight known examples from Büyükdıç (Figure 39: 1-3) differ from the other types in this group with their slightly thickened rims. Having several rows of grooved decoration below the rim in some examples (Figure 39: 1-2), this type has also quite large examples with a rim diameter of about 40 cm (Figure 39: 3). Similar examples of this type, which is among the common types of the EIA, are known from Norşuntepe<sup>170</sup> and Lidar Höyük<sup>171</sup>.

*Type 2.2.*

Type 2.2. consists of bowl fragments with a slightly inverted, simple rim and a round body (Figure 39: 4-8). With 13 rim fragments, this type is the most common among the bowls with a round body. Six of the rim fragments belong to the select, red slipped, burnished ware (group 10) from Büyükdıç. In this type, most of the examples of which have the characteristic grooved decoration of the EIA (Figure 39: 4-7), no

<sup>166</sup> Sevin (Sevin 1991a:fig. 1:2) has presented this form among the vessels dated to Late Bronze Age II which are widespread in the Hittite centres in Central Anatolia and to the west of Eastern Anatolia.

<sup>167</sup> Hauptmann 1969/70: Abb. 4: 3.

<sup>168</sup> Henrickson 1994: fig. 10.2.1.: 1; Henrickson and Voigt 1998: fig. 9: 5.

<sup>169</sup> Müller 1999: Abb. 4, AA 03 (1100-1075 B.C.); Abb. 19, AB 28 (725-650 B.C.).

<sup>170</sup> Bartl 1994: Abb. 9: 4.

<sup>171</sup> Müller 1999: Abb. 2, AB 02 and AB 05 (1200-1100 B.C.).

attention was paid to the shaping of the rim. This type has examples without any decoration (**Figure 39: 8**) in addition to those with a grooved decoration.

A similar one from Haroğlu, Elazığ<sup>172</sup> to the example with a flattened rim and with a single row of grooved decoration on its body (**Figure 39: 4**) is dated to the EIA. Similar examples from the EIA to the examples with several rows of grooved decoration (**Figure 39: 5-6**) are known from Norşuntepe,<sup>173</sup> Gre Dimse, Diyarbakır<sup>174</sup> and Talavaş Tepe<sup>175</sup>. A similar example recovered from Örenşar 1, Bayburt<sup>176</sup> is dated to the Iron Age. Closely similar examples from the EIA to the non-decorated example of this type (**Figure 39: 8**) have been recovered from Lidar Höyük<sup>177</sup> and one from the MIA from Kaleköy, Malatya.<sup>178</sup>

### *Type 2.3.*

Of the type of bowl with a simple, inverted rim and a round body, only a single rim fragment (**Figure 39: 9**) exists. A similar example from the EIA to the fragment with a row of grooved decoration below the rim has been found at Talavaş Tepe, Diyarbakır.<sup>179</sup>

### *Type 2.4.*

The distinguishing feature of the bowls most of which have again grooved decorations, a thickened, inverted, simple rim and a round body (**Figure 40: 1-6**) is the thickening in the rim. This group, represented by eight rim fragments at Büyükdıç, is among the characteristic types of the EIA ceramics. Six of these fragments belong to the better-quality, red slipped, burnished ware (group 10) from Büyükdıç. Close examples of this type from the EIA occur at İt Kalesi<sup>180</sup>, Kengerkor<sup>181</sup> and Şorik<sup>182</sup> in Van, at Mağaralar in Ağrı<sup>183</sup>, at Korucutepe<sup>184</sup> in the south, at Kenan Tepe<sup>185</sup> and Talavaş Tepe<sup>186</sup> in Diyarbakır, and at Porsuk, Niğde<sup>187</sup> to the southeast of Central Anatolia. A

<sup>172</sup> Sevin 1987: fig. 43: 2.

<sup>173</sup> Bartl 1994: Abb. 6: 1-2; 19: 4.

<sup>174</sup> Karg 2001: fig. 9.

<sup>175</sup> Parker et al. 2001: fig. 9: E.

<sup>176</sup> Sagona and Sagona 2004: 184, fig. 177: 9.

<sup>177</sup> Müller 1999: Abb. 4, AA 09 (1100-1075 B.C.); Abb. 10, AB 09 (1000-900 B.C.).

<sup>178</sup> Ökse 1988: Abb. 42.

<sup>179</sup> Parker et al. 2001: fig. 9: D.

<sup>180</sup> Marro and Özfirat 2004: pl. 11: 4, 12: 4.

<sup>181</sup> Marro and Özfirat 2004: pl. 12: 2.

<sup>182</sup> Marro and Özfirat 2004: pl. 12: 3.

<sup>183</sup> Marro and Özfirat 2003: pl. 9: 1-2.

<sup>184</sup> Winn 1980: pl. 15: f.

<sup>185</sup> Parker et al. 2004: fig. 14: C.

<sup>186</sup> Parker et al. 2001: fig. 9: C.

<sup>187</sup> Dupré 1983: pl. 45: 9; pl. 46: 11.

similar bowl recovered from the MBA layer at Lidar Höyük<sup>188</sup> shows that this type, with its grooved decoration, was known from much earlier periods.

#### *Type 2.5.*

This rare type, represented by a single example (**Figure 40: 7**) among the Büyükardıç EIA ceramics, is notable with its thickened-out lip form. Due to the thickening out, the area below the rim is shaped like a deep groove. The fragment, which belongs to a rather large bowl with a rim diameter of about 40 cm, has a single row of horizontal notched decorations immediately on the shoulder. A similar example, from the MBA, without decoration and of a smaller size, to this rim fragment, which reflects the large vessel tradition in the Büyükardıç ceramics and which belongs to the brown, burnished ware (group 4B), has been encountered at Bozbulut (Kömüs), Muş.<sup>189</sup> EIA examples of this type, which appears to have continued from the LBA, have been identified at Ernis, Van<sup>190</sup> and Mezarlıktepe, Muş<sup>191</sup> in the north-east and at Kenat Tepe, Diyarbakır<sup>192</sup> and Lidar Höyük<sup>193</sup> in the south. A similar example recovered in the Tepe 3 settlement at Çayırlyolu, Bayburt<sup>194</sup> is dated to the Iron Age.

### ***Type 3: Carinated Shallow Bowls***

The most salient feature of this vessel form, represented by only 3 rim fragments among the Büyükardıç ceramics, is a ridged shoulder. All three of the fragments in question belong to the select, red slipped, burnished ware (group 10). For the vessels in this group, which have a deepish grooved appearance below the rim, the description “carinated shallow bowls” is used due to their bodies which smoothly continue towards the bottom after the ridged shoulder. The fragments belonging to this secondary form of bowls are divided into two separate types according to the shape of the rim in particular:

#### *Type 3.1.*

The bowl represented by a single example at Büyükardıç (**Figure 40: 8**) has an everted and simple rim. Similar examples of this type from the EIA have been identified at Lidar Höyük<sup>195</sup>, Gordion<sup>196</sup> and Tappeh Gijlar, Urmiya<sup>197</sup>. A similar example from

<sup>188</sup> Kaschau 1999: Taf. 18: 1.

<sup>189</sup> Rothman 2004: 168-169, fig. 6: 14.12.

<sup>190</sup> Sevin 1996: fig. 5:3.

<sup>191</sup> Özfiat 2001: drawing 9:10.

<sup>192</sup> Parker et al. 2004: fig. 14: F, O.

<sup>193</sup> Müller 1999: Abb. 2, AB 04 (1200-1100 B.C.).

<sup>194</sup> Sagona and Sagona 2004: 184, fig. 138: 14.

<sup>195</sup> Müller 1999: Abb. 2, AB 01 (1200-1100 B.C.).

<sup>196</sup> Henrickson 1994: fig. 10.4: j.

<sup>197</sup> Belgiorno et al 1984b: fig. 62: 19 Iron II (1000-800 B.C.).



Bayrampaşa Tepe, Bayburt<sup>198</sup>, which is dated to the Iron Age, and an example known from Kaleköy, Malatya<sup>199</sup> indicate that this type continued into the MIA.

### *Type 3.2.*

The most salient feature of this type, represented by only two examples (**Figure 40: 9**) is a thickened lip. A similar example of this type, which is dated to the MIA, is known from Kaleköy, Malatya<sup>200</sup>. A similar example from Tappeh Gijlar in the Urmiya area is dated to Iron II<sup>201</sup> and one from Alixan to Iron III.<sup>202</sup>

### ***Type 4: Bowls with a Semi-Spherical Body***

This type, which occurs with 69 rim fragments, is the largest group among the types of bowl. For the bowls of this type, which generally consist of forms with a simple rim, the term “bowls with a semi-spherical body” is used since they are relatively deeper and have a round profile. The fragments that belong to this secondary form of bowls are divided into five separate types according to the shape of the rim in particular:

#### *Type 4.1.*

Three fragments have been recovered belonging to this type of bowls which have a slightly inverted, simple rim. One of the examples recovered at Büyükdardıç (**Figure 41: 1**) may be compared with the bowl among the LBA II vessel forms known from Central Anatolia and the western part of Eastern Anatolia.<sup>203</sup> Similar examples of this type from the EIA occur at Gordion<sup>204</sup> in the west of Central Anatolia, at Porsuk, Niğde<sup>205</sup> in the east, at Norşuntepe<sup>206</sup> in Eastern Anatolia, and at Lidar Höyük<sup>207</sup> in the south. A similar example to the same vessel, although actually a simple form, has been found in the Iron Age II layer at Dinkha Tepe, Urmiya<sup>208</sup>. A similar one to another example from Büyükdardıç (**Figure 41: 2**), which was recovered at Bozbulut (Kömüs), Muş<sup>209</sup> and which has more grooves on its body, is dated to the LBA-EIA while another

<sup>198</sup> Sagona and Sagona 2004: 184, fig. 152: 4.

<sup>199</sup> Ökse 1988: Abb. 794.

<sup>200</sup> Ökse 1988: Abb. 120.

<sup>201</sup> Belgiorio et al 1984b: fig. 62: 22 (1000-800 B.C.).

<sup>202</sup> Belgiorio et al. 1984: fig. 30: 3 (800-600 B.C.).

<sup>203</sup> The LBA bowl type in Sevin 1991a: fig. 1: 9 is similar in form to the Büyükdardıç example.

<sup>204</sup> Henrickson 1994: fig. 10.4: b.

<sup>205</sup> Dupré 1983: pl. 45: 8.

<sup>206</sup> Bartl 1994: Abb. 6: 5.

<sup>207</sup> Müller 1999: Abb. 7, AA 03 (1075-1000 B.C.).

<sup>208</sup> Muscarella 1974: fig. 36: 114.

<sup>209</sup> Rothman 2004: 168-169, fig. 6: 14.257.1.

similar example from Balajuk, Urmiya,<sup>210</sup> which has a single row of grooves below the rim, is dated to Iron Age I-II.

#### *Type 4.2.*

At Büyükdıç, seventeen rim fragments have been recovered belonging to this type. Although with a simple rim, the bowls in this group have their lips slightly thickened out. LBA-dated similar ones to this type of bowls with a simple form, which have a single row of grooved decorations below the rim in some of them (**Figure 41: 3-4**), are encountered at İmikuşağı<sup>211</sup>. EIA-dated examples of this type have been found at Haroğlu, Elazığ<sup>212</sup> and Lidar Höyük<sup>213</sup>.

#### *Type 4.3.*

Consisting of bowl fragments with a simple rim and a semi-spherical body (**Figures 41: 5-8, 101: 2**), this type is the most common bowl type among the Büyükdıç ceramics. Represented by 30 rim fragments, this type has actually a simple appearance. With small and shallow examples as well as larger and deeper ones (**Figure 41: 7-8**), it has a simple form which can be seen in almost every period. In a large bowl fragment (**Figure 41: 7**), there is a horizontal ledge immediately below the vessel's rim, which is characteristic for the Eastern Anatolia region.

Similar types which are dated to LBA II at İmikuşağı<sup>214</sup> and to the LBA at Tsovinar<sup>215</sup> in Sevan, Armenia are early examples of this simple form. Examples dated to the EIA have been recovered at Türker Tepe (Soğkom), Muş<sup>216</sup>, Korucutepe<sup>217</sup>, Lidar Höyük<sup>218</sup>, and Porsuk, Niğde<sup>219</sup>. Similar examples recovered at Büyüktepe, Bayburt<sup>220</sup> are dated to the Iron Age.

#### *Type 4.4.*

At Büyükdıç, eleven rim fragments have been recovered belonging to this type. The distinguishing feature of the rim fragments of this type, which belongs to the group of simple and deeper bowls (**Figure 42: 1-2**), is a simple and slightly rolled-in

<sup>210</sup> Belgiorno et al 1984: fig. 25: Urmiya-Balajuk 23.

<sup>211</sup> Sevin 1995: fig. 14: 3; Sevin (1991a: fig. 1: 8) describes vessels of this type as Late Bronze Age II vessels known in Central Anatolia and the western part of Eastern Anatolia.

<sup>212</sup> Sevin 1987: fig. 43: 6.

<sup>213</sup> Müller 1999: Abb. 13, AB 17 (900-850 B.C.).

<sup>214</sup> Sevin 1995: fig. 14: 5.

<sup>215</sup> Tumanyan 2002: Tab. 4: 1.

<sup>216</sup> Rothman 2004: 173, fig. 8: 19.19.

<sup>217</sup> Winn 1980: pl. 11: f.

<sup>218</sup> Müller 1999: Abb. 8, AB 14 (1075-1000 B.C.); Abb. 13, AB 09 (900-850 B.C.).

<sup>219</sup> Dupré 1983: pl. 44: 1.

<sup>220</sup> Sagona et al. 1992: fig. 4: 1-2

lip. An EIA example of this type from Geoy Tepe, Urmiya<sup>221</sup> is dated to Iron Age I (1300-1000 B.C.). A similar example from Büyüktepe, Bayburt<sup>222</sup> is dated to the Iron Age while another similar bowl from Köşkerbaba<sup>223</sup> is dated to the MIA.

#### *Type 4.5.*

The bowls of this type, which have a rolled-in and thickened rim, generally have one or several rows of grooved decorations just on the rim (**Figures 42: 3-4, 96: 1**). This group, represented by 8 fragments, has many close parallels from the EIA. Similar examples found at Ernis,<sup>224</sup> İt Kalesi<sup>225</sup> and Mollacem<sup>226</sup> during surface research in the area of Van, at Turhal Kale, Tokat<sup>227</sup>, at Korucutepe<sup>228</sup> and at Gordion<sup>229</sup> indicate that this type was common in Central and Eastern Anatolia during the EIA.

#### *Type 5: Carinated Bowls*

This type of bowl, represented by a single rim fragment at Büyükardıç, constitutes a somewhat more conspicuous form of the Iron Age. The term “carinated bowls” is used for this form since it has a sharply carinated profile.

#### *Type 5.1.*

A single rim fragment, slightly thickened out, belonging to the reddish burnished ware (group 6B) (**Figure 42: 5**) is an example that enriches the Büyükardıç vessel set. EIA examples of similar bowls exist at Karagündüz, Van<sup>230</sup>; Kızıluşağı, Malatya<sup>231</sup>; Lidar Höyük<sup>232</sup>; and Porsuk, Niğde<sup>233</sup>. A similar example from Tappeh Gijlar<sup>234</sup> in the Urmiya area is dated to Iron I (1000-800 B.C.), while one from Balajuk<sup>235</sup> is dated to Iron III. A similar example of this type from the MIA has been recovered at Kaleköy, Malatya.<sup>236</sup>

<sup>221</sup> Muscarella 1994: fig. 12.5; (fig. 32: 402).

<sup>222</sup> Sagona et al. 1992: fig. 4: 2.

<sup>223</sup> Ökse 1988: Abb. 781.

<sup>224</sup> Sevin 1996: fig. 3: 1; fig. 3: 2.

<sup>225</sup> Marro and Özfirat 2004: pl. 11: 4.

<sup>226</sup> Marro and Özfirat 2004: pl.11:3.

<sup>227</sup> Durbin 1971: fig. 7: 50.

<sup>228</sup> Winn 1980: pl. 9: f; pl. 16: a.

<sup>229</sup> Henrickson 1994: fig. 10.6: e (a similar example with a simple rim and high ring bottom).

<sup>230</sup> Sevin and Kavaklı 1996: fig. 25: 8.

<sup>231</sup> Sevin 1987: fig. 5: 6.

<sup>232</sup> Müller 1999: Abb. 2, AB 01 (1200-1100 B.C.); Abb. 4, AB 01 (1100-1075 B.C.).

<sup>233</sup> Dupré 1983: pl. 44: 5.

<sup>234</sup> Belgiorio et al. 1984b: fig. 62: 19-20.

<sup>235</sup> Belgiorio et al. 1984: fig. 25:Urmiya-Balajuk 26.

<sup>236</sup> Ökse 1988: Abb. 796.

### ***Type 6: Bell-Shaped Bowls***

For the bowls of this type, represented by 24 rim fragments at Büyükardıç, the term “bell-shaped bowls” is used since the body with its outturned rim looks like a bell. The fragments belonging to this secondary form of bowls are divided into seven different types according to their rim and body shapes in particular:

#### *Type 6.1.*

Eight rim fragments have been recovered belonging to this type. The bodies of these bowls, which generally have a flat and pointed, simple rim, descend towards the bottom in a sloping and straight way. No curve in the body is observed in the vessels within this group (**Figure 43: 1-5**). EIA-dated examples of this bowl type, which has a rather simple form, occur at Norşuntepe<sup>237</sup> and Lidar Höyük<sup>238</sup>. A similar example from Kaleköy, Malatya<sup>239</sup> is dated to the MIA.

#### *Type 6.2.*

No examples have been found similar to this type of bowl form, which is represented by a single rim fragment (**Figure 43: 6**) belonging to a bell-shaped bowl with an internally and externally thickened rim and a straight profile.

#### *Type 6.3.*

This type of bowl, which has a rather simple form with a round, simple rim, is also represented by a single example at Büyükardıç (**Figure 43: 7**).

#### *Type 6.4.*

In this type of bowls, represented by two examples at Büyükardıç (**Figure 43: 8-9**), the rim is slightly everted. Similar examples of this type from the EIA occur at Bulamaç Höyük, Erzurum<sup>240</sup> and Norşuntepe<sup>241</sup>.

#### *Type 6.5.*

With seven rim fragments, this type is represented in the largest number among the bell-shaped bowls. Although they have a simple lip, the most important feature of this type of bowls (**Figure 44: 1-4**) is that they have a slightly everted rim. Examples

<sup>237</sup> Bartl 1994: Abb. 6: 5.

<sup>238</sup> Müller 1999: Abb. 13, AC 02 (900-850 B.C.).

<sup>239</sup> Ökse 1988: Abb. 4.

<sup>240</sup> Güneri et al. 2003: fig. 10: 59.

<sup>241</sup> Bartl 1994: Abb. 7: 6, 8.

from the EIA which are similar to the bowls in this group have been recovered at Norşuntepe, Elazığ<sup>242</sup>. A similar example recovered at Tappeh Gijlar<sup>243</sup> in the Urmiya area is dated to Iron II (1000-800 B.C.).

#### *Type 6.6.*

There exist 4 examples of this type with a manifestly everted rim (**Figure 44: 5-6**). A similar bowl found at Kaleköy, Malatya<sup>244</sup> is dated to the MIA.

#### *Type 6.7.*

The fragment of a slightly carinated bowl with a slightly inverted, simple rim (**Figure 44: 7**) is the only example of this type at Büyükdıç. That example belongs to the red slipped, burnished ware (group 10), one of the select ware groups of the Büyükdıç ceramics. Although it is bell-shaped in terms of body form, the slight protrusion in the lower part of the vessel's body may be considered a carina. In this respect, the vessel may be regarded as being among the types of carinated bowl of the Iron Age.

### ***Type 7: Bowls with an S Profile***

For the bowls of this type, represented by only three rim fragments at Büyükdıç, the term “bowls with an S profile” is used due to their S-shaped body profile. The fragments belonging to this secondary form of bowls are divided into three separate types according to the shapes of their rims in particular:

#### *Type 7.1.*

A single fragment (**Figure 45: 1**) has been recovered belonging to the type of bowl with a thickened-out rim and a slight S-profile. The fragment, which belongs to the group of burnished ware brown on the outside and red on the inside (group 5B), may be compared with a similar bowl recovered in the EIA layer at Lidar Höyük.<sup>245</sup>

#### *Type 7.2.*

Information can be obtained also on the body profile of the fragment belonging to this type, which is represented by a single example at Büyükdıç (**Figure 45: 2**). In the middle part of the body of the bowl with a simple rim, there is a protrusion that

<sup>242</sup> Bartl 1994: Abb. 7: 6.

<sup>243</sup> Belgiorio et al. 1984b: fig. 62: 4.

<sup>244</sup> Ökse 1988: Abb. 24.

<sup>245</sup> Müller 1999: Abb. 2, AE 01 (1200-1100 B.C.).

would form a slight carina. Similar examples of the bowl, which belongs to the camelhair slipped, burnished ware (group 11B), occur at Korucutepe<sup>246</sup> and Lidar Höyük<sup>247</sup> from the EIA. A similar bowl recovered in Van<sup>248</sup> is dated to the Iron Age. Examples of this form which are dated to Iron II (1000-800 B.C.) have been found at Tappeh Gijlar<sup>249</sup> and Dinkha Tepe<sup>250</sup> in the Urmiya area.

### *Type 7.3.*

This type of bowl, represented by a single example (**Figure 45: 3**) with a slightly thickened rim, belonging to the red slipped, burnished ware (group 10), was a popular form during the LBA and the EIA. Bowls of this type occur quite widely in the LBA graves at Tserovani<sup>251</sup> in the Mtskheta region of Georgia. Similar examples from the EIA in Anatolia occur at Bulamaç Höyük, Erzurum,<sup>252</sup> at Korucutepe<sup>253</sup> and at Gordion<sup>254</sup> while an example found in Van<sup>255</sup> is dated to the Iron Age.

## ***Deep Bowls (Types 8 and 9)***

The vessels with the deep bowl form are represented by two separate secondary forms (Types 8 and 9) at Büyükardıç.

### ***Type 8: Deep Bowls with a Straight Profile***

For the vessels of this type, represented by 29 rim fragments, the term “deep bowls with a straight profile” is used as they have a straightly descending profile although they are slightly everted from the rim towards the body and the bottom. The fragments that belong to this secondary form of deep bowls are divided into three separate types according to the shapes of their rims in particular:

### *Type 8.1.*

In the group of deep bowls with a straight profile, there are 12 rim fragments that belong to this type. In this type of deep bowl with a flat (**Figures 46: 1, 92: 3**), round (**Figure 46: 2**) or pointed (**Figure 46: 3**) simple rim, there is occasionally a

<sup>246</sup> Winn 1980: pl. 54: 4.

<sup>247</sup> Müller 1999: Abb. 8, BB 01 (1075-1000 B.C.); Abb. 10, AC 01(1000-900 B.C.).

<sup>248</sup> Russel 1980: fig. 19/257.7.

<sup>249</sup> Belgiorio et al. 1984b: fig. 62: 27.

<sup>250</sup> Muscarella 1974: fig. 37: 858.

<sup>251</sup> Sadradze 1991: Pl. LXXXII, fig. 17.

<sup>252</sup> Güneri et al. 2003: fig. 6: 32.

<sup>253</sup> Winn 1980: pl. 52: 1.

<sup>254</sup> Henrickson 1994: fig. 10.6: d.

<sup>255</sup> Russel 1980: fig. 19/257.7.

horizontal (**Figures 46: 1, 92: 3**) or teat-shaped (**Figure 46: 2**) ledge immediately below the rim. A similar example of this type, dated to the LBA-EIA, again with a ledge, is known from Çimentepe, Bayburt.<sup>256</sup> A similar example from Lidar Höyük<sup>257</sup> is dated to the MIA.

### *Type 8.2*

This type consists of fragments belonging to deep bowls with a slightly inverted rim and a straight profile (**Figure 46: 4-5**). At Büyükdardıç, eight rim fragments have been recovered belonging to this type.

### *Type 8.3.*

Consisting of deep bowl fragments with a slightly thickened-out rim and a straight profile (**Figure 46: 6-7**), this type is represented by nine examples at Büyükdardıç.

## ***Type 9: Deep Bowls with a Spherical Body***

For the vessels of this type, represented by 15 rim fragments, the term “deep bowls with a spherical body” is used as they have a concave profile descending from the rim towards the body and the bottom. What distinguishes these vessels from the pots without a neck is that they have a relatively more open body. The fragments that belong to this secondary form of deep bowls are divided into three separate types according to the shape of the rim in particular:

### *Type 9.1.*

13 rim fragments have been recovered belonging to this type, which consists of deep bowl fragments with a simple rim and a spherical body (**Figure 47: 1-3**). Among the deep bowls of this type, which have generally no decoration, one example with grooved decorations (**Figure 47: 3**) attracts attention. Similar examples of this type, dated to the EIA, occur at Lidar Höyük<sup>258</sup> and Porsuk, Niğde<sup>259</sup>. An example from Tappeh Gijlar, Urmiya<sup>260</sup> is another instance of this type which is dated to Iron II (1000-800 B.C.). Similar examples found at Pulur (Danişment)<sup>261</sup> and Uğrak Taşlık Höyük<sup>262</sup> during the Bayburt surface research are dated to the Iron Age.

<sup>256</sup> Sagona and Sagona 2004: 181, fig. 159: 8.

<sup>257</sup> Müller 1999: Abb. 17, AD 04 (800-725 B.C.).

<sup>258</sup> Müller 1999: Abb. 5, BB 03 (1100-1075 B.C.); Abb. 11, BB 04. (1000-900 B.C.).

<sup>259</sup> Dupré 1983: pl. 52: 57.

<sup>260</sup> Belgiorio et al 1984b: fig. 62: 12.

<sup>261</sup> Sagona and Sagona 2004: 185, fig. 117:7.



*Type 9.2.*

This type of bowl, represented by a single example (**Figure 47: 4**), differs from Type 9.2 only in that its rim is slightly thickened in.

*Type 9.3.*

This type also has a single example. Belonging to the greenish beige ware (group 7) (**Figure 47: 5**), the example differs in that its rim is slightly everted. Fragments similar to this one have been found at Balu 1, Urmiya.<sup>263</sup>

***Type 10: Beakers***

The vessels in the beaker form at Büyükardıç are represented by 7 rim fragments and 3 different secondary types (Types 10.1 to 3). Most of the beakers belong to the brown, burnished ware (group 4B).

*Type 10.1.*

This beaker form, which occurs more commonly with 5 rim fragments (**Figure 48: 1-2**), has a simple rim and a bell-shaped body which slightly spreads out. Immediately below the rim of one such beaker (**Figure 48: 2**), there is a knobbed decoration or a ledge. A similar example of this type, dated to the LBA-EIA, is known from Bulamaç Höyük, Erzurum<sup>264</sup>.

*Type 10.2.*

This type of beaker, of which only one example (**Figure 48: 3**) has been recovered, has a simple rim and a straight profile. The beaker has a horizontal ring

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<sup>262</sup> Sagona and Sagona 2004: 184, fig. 112:6.

<sup>263</sup> Belgiorno et al. 1984: fig. 24: 74 (According to the chronology of Iran, this fragment is dated to Iron III).

<sup>264</sup> Güneri et al. 2003: fig. 2: 12.

handle. A similar one, which has no handle and is dated to the LBA-IA, occurs at Kordlar Tepe, Urmiya.<sup>265</sup>

*Type 10: 3.*

This type of beaker, also represented by a single example (**Figure 48: 4**), has a slightly everted, simple rim and an oval body. One which is similar to this miniature beaker and dated to the EIA occurs at Norşuntepe.<sup>266</sup>

***Type 11: Oil Lamps***

Two separate examples belonging to the group of oil lamps have been recovered. These examples are considered under two secondary types (Types 11.1 and 2).

*Type 11.1.*

The vessel with a simple rim and a round bottom (**Figures 49: 1, 85: 3**), which belongs to the greyish brown, burnished ware (group 3B), has a rim diameter of 7.1 and a height of 5.2 cm. Recovered with part of the rim missing, the vessel has a vertical ledge. Its vertical ledge, its form, its small size and the grey stain on the rim, which is due to soot, suggest that this vessel may have been an oil lamp.

*Type 11.2.*

This type of oil lamp, represented by an example recovered intact (**Figure 49: 2, 85: 2**), has a concave body profile. The everted, flat rim of the vessel, which belongs to the red slipped, burnished ware (group 10), is 8.5 cm wide and 2.8 cm high. The miniature dimensions of the vessel, and the grey stain on its rim, which is due to refiring, suggest that this vessel may have been used as an oil lamp. The concave body of the vessel with a flat bottom displays a form characteristic that makes it easier to carry by hand. In addition, it is known that such miniature vessels with a similar form were used as an oil lamp during the Middle Age.<sup>267</sup>

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<sup>265</sup> Lippert 1979: Abb. 12: 10.

<sup>266</sup> Bartl 1994: Abb. 7: 7.

<sup>267</sup> For oil lamps of the same type in the Middle Age, see Mitchell 1980: fig. 93: 1047; There are similar examples dated to the Middle Age at Sazpegler, Ardahan in the framework of the BTC COPP Archaeological Salvage Excavations. The work on the publication of the scientific results of the Sazpegler excavation is in progress.

### ***Type 12: Bottles***

The bottle, one of the rare forms of the EIA, is represented by only three examples at Büyükdıç. The bottles, which have long, narrow necks, are considered under two separate types:

#### *Type 12.1.*

One complete example (**Figures 49: 3, 85: 1**) has been recovered belonging to the bottle form with a simple rim, a long, narrow neck, a low, spherical body and a flat bottom. The vessel, found in two pieces, broken in the neck, near the outdoor kiln (workshop), has a characteristic bottle form with a low, spherical body. On the vessel's body, there is an incised decoration consisting of cross lines. Although it looks like a perfume bottle in terms of its shape and size, this vessel, which belongs to the greyish brown, non-burnished ware (group 3A), was actually used in metallurgy. The two adjacent holes on its shoulder and the traces of metallic corrosion which leaked out of these holes, as well as the fact that it was fired at a high temperature, indicate that this vessel had a function connected with metal smelting.<sup>268</sup> A possible example of the bottle with this form, dated to the EIA, is observed at Martuni in the Sevan area, Armenia.<sup>269</sup> There is a decoration of horizontal lines also on the Martuni example, defined as a biconical pot. However, this example is a vessel that served the purpose of daily use. The similarity between the two examples is based solely on the characteristic of form.

#### *Type 12.2.*

2 rim fragments have been recovered belonging to the type of bottle with a simple, everted rim and a narrow, long neck. The example with a thick wall (**Figure 49: 4**) belongs to the reddish slipped, burnished ware (group 10).

### ***Types 13 to 15: Pots with a Broad Rim***

The most important feature of this group, which is represented by 40 rim fragments among the Büyükdıç EIA ceramics, is that the rim and body widths of the vessels are close to each other and that therefore most of them had the function of a saucepan or cauldron. The vessels in this group are considered under three different secondary forms (Types 13 to 15):

<sup>268</sup> After the completion of the technical analyses, work will be done on a separate article concerning the use of this vessel in metallurgy and the metal processing technology at Büyükdıç.

<sup>269</sup> Tumanyan 2002: Tab. 8: 2.

### ***Type 13: Pots with a Broad Rim and Broad Belly***

11 rim fragments have been recovered belonging to this group, which generally consists of large vessels. The term “pots with a broad rim and broad belly” is used for this group of rim fragments, which apparently belonged to rather deep pots with a broad rim and broad belly. The fragments of this secondary form are divided into three separate types according to the shape of the rim:

#### *Type 13.1.*

This large type of pot with a simple and slightly thickened rim and in the form of a deep saucepan consists of vessels that probably had the function of a saucepan, cauldron or basin (**Figure 50: 1-3**). One example (**Figure 50: 1**), which is the best preserved, has a mouth width of 28 cm and a preserved height of 14 cm. In another rim fragment (**Figure 50: 2**), which is less preserved, the mouth width reaches 48 cm. A similar example of this type, dated to the EIA, was found at Norşuntepe<sup>270</sup> and another one, dated to the Iron Age, at Hoburnu Tepe, Bayburt.<sup>271</sup>

#### *Type 13.2.*

The pots of this type, represented by 2 examples at Büyükdıç (**Figure 50: 4-5**), are distinguished by their simple, S-profile rims and their wide body form. A similar example of this type from the EIA was encountered at İmikuşağı.<sup>272</sup> Similar types found at Sos, Erzurum<sup>273</sup> and at Büyüktepe, Bayburt<sup>274</sup> are dated to the Iron Age. Another similar vessel recovered at Balajuk, Urmiya<sup>275</sup> is dated to Iron III.

#### *Type 13.3.*

This type is represented by a single example (**Figure 50: 6**) in the form of a pot with a thickened-out rim, an incurving neck and a broad body. A similar vessel, dated to Iron III according to the chronology of Iran, was recovered from Tappeh Gijlar, Urmiya<sup>276</sup>.

<sup>270</sup> Bartl 1994,; Abb. 9: 1.

<sup>271</sup> Sagona and Sagona 2004: 184, fig. 153: 5.

<sup>272</sup> Sevin 1995: fig. 14: 9.

<sup>273</sup> Sagona et al. 1996: fig. 5: 6.

<sup>274</sup> Sagona et al. 1992: fig. 4: 4.

<sup>275</sup> Belgiorio et al. 1984: fig. 25: Urmiya-Balajuk:38.

<sup>276</sup> Belgiorio et al. 1984b: fig. 62: 78 (1000-800 B.C.).

### ***Type 14: Pots with a Broad Rim and Long Body***

21 rim fragments have been recovered belonging to this type at Büyükdıç. The term “pots with a broad rim and long body” is used for these vessels since they have a body which slightly broadens from below the rim towards the bottom. The fragments belonging to this secondary form are divided into three separate types according to the shape of the rim in particular:

#### *Type 14.1.*

This type consists of pots with a simple rim and a long body which broadens from below the rim towards the bottom. With 15 rim fragments, the pots of this type constitute the most common example of the pot form with a broad rim and long body (**Figure 51: 1-6**). The necks and bodies of these vessels, which generally have a simple lip, display a wavy profile, which is probably due to the fact that they were shaped by hand. Of these pots, which rarely appear among the published EIA ceramics from Eastern Anatolia, a similar example from the EIA occurs at Porsuk, Niğde.<sup>277</sup> The example from Tappeh Gijlar, Urmiya<sup>278</sup>, which is dated to Iron II (1000-800 B.C.), is important as it shows that this type was used even in Iran during the EIA. A similar example found at Büyüktepe, Bayburt<sup>279</sup>, belonging to crisp crimson ware, is dated between 1600 and 1300 B.C.<sup>280</sup> Given their form, these vessels must have had a cooking function. One of the largest examples of this type (**Figure 51: 6**) is notable with its rim diameter of 45 cm. It should be assumed that these vessels, which have a broad mouth, might have had a storage function in daily use.

#### *Type 14.2.*

The only difference between the pots of this type and Type 14.1 is that their rims are slightly everted. In one (**Figure 52: 2**) of the Büyükdıç examples (**Figure 52: 1-3**), there is a horizontal ledge just below the rim. An example of this type, dated to the EIA, is known from Lidar Höyük.<sup>281</sup>

<sup>277</sup> Dupré 1983: pl. 52: 56.

<sup>278</sup> Belgiorno et al. 1984b: fig. 62: 46.

<sup>279</sup> Sagona and Sagona 2004: 180, fig. 144: 7.

<sup>280</sup> Sagona and Sagona 2004: 180.

<sup>281</sup> Müller 1999: Abb. 5, BB 05 (1100-1075 B.C.).

*Type 14.3.*

This type consists of pots with a slightly thickened rim, an excurving neck and a long body which broadens towards the bottom. Of this type of pots, represented by 2 rim fragments at Büyükdere (Figure 52: 4-5), a similar example dated to the LBA was found at Gordion<sup>282</sup> and another one, dated to the Iron Age, at Akşar Höyük, Bayburt.<sup>283</sup>

*Type 15: Pots with a Broad Rim, an S Profile and a Long Body*

The term “pots with a broad rim, an S profile and a long body” is used for these pots, which are represented by 8 rim fragments and whose bodies have an S-shaped profile. This secondary form is considered under five separate types:

*Type 15.1.*

There is a single rim fragment (Figure 53: 1) which belongs to the type of pot with a slightly everted rim, a broad neck, a long body and an S profile. This large fragment, belonging to the non-slipped ware brown on the outside and red on the inside (group 5A), has a nobbed ledge below the rim. A closely similar example of this form, but without a ledge, was found in the EIA layer at Gordion.<sup>284</sup>

*Type 15.2.*

This type consists of pots with a simple rim, a broad, everted neck, a long body and an S profile (Figure 53: 2-3). Of this type of pots, represented by 4 rim fragments, there is also a smaller example with a vertical ledge below the rim (Figures 53: 3, 92: 1). An example with a similar form from Kordlar Tepe, Urmiya<sup>285</sup> is dated to the LBA-EIA. A similar example of this type from Eastern Anatolia<sup>286</sup> is dated to the Iron Age.

*Type 15.3.*

The large pot belonging to the type of pot with an everted rim, an excurving, broad neck, a long body and an S profile, represented by a single rim fragment (Figure 53: 4), belongs to the yellowish beige, burnished ware (group 8B). A closely similar

<sup>282</sup> Henrickson 1994: fig. 10.2.1: j.

<sup>283</sup> Sagona and Sagona 2004: 185, fig. 123: 3.

<sup>284</sup> Henrickson 1994: fig. 10.6: b.

<sup>285</sup> Lippert 1979: Abb. 10: 2.

<sup>286</sup> Whallon 1979: 122 gg.

example from Evdi Tepe, Van<sup>287</sup> is dated to the EIA while an example from Geoy Tepe, Urmiya<sup>288</sup> is likewise dated to Iron I (1300-1000 B.C.) according to the chronology of Iran.

*Type 15.4.*

The type of pot with a simple rim, an excurving, broad neck and an S profile is also represented by a single example at Büyükkardıç. The rim fragment belonging to a rather large pot (**Figures 53: 5, 101: 1**) is of the greyish brown, burnished ware (group 3B).

*Type 15.5.*

The fragment belonging to the type of miniature pot with a thickened rim, an excurving, broad neck and an oval body, represented by a single example with most of it preserved except its bottom (**Figures 53: 6, 92: 4**), has a horizontal ledge which begins immediately above the rim and comes down to the shoulder. An example similar in form to this pot fragment, which belongs to the brown, burnished ware (group 4B), was found in the EIA layer at Lidar Höyük.<sup>289</sup>

***Type 16: Pots without a Neck***

Within the Büyükkardıç EIA ceramics, there are 26 rim fragments belonging to the group of pots without a neck. Four separate types which belong to this form in terms of rim and body features have been identified:

*Type 16.1.*

The common feature of the 7 recovered rim fragments belonging to this type (**Figure 54: 1-5**) is that they have an incurving rim and a spherical body. Large examples as well as relatively smaller examples of this type have been encountered at Büyükkardıç. Of this type of pots without a neck, a similar example dated to the LBA has been found at Porsuk, Niğde<sup>290</sup>, one dated to the LBA-EIA at Karaçayır Area 2, Bayburt<sup>291</sup>, and similar ones dated to the EIA at Lidar Höyük.<sup>292</sup> A similar example recovered from Tappeh Gijlar in the Urmiya area<sup>293</sup> is dated to Iron II (1000-800 B.C.).

<sup>287</sup> Sevin 2004: 192-193, fig. 2: 9.

<sup>288</sup> Muscarella 1994: fig. 12.5: (fig. 16: 16)

<sup>289</sup> Müller 1999: Abb. 8, AC 01.

<sup>290</sup> Dupré 1983: pl. 34: 213.

<sup>291</sup> Sagona and Sagona 2004: 181, fig.150:1.



*Type 16.2.*

The fragment of a pot without a neck, with a slightly everted rim and a spherical body, represented by a single example at Büyükdıç (**Figure 54: 6**), is a rather large vessel with a mouth 24 cm wide. A typologically similar example of the pot fragment, which belongs to the brown, burnished ware (group 4B), has been encountered in the EIA layer at Lidar Höyük.<sup>294</sup>

*Type 16.3.*

This type consists in fragments of pots without a neck and with a simple rim and an incurving, spherical body (**Figure 55: 1-2**). With 16 rim fragments, this type is the most common among the group of pots without a neck. Five of the rim fragments, which have a rather simple appearance, belong to the grey, wet-smoothed ware (group 2B). A similar example of this type, dated to the LBA, has been encountered at Porsuk, Niğde.<sup>295</sup> No published examples from the EIA have been encountered in Anatolia, while a similar example dated to Iron II (1000-800 B.C.) according to the chronology of Iran is known from Tappeh Gijlar, Urmiya<sup>296</sup>.

*Type 16.4.*

Among the Büyükdıç ceramics, two rim fragments (**Figure 55: 3-4**) have been found belonging to the type of pot without a neck and with a slightly thickened rim and an incurving, spherical body. One of these fragments (**Figure 55: 3**) is decorated with grooves and notches, which is characteristic of the EIA. Examples similar to this fragment, which are dated to the EIA, occur in the Elazığ area<sup>297</sup>, at Hakemi Use, Diyarbakır<sup>298</sup> and at Lidar Höyük<sup>299</sup>. Another similar pot, known from Horom, Armenia<sup>300</sup>, is also dated to the EIA. Another similar example, found at Tepecik, Elazığ<sup>301</sup>, is dated to the Iron Age. A parallel from the MBA to this type of pots without

<sup>292</sup> Müller 1999: Abb. 8, BB 02, BB03 (There are grooved and handled examples among those which are dated to 1075-1000 B.C.); Abb. 11, BB 02 (1000-900 B.C.).

<sup>293</sup> Belgiorno et al 1984b: fig.62:13.

<sup>294</sup> Müller 1999: Abb. 11, BB 06 (1000-900 B.C.).

<sup>295</sup> Dupré 1983: pl. 33: 212.

<sup>296</sup> Belgiorno et al. 1984b: fig. 62: 49.

<sup>297</sup> Sevin 1991a: fig. 2: 6.

<sup>298</sup> Tekin 2004: fig.8: 8.

<sup>299</sup> Müller 1999: Abb. 5, BB 02 (1100-1075 B.C.).

<sup>300</sup> Badaljan et al. 1993: fig. 12: 4.

<sup>301</sup> Esin 1970: pl. 7: 9.

a neck has been recovered at Lidar Höyük<sup>302</sup> and another parallel without decoration, dated to the LBA, at Porsuk, Niğde.<sup>303</sup>

### ***Types 17 and 18: Pots with a Short Neck***

The pots in this group, represented by 132 rim fragments, are distinguished mainly by their short necks. This pot form has two secondary forms at Büyükdıç:

#### ***Type 17: Pots with Very Short, Broad Neck***

38 rim fragments have been recovered belonging to this secondary form, which is defined as “pots with a very short, broad neck” because they have such necks. These fragments are considered under 14 separate types with regard to rim, neck and body characteristics:

##### *Type 17.1.*

This type consists in fragments of pots with a simple, everted rim, a very short neck and a spherical body (**Figure 55: 5-6**). No published examples from the Iron Age have been encountered of this type of pots with a spherical body and a rather short neck which was formed by bending the top of the body slightly upwards.

##### *Type 17.2.*

10 rim fragments (**Figure 56: 1-3**) have been recovered belonging to the type of pot with a simple rim, a broad and short neck and a spherical body, which is the most common among the group of pots with a very short, broad neck at Büyükdıç. The neck, shaped like a funnel, gets narrower from the shoulder towards the rim. There are two nobbed decorations below the rim of one example (**Figures 56: 2, 92: 2**). It is interesting that one of the nobbed decorations is on the bottom right-hand side of the other. A similar pot form with this type of decoration has been encountered in the LBA layer at Porsuk, Niğde<sup>304</sup>. A non-decorated example of this type is known from the same centre.<sup>305</sup> Parallels found at Untepe, Tokat (Niksar)<sup>306</sup> and at Lidar Höyük<sup>307</sup> prove that this form continued in the EIA.

<sup>302</sup> Kaschau 1999: Taf. 340: 5.

<sup>303</sup> Dupré 1983: pl. 32: 207.

<sup>304</sup> Dupré 1983: pl. 35: 218.

<sup>305</sup> Dupré 1983: pl. 35: 219.

<sup>306</sup> Durbin 1971: fig. 7: 51.

<sup>307</sup> Müller 1999: Abb. 11, BB 08 (1000-900 B.C.).

*Type 17.3.*

The two rim fragments recovered at Büyükkardıç that belong to the type of pot with a flat, simple rim, a broad, short and straight neck and a spherical body are distinguished by their relatively more straight necks. One of the rim fragments (**Figure 56: 4**) is a rather large example of this type with a mouth diameter of 38 cm and a thick wall. This fragment belongs to the greyish brown, burnished ware (group 3B).

*Type 17.4:*

The type of pot with a thickened-out rim, a broad, short neck and a spherical body, represented by two rim fragments at Büyükkardıç, differs from Type 17.3 with its thickened-out rim. It is interesting that a large pot fragment with a 40 cm wide mouth (**Figure 56: 5**), belongs to the better-quality, burnished ware brown on the outside and red on the inside (group 5B). Parallels dated to the EIA at Evdi Tepe, Van<sup>308</sup> in Eastern Anatolia and to Iron II (1000-800 B.C.) at Tappeh Gijlar in the Urmiya area<sup>309</sup> prove that this type continued in the EIA, although they are of the simple forms known from earlier periods.

*Type 17.5.*

The rim fragment (**Figure 56: 6**) belonging to the type of pot with a thickened-out, flat rim, a broad, short neck and a spherical body, represented by a single example, is very similar in its form and size to Types 17.3 and 17.4 but differs from them due to the grooved feature on its rim. The fragment belongs to the camelhair slipped, burnished ware (group 11B), one of the popular and select ware groups at Büyükkardıç.

*Type 17.6.*

It is possible to obtain information on the entire form, except the bottom, of the vessel (**Figure 57: 1**) belonging to the type of pot with a slightly everted, flat rim, a broad, short neck and a spherical body, represented by a single example at Büyükkardıç. The rim of the fragment, which has a spherical body and a rather short neck, is obliquely and flatly cut although it has a slight protrusion. There is a somewhat broad, horizontal band in relief on the vessel's shoulder. This potsherd, a rare and interesting example for Büyükkardıç, belongs to the yellowish beige, non-burnished ware (group 8A), again one of the rare groups of ware. A parallel form has been found in the layer of

<sup>308</sup> Sevin 2004: 182, 194-195, fig. 3: 2.

<sup>309</sup> Belgiorio et al. 1984b: fig. 62: 58-59.

Kordlar Tepe, Urmiya<sup>310</sup> dated to the LBA-Iron I, and another similar one from Anatolia in the MIA layer of Değirmentepe Malatya.<sup>311</sup>

*Type 17.7.*

The simple pots with a round, simple rim, a straight, short neck and a spherical body, represented by 3 rim fragments at Büyükardıç (**Figure 57: 2**), have a short-necked and low, spherical body. One of the fragments belongs to the grey, non-burnished ware (group 2A) and the other two belong to the grey, burnished ware (group 2B). A similar example of these pots with a simple form has been encountered at Lidar Höyük<sup>312</sup> and is dated to the EIA, and another one, dated to the MIA, at Değirmentepe, Malatya.<sup>313</sup>

*Type 17.8.*

There are two rim fragments at Büyükardıç that belong to the type of pot with a slightly everted, simple rim, a short, straight neck and a spherical body. One of them (**Figure 57: 3**) belongs to the grey, burnished ware (group 2B) and the other to the yellowish beige, non-burnished ware (group 8A), which occurs more rarely. The most distinguishing feature of this type is that the short neck is somewhat more sharply attached to the body. A similar example found at Evdi Tepe, Van<sup>314</sup> is dated to the EIA.

*Type 17.9.*

There are 4 rim fragments (**Figure 57: 4-7**) belonging to the type of pot with a simple or thickened-out rim, a very short neck and a spherical body. In this type of pots with a relatively narrower neck, the rim was formed as though by slightly everting the neck. Parallels to this type occur in large numbers in the EIA layers of Lidar Höyük<sup>315</sup> while a similar example dated to the EIA is known from Norşuntepe.<sup>316</sup> It is observed that this type continued into the MIA at Lidar Höyük.<sup>317</sup>

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<sup>310</sup> Lippert 1979: Abb. 7: 14.

<sup>311</sup> Ökse 1988: Abb. 876.

<sup>312</sup> Müller 1999: Abb. 11, BB 07 (1000-900 B.C.).

<sup>313</sup> Ökse 1988: Abb. 878, 1023.

<sup>314</sup> Sevin 2004: 182, 194-195, fig. 3: 2.

<sup>315</sup> Müller 1999: Abb. 5, BC 02 (1100-1075 B.C.); Abb. 9, BC 01 (1075-1000 B.C.); Abb. 15, BC 02 (850-800 B.C.).

<sup>316</sup> Bartl 1994: Abb. 17: 2.

<sup>317</sup> Müller 1999: Abb. 17, BC 02 (800-725 B.C.).

*Type 17.10.*

There are 2 rim fragments belonging to the type of pot with a thickened-out rim, a very short neck and a spherical body. One of them (**Figure 57: 8**) belongs to a larger pot and the other (**Figure 57: 9**) to a rather small pot which can be considered of miniature size. Similar examples dated to the EIA occur at Evdi Tepe, Van<sup>318</sup> and at Lidar Höyük.<sup>319</sup>

*Type 17.11.*

This type is a pot form with an everted, thickened-out rim, a very short neck and a spherical body. The rim fragment represented by a single example at Büyükdıç (**Figure 57: 10**) belongs to the light greyish beige, burnished ware (group 9B), which is a rare group. EIA and MIA parallels to this rare type, which has a mouth width of 28 cm and a rather thick wall, are known from Eastern Anatolia and its periphery. Examples from Lidar Höyük<sup>320</sup> and Untepe, Tokat (Niksar)<sup>321</sup>, dated to the EIA, and from Üyücek Tepe, Malatya<sup>322</sup> and İmamoğlu<sup>323</sup>, dated to the MIA, show that this type continued to be used during the Iron Age.

*Type 17.12.*

This rare type in the pot form with an inverted and everted rim and a short, conical neck, which is represented again by a single rim fragment (**Figure 58: 1**), has an EIA parallel known from İmikuşağı.<sup>324</sup> The fragment belongs to the reddish burnished ware (group 6B).

*Type 17.13.*

There are 2 rim fragments belonging to the type of pot with an everted rim, a short, broad neck and an oval body. One of the fragments (**Figure 58: 3**) belongs to the grey, wet-smoothed ware (group 2B) and the other (**Figure 58: 2**) to the camelhair slipped, burnished ware (group 11B). With no published parallels in Eastern Anatolia other than one example from Bulamaç Höyük, Erzurum<sup>325</sup> dated to the LBA-EIA, this

<sup>318</sup> Sevin 2004: 182, 194-195, fig. 3: 3.

<sup>319</sup> Müller 1999: Abb. 9, DB 05 (1075-1000 B.C.); Abb.15, BC 03 (850-800 B.C.).

<sup>320</sup> Müller 1999: Abb. 5, BC 01 (1100-1075 B.C.); Abb. 11, BC 04 (1000-900 B.C.).

<sup>321</sup> Durbin 1971: fig. 7: 65.

<sup>322</sup> Ökse 1988: Abb. 1036.

<sup>323</sup> Ökse 1988: Abb. 1091.

<sup>324</sup> Sevin 1995: fig. 16: 6.

<sup>325</sup> Güneri et al. 2003: fig. 7: 44.

simple type of pot has similar examples dated to Iron Ages I-III from Tappeh Gijlar,<sup>326</sup> Balu 1<sup>327</sup> and Balajuk<sup>328</sup> in the Urmiya area.

*Type 17.14.*

3 rim fragments at Büyükardıç belong to the type of pot with an inverted and everted, flat rim, a short neck and an oval body. Two of the fragments of this type with their rims both inverted and everted (**Figure 58: 4-5**) have ridge<sup>329</sup> decorations on their shoulders. Although they have more advanced form characteristics, these examples belong to the lower-quality micaceous grey burnished ware (group 1B). A published similar example of this type, dated to the EIA, occurs at Balu 1, Urmiya<sup>330</sup>.

***Type 18: Pots with a Short, Broad Neck***

94 rim fragments have been recovered belonging to this secondary form, defined as “pots with a short, broad neck” because they have such necks. These fragments are considered under 13 separate types with regard to rim, neck and body features:

*Type 18.1.*

This first type of the pots with a short, broad neck, which has a simple rim, a short, broad and straight neck and a round body, is represented by 3 examples (**Figure 59: 1-3**) which have a longer neck than the types in Type 17. The fragments of this simple type of pot, belonging to this type with a simple rim and a short, broad neck, belong to the micaceous grey burnished ware (group 1B), the grey burnished ware (group 2B) and the camelhair slipped, non-burnished ware (group 11A).

*Type 18.2.*

At Büyükardıç, 20 rim fragments (**Figure 59: 4-7**) have been recovered belonging to the type of pot with a simple rim, a short, broad and excurving neck and a round body. The rim fragments belonging to this type, which has examples from most ware groups, differ from Type 18.1 in only that they have an excurving neck. EIA

<sup>326</sup> Belgiorio et al. 1984b: fig. 62: 77.

<sup>327</sup> Belgiorio et al. 1984: fig. 24: 52.

<sup>328</sup> Belgiorio et al. 1984: fig. 25: Urmiya-Balajuk:44.

<sup>329</sup> For this type of decoration, Ökse (1999: 34, note 461) uses the term “ridge”.

<sup>330</sup> Belgiorio et al. 1984: fig. 24: 70. This similar example at Balu 1 is dated to Iron I-II according to the chronology of Iran.

similar examples of this type have been found at İmikuşağı<sup>331</sup> in Eastern Anatolia, at Sangar<sup>332</sup> in the Sevan area, Armenia, and at Dinkha Tepe<sup>333</sup> in the Urmiya area, Northwestern Iran.

### *Type 18.3.*

There are 2 rim fragments belonging to the type of pot with a slightly inverted rim, a short, broad and excurving neck and a round body, which are interesting with regard to the lip form. One of them (**Figure 59: 8**) belongs to the light greyish beige, burnished ware (group 9B), which has few known examples, while the other (**Figure 59: 9**) belongs to the camelhair slipped, burnished ware (group 11B), one of the most popular ware groups at Büyükdıç. No examples similar to these two pots have been encountered among the published EIA ceramics from Eastern Anatolia and its periphery.

### *Type 18.4.*

At Büyükdıç, only one rim fragment (**Figure 60: 1**) has been found belonging to the type of pot with a round, simple rim, a short, broad and slightly excurving neck and a round body. This fragment, with an everted rim, notable with its short neck which forms an elbow, belongs to the brown, non-burnished ware (group 4A).

### *Type 18.5.*

This type, consisting in fragments of pots with a flat, simple rim, a short, broad and slightly excurving neck and a round body (**Figure 60: 2-4**), is represented by 3 rim fragments among the Büyükdıç EIA ceramics. One of the fragments (**Figure 60: 2**), which belongs to the reddish burnished ware (group 6B), has a similar example recovered at Hoburnu Tepe, Bayburt<sup>334</sup>, which is dated to the Iron Age. The second fragment (**Figures 60: 3, 92: 5**), which belongs to the rarely found greenish beige ware (group 7), has similar examples dated to the EIA at Lidar Höyük<sup>335</sup> and at Horom<sup>336</sup> in Armenia, and another similar example with grooved decorations on its shoulder at Balu 1 in the Urmiya area.<sup>337</sup>

<sup>331</sup> Sevin 1995: fig. 14: 11; fig. 16: 2.

<sup>332</sup> Tumanyan 2002: Tab. 5: 14.

<sup>333</sup> Muscarella 1974: fig. 28: 255.

<sup>334</sup> Sagona and Sagona 2004: 185, fig. 153: 11.

<sup>335</sup> Müller 1999: Abb. 13, BC 05 (900-850 B.C.).

<sup>336</sup> Badaljan 1994: fig. 12: 4.

<sup>337</sup> Belgiorio et al. 1984: fig. 24: 66. (This example, decorated with grooves on the shoulder, is dated to Iron I-II.)

*Type 18.6.*

Among the pots with a short neck, the type of pot with a flat, simple rim, a short, broad and excurving neck and a round body constitutes the third most intensive group with 12 rim fragments (**Figure 60: 5-10**). Large vessels with a mouth up to 52 cm wide (**Figure 60: 10**) as well as those of medium size (**Figure 60: 5-7**) occur among this type of pots with a neck sharply excurving from the shoulder and a simple lip. An earlier parallel to the example in Figure 60:5 of this common EIA form is known from the MBA layer of Lidar Höyük<sup>338</sup>. Similar examples from the EIA exist at Karagündüz, Van<sup>339</sup>, and a similar example with grooved decorations on the shoulder at Balu 1, Urmiya.<sup>340</sup> EIA parallels to another pot (**Figure 60: 6**) have been recovered from Lidar Höyük<sup>341</sup> and Gordion.<sup>342</sup> Another example (**Figures 60: 7, 100: 2**) may be compared with a pot recovered in the LBA-Iron I layer at Kordlar Tepe, Urmiya.<sup>343</sup> Yet another example, dated to the MIA, is known from Kaleköy, Malatya.<sup>344</sup> EIA-dated similar ones to another example of this type (**Figure 60: 9**) occur at Lidar Höyük<sup>345</sup> and at Tappeh Gijlar, Urmiya.<sup>346</sup> The example with a mouth diameter of 52 cm (**Figure 60: 10**) has typological similars dated to the MBA from Lidar Höyük<sup>347</sup> and to Iron III from Balu 1, Urmiya<sup>348</sup>.

*Type 18.7.*

At Büyükdıç, six rim fragments (**Figure 61: 1-3**) have been recovered belonging to the type of pot with a thickened, flat rim, a short, broad and excurving neck and a round body. Similar ones to this type of pots with a relatively large size occur at Tappeh Gijlar, Urmiya<sup>349</sup>, which are dated to Iron II (1000-800 B.C.) according to the chronology of Iran, and at Lidar Höyük<sup>350</sup>, which are dated to the MIA.

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<sup>338</sup> Kaschau 1999: Taf. 61: 3.

<sup>339</sup> Sevin and Kavaklı 1996: fig. 25: 12.

<sup>340</sup> The example in Belgiorno et al. 1984: fig. 24: 66 is dated to Iron I-II (1350-800 B.C.) according to the chronology of Iran.

<sup>341</sup> Müller 1999: Abb. 3, CA 01 (1200-1100 B.C.).

<sup>342</sup> Henrickson 1994: fig. 10.4: g.

<sup>343</sup> Lippert 1979: Abb. 2: 1.

<sup>344</sup> Ökse 1988: Abb. 1044.

<sup>345</sup> Müller 1999: Abb. 8, AE 02 (1075-1100 B.C.); Abb. 15, BC 01 (850-800 B.C.).

<sup>346</sup> Belgiorno et al. 1984b: fig. 62: 75.

<sup>347</sup> Kaschau 1999: Taf. 61: 8.

<sup>348</sup> Belgiorno et al. 1984: fig. 24: 64-65.

<sup>349</sup> Belgiorno et al. 1984b: fig. 62: 75.

<sup>350</sup> Müller 1999: Abb. 18, CA 16 (800-725 B.C.).



*Type 18.8.*

This common type with a thickened, round rim, a short, broad and excurving neck, and a round body, represented by 10 rim fragments (**Figure 61: 4-6**), is a type of short-necked pot with a rather classic form. There are similar examples of this type at Kordlar Tepe, Urmiya<sup>351</sup>, which are dated to the LBA-Iron I, and a parallel at Haroğlu, Elazığ<sup>352</sup>, which is dated to the EIA.

*Type 18.9.*

It is of the type of pot with a thickened, grooved rim, a short, broad and excurving neck and a round body, of which only one example (**Figure 61: 7**) has been found. The groove on the rim is a feature that distinguishes this type from Type 18.8. This rim fragment belongs to the camelhair slipped, burnished ware (group 11B), one of the popular and better-quality ware groups.

*Type 18.10.*

This type of pot, which has a rather simple form, with a round, simple rim, a short, broad, excurving neck and a spherical body, has only one example at Büyükdıç (**Figure 62: 1**). This large pot, which belongs to the rarely found yellowish, beige non-burnished ware (group 8A), has similar examples dated to the EIA occurring at İmikuşağı<sup>353</sup> and Lidar Höyük.<sup>354</sup>

*Type 18.11.*

Within the group of pots with a short, broad neck at Büyükdıç, 22 rim fragments (**Figure 62: 2-7**) have been recovered belonging to the type of pot with a simple rim, a short, broad, excurving neck and a round body. The fact that 16 of them belong to the red slipped, burnished ware (group 10) indicates that a more select and better-quality ware was preferred in this form. Five of the remaining fragments belong to the camelhair slipped, burnished ware (group 11B), again one of the widespread and better quality ware groups at Büyükdıç. The last example in this group (**Figure 62: 7**) belongs to the light greyish beige, burnished ware (group 9B), one of the rare groups. On the shoulder of this fragment, there is a notched and grooved decoration, in which

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<sup>351</sup> Lippert 1979: Abb. 1.

<sup>352</sup> Sevin 1987: fig. 43: 7.

<sup>353</sup> Sevin 1995: fig.16:1.

<sup>354</sup> Müller 1999: Abb. 11, BC 5 (1000-900 B.C.).

two characteristic types of decoration in the EIA were used together. An example closely similar to the rim fragment in Figure 62:4 has been found in the LBA layer at Porsuk, Niğde.<sup>355</sup>

*Type 18.12.*

Among the pots recovered at Büyükardıç, this type of pot with a grooved rim, a short, broad, excurving neck and a round body displays the feature of a select profile with its grooved rim, probably designed for putting the lid, and with a single row of band decorations on its shoulder. At Büyükardıç, 5 rim fragments have been found belonging to this type. Of the examples recovered, one (**Figure 63: 1**) belongs to the greenish beige ware (group 7) and two (**Figures 63: 2, 97: 2**) belong to the light greyish beige, burnished ware (group 9B), both of which are more rarely found ware groups, while the other two examples belong to the non-burnished and burnished groups of camelhair slipped ware (group 11), one of the more widespread and select ware groups.

An LBA-dated example similar to Figure 63:2 has been found at Porsuk, Niğde,<sup>356</sup> and another example, similar with regard to the rim only, in the EIA layer at Gordion.<sup>357</sup> Yet another similar example, found in structure layer III at Maşat Höyük,<sup>358</sup> is dated to the Iron Age. A typologically similar example dated to the EIA-MIA to the example with a notched, ridge decoration on its shoulder (**Figure 63: 1**) has been found at İmikuşağı<sup>359</sup>, and other similar examples dated to the Iron Age have been found at Maşat Höyük.<sup>360</sup>

*Type 18.13.*

The vessels belonging to the type of pot with a thickened rim, a short, broad, excurving neck and a spherical body, represented by 8 rim fragments at Büyükardıç (**Figure 63: 3-7**), are generally of large size. Of these fragments, two belong to the brown, burnished ware (group 4B) and three each to the red slipped, burnished ware (group 10) and to the camelhair slipped, burnished ware (group 11B). In some examples (**Figures 63: 3-5, 97: 1**), there are one or two rows of ridge decoration on the shoulder.

<sup>355</sup> Dupré 1983: pl. 26: 160.

<sup>356</sup> Dupré 1983: pl. 26: 159.

<sup>357</sup> Henrickson and Voigt 1998: fig. 15: 3.

<sup>358</sup> Özgüç 1982: fig. K: 4.

<sup>359</sup> Sevin 1995: fig. 18: 3.

<sup>360</sup> Durbin (1971: 109, fig. 7: 55) states that this type is abundant in the late Hittite layers at Boğazköy. For another similar example, see Özgüç 1982: fig. J: 11, K: 6.

The pot in Figures 63: 3, 97: 1 has a similar example from the LBA occurring at Tserovani in the Mtskheta region, Georgia<sup>361</sup>. Similar from the EIA to the same example have been found at İmikuşağı, Malatya<sup>362</sup> and at Lidar Höyük<sup>363</sup>. An EIA-dated similar to another example (**Figures 63: 5, 96: 2**) is known from Aşağı Karaçay, Van<sup>364</sup>. A pot from Tappeh Gijlar, Urmiya, Iran<sup>365</sup>, similar to the pot in Figures 63: 6, 99: 1 is dated to Iron II (1000-800 B.C.) while a parallel to the pot in Figure 63: 7 has been found in the LBA-Iron I context at Kordlar Tepe, Urmiya.<sup>366</sup>

### ***Type 19: Pots with a Long Neck***

165 rim fragments have been recovered belonging to this secondary form, defined as “pots with a long neck” because they generally have such necks. These fragments are considered under 20 separate types with regard to rim, neck and body features.

#### *Type 19.1.*

Type 19.1. consists in fragments of pots with a simple rim and a long, narrow and straight neck (**Figure 64: 1-4**). At Büyükdıç, 14 rim fragments have been recovered belonging to this type, five of which belong to the camelhair slipped, burnished ware (group 11B). Close similars to the example of this type in Figure 64:3 have been found in the EIA layers at Lidar Höyük<sup>367</sup>. A typological parallel to the pot in Figure 64: 2 is dated to Iron II from Dinkha Tepe, Urmiya.

#### *Type 19.2.*

This type, represented by 2 rim fragments, consists of pots with a long, narrow and straight neck and a broad, relief band on the neck. No published similar examples of this type have been encountered. Of the Büyükdıç examples, one belongs to the micaceous grey, burnished ware (group 1B) and the other (**Figure 64: 5**) to the brown slipped ware (group 4C).

<sup>361</sup> Sadradze 1991: LI, fig. 3.

<sup>362</sup> Sevin 1995: fig. 17: 2.

<sup>363</sup> Müller 1999: Abb. 12, CA 07 (1000-900 B.C.).

<sup>364</sup> Marro and Özfiat 2004: pl. 15: 1.

<sup>365</sup> Belgiorio et al. 1984b: fig. 62: 84.

<sup>366</sup> Lippert 1979: Abb. 3: 2.

<sup>367</sup> Müller 1999: Abb. 3, DB 04 (1200-1100 B.C.); Abb. 6, DB 05 (1100-1075 B.C.).

*Type 19.3.*

The pots with an everted, flat rim and a long, narrow and slightly excurving neck constitute this type. The pots, represented by two rim fragments (**Figure 64: 6-7**) which belong to the camelhair slipped, burnished ware (group 11B), have LBA-EIA dated similars occurring at Türker Tepe, Soğkom, Muş.<sup>368</sup>

*Type 19.4.*

At Büyükdıç, four rim fragments have been recovered belonging to this type which consists in fragments of pots with an everted rim and a long, narrow and straight neck. With regard to an example that belongs to the grey, burnished ware (group 2B) (**Figure 65: 1**), a similar example recovered from Evdi Tepe, Van<sup>369</sup> is attributed to the EIA while another simple example, found at Aksaçlı, Bayburt<sup>370</sup>, is dated to the Iron Age. Another example (**Figure 65: 2**), belonging to the greyish brown, burnished ware (group 3B) may be compared with parallels attributed to the LBA at Kari Dur in the Sevan region, Armenia<sup>371</sup>, to the EIA at Lidar Höyük<sup>372</sup>, to Iron II (1000-800 B.C.) at Tappeh Gijlar, Urmiya<sup>373</sup> according to the chronology of Iran, and to the Iron Age at Çayır yolu Tepe 1, Bayburt<sup>374</sup>. In the rim fragment in Figures 65: 3, 93: 5, which belongs to the grey non-burnished ware (group 2B), there is a zigzag decoration between two horizontal bands on the vessel's shoulder. EIA-dated examples with a remote similarity to this fragment in terms of typology and decoration have been encountered at Aliler Kale, Van.<sup>375</sup>

*Type 19.5.*

There are 10 rim fragments (**Figure 65: 4-8**) belonging to the type of pot with an everted, thickened rim and a long, narrow, straight neck. This type, consisting in long-necked pots of medium and large size, appears to have been common in the EIA. In some examples (**Figure 65: 4-5**), there is a groove on the everted lip. A similar example of this type is known from Evdi Tepe, Van.<sup>376</sup> Other similar examples, attributed to the

<sup>368</sup> Rothman 2004: 172, fig. 8: 19.10.

<sup>369</sup> Sevin 2004: 182, 192-193, fig. 2: 14.

<sup>370</sup> Sagona and Sagona 2004: 184, fig. 115: 1-2.

<sup>371</sup> Tumanyan 2002: Tab.4:3.

<sup>372</sup> Müller 1999: Abb. 3, BA 03 (1200-1000 B.C.); Abb. 6, DB 08 (1100-1075 B.C.); Abb. 9, DB 06 (1075-1000 B.C.); Abb. 12, CB 03 (1000-900 B.C.).

<sup>373</sup> Belgiorio et al. 1984b: fig. 62: 73.

<sup>374</sup> Sagona and Sagona 2004: 183, fig. 137: 2.

<sup>375</sup> The only difference of the example in Sevin 2004: 184-185, fig. 4: 3 from the Büyükdıç pot is the inversion noted in the rim of the one at Aliler Kale.

<sup>376</sup> Sevin 2004: 182, 192-193, fig. 3: 1.

EIA, of the pot rim in Figure 65: 6 have been found again at Evdi Tepe, Van<sup>377</sup> and at Lidar Höyük.<sup>378</sup> Another similar example of the same type, dated to the Iron Age, is known from Hoburnu Tepe, Bayburt<sup>379</sup>, and an example similar to the one in Figure 65: 7 from Eski Koyeri Tepe 2, which is also in the Bayburt area.

#### *Type 19.6.*

At Büyükardıç, there is a single rim fragment belonging to the type of pot with a thickened-out rim and a long, narrow, straight neck. This example, whose neck is completely groove-decorated, (**Figure 66: 1**) belongs to the reddish burnished ware (group 6B).

#### *Type 19.7.*

One rim fragment (**Figure 66: 2**) has been recovered belonging to the type of pot with a thickened-out, grooved rim and a long, narrow, straight body. The fragment belongs to the brown burnished ware (group 4B). EIA examples of this type, whose rim is grooved in the top, occur at Lidar Höyük<sup>380</sup>. Another parallel example from Kul, Urmiya is dated to Iron I-II according to the chronology of Iran.

#### *Type 19.8.*

At Büyükardıç, there are two rim fragments belonging to this type of pot with a thickened-out rim and a long, straight neck. One of these examples, which belong to large pots, (**Figure 66: 3**) belongs to the reddish burnished ware (group 6B). A similar example of this type, dated to the EIA-MIA, occurs at İmikuşağı, Malatya<sup>381</sup> and another one, dated to the MIA, at Lidar Höyük.<sup>382</sup>

#### *Type 19.9.*

This type of pot with a thickened and everted rim and a long, straight neck is also represented by a single example (**Figure 66: 4**) at Büyükardıç. The rim fragment, belonging to a large and simple pot, belongs to the greyish brown, burnished ware (group 3B). This type may be compared with an example found in the EIA layer at Lidar Höyük.<sup>383</sup>

<sup>377</sup> Sevin 2004: 182, 192-193, fig. 3: 1.

<sup>378</sup> Müller 1999: Abb. 3, DB 05 (1200-1100 B.C.).

<sup>379</sup> Sagona and Sagona 2004: 183, fig. 153: 8.

<sup>380</sup> Müller 1999: Abb. 11, BB 05 (1000-900 B.C.).

<sup>381</sup> Sevin 1995: fig. 17: 4.

<sup>382</sup> Müller 1999: Abb.17, AE 04 (800-725 B.C.).

<sup>383</sup> Müller 1999: Abb. 8, AE 01 (1075-1000 B.C.).

*Type 19.10.*

At Büyükdıç, 13 rim fragments (**Figure 67: 1-5**) have been recovered belonging to the type of pot with a thickened and everted rim and a long, narrow, straight neck. One of the rim fragments, which have examples of small, medium and large size, (**Figure 67: 5**) belongs to a rather large pot with its 36 cm wide mouth. Although it belongs to such a large pot, this rim fragment is within the camelhair slipped, burnished ware (group 11B), one of the select and widespread ware groups at Büyükdıç. The most noticeable feature of this type is that its thickened rim is everted.

One of the Büyükdıç examples (**Figure 67: 2**) may be compared with a similar pot dated to the EIA from Lidar Höyük.<sup>384</sup> Another example (**Figure 67: 3**) has a similar from Çayıroğlu Tepe 3, Bayburt<sup>385</sup>, which is dated to the Iron Age. The above-mentioned rim fragment belonging to a large pot (**Figure 67: 5**) has typological parallels from Lidar Höyük<sup>386</sup> dated to the EIA and from Çengiler Tepe, Bayburt<sup>387</sup> dated to the MIA.

*Type 19.11.*

This type consists in pots with a thickened, everted and grooved rim and a long, narrow, straight neck. Ten rim fragments belonging to this group have been recovered. The type of pots in this group, which may be compared typologically with the examples of Type 18: 2, have longer and straighter necks. Of the sherds of this type, 3 rim fragments belonging to the red slipped, burnished ware (group 10) and another 3 belonging to the camelhair slipped, burnished ware (group 11B) are included among the select vessels of Büyükdıç in terms of both form and ware group. With regard to another example (**Figure 67: 6**) which belongs to the burnished ware brown on the outside and red on the inside (group 5B), examples with a similar form dated to the EIA occur at Gre Dimse, Diyarbakır<sup>388</sup> and at Bedri Dosh in the Sevan region, Armenia<sup>389</sup> while similar examples dated to the MIA occur at Değirmentepe, Malatya<sup>390</sup> and Porsuk, Niğde<sup>391</sup>. Another pot rim fragment (**Figure 67: 7**) which belongs to the greyish brown, burnished ware (group 3B) may be compared with similar examples dated to the EIA from İmikuşağı<sup>392</sup> and dated to the MIA from Porsuk, Niğde<sup>393</sup>.

*Type 19.12.*

At Büyükdıç, 13 rim fragments (**Figure 68: 1-5**) of small, medium and large size have been recovered belonging to the type of pot with an everted rim and a long,

<sup>384</sup> Müller 1999: Abb. 9, DB 04 (1075-1000 B.C.).

<sup>385</sup> Sagona and Sagona 2004: 184, fig. 140: 10.

<sup>386</sup> Müller 1999: Abb. 8, BB 05 (1075-1000 B.C.).

<sup>387</sup> Sagona and Sagona 2004: 184, fig. 192: 3.

<sup>388</sup> Karg 2001: fig. 9.

<sup>389</sup> Tumanyan 2002: Tab. 6:7.

<sup>390</sup> Ökse 1988: no. 374.

<sup>391</sup> The pot with similar form in Dupré 1983: pl. 88: 225 has a paint decoration.

<sup>392</sup> Sevin 1995: fig. 18: 3.

<sup>393</sup> The pot with similar form in Dupré 1983: pl. 88: 230 has a paint decoration.

narrow, straight neck. Of the fragments, whose lip parts are noticeably everted, nine concentrate in the light greyish beige, burnished ware (group 9B). Similar examples of this type which are dated to the LBA have been recovered at Porsuk, Niğde<sup>394</sup>, ones dated to the EIA at Lidar Höyük<sup>395</sup> and at Tappeh Gijlar<sup>396</sup> and Dinkha Tepe<sup>397</sup> in Urmiya, and one attributed to the MIA at Değirmentepe, Malatya.<sup>398</sup>

#### *Type 19.13.*

Consisting in pots with a simple, everted rim and a long neck, this type forms the most heavily represented group with 28 rim fragments (**Figure 69: 1-5**). Rather large pieces (Figure 69: 5) with a mouth up to 52 cm wide are also encountered among the rim fragments of this type with examples in almost every ware group. With regard to the rim fragments of this type that belong to small pots (**Figure 69: 1-2**), similar examples attributed to the EIA have been found at Evdi Tepe, Van<sup>399</sup> and Lidar Höyük<sup>400</sup>, and parallels dated to the Iron Age at Akşar Höyük, Bayburt<sup>401</sup> and Pulur (Danişment)<sup>402</sup>. An Iron Age-dated typological similar to another example (**Figure 69: 4**) has been recovered from Değirmentepe, Bayburt.<sup>403</sup>

#### *Type 19.14.*

Consisting in pots with a slightly thickened, everted rim and a long, narrow neck, similar to Type 19.13 and represented by 17 rim fragments (**Figure 69: 6-9**), this type is also among the popular forms at Büyükardıç. An example similar to one of this group (**Figure 69: 6**) has been found at Pulur (Danişment), Bayburt<sup>404</sup>. Examples attributed to the EIA which are similar to the rim fragment in Figure 32: 7 occur at Lidar Höyük<sup>405</sup> and at Tappeh Gijlar<sup>406</sup> and Dinkha Tepe<sup>407</sup>, Urmiya. One which is similar to another example and attributed to the Iron Age has been found at Akşar Höyük, Bayburt<sup>408</sup> and one dated to the EIA at Dinkha Tepe, Urmiya.<sup>409</sup>

<sup>394</sup> Dupré 1983: pl. 37: 231; , pl. 37: 234.

<sup>395</sup> Müller 1999: Abb. 3, CB 01 (1200-1100 B.C.); Abb. 13, AE (900-850 B.C.).

<sup>396</sup> Belgiorio et al. 1984b: fig. 62: 86.

<sup>397</sup> Muscarella 1974: fig. 37: 169.

<sup>398</sup> Ökse 1988: no. 375.

<sup>399</sup> Sevin 2004: 182, 192-193, fig. 2: 12

<sup>400</sup> Müller 1999: Abb. 12, DA 02 (1000-900 B.C.); Abb. 9, DA 01 (1075-1000 B.C.).

<sup>401</sup> Sagona and Sagona 2004: 184, fig. 123: 9.

<sup>402</sup> Sagona and Sagona 2004: 184, fig. 116: 11; fig. 116: 14.

<sup>403</sup> Sagona and Sagona 2004: 184, fig. 147: 13.

<sup>404</sup> The example in Sagona and Sagona 2004: 183, fig. 116: 14 is dated to the Iron Age.

<sup>405</sup> Müller 1999: Abb. 14, DB 05 (900-850 B.C.).

<sup>406</sup> Belgiorio et al. 1984b: fig. 62: 98.

<sup>407</sup> Muscarella 1974: fig. 27: 422.

<sup>408</sup> Sagona and Sagona 2004: 183, fig. 123: 9.

<sup>409</sup> Muscarella 1974: fig. 26: 252.

*Type 19.15.*

There are two rim fragments belonging to the type of pot with a slightly everted, simple rim and a long neck, which is rather simple and which may belong to any period. A large potsherd with a 32 cm wide mouth (**Figure 70: 1**) belongs to the reddish burnished ware (group 6B). An EIA parallel to this example occurs at Genefik, Elazığ<sup>410</sup> while similar forms found at Büyüktepe, Bayburt<sup>411</sup> and Çayırlyolu Tepe 3<sup>412</sup> are dated to the Iron Age.

*Type 19.16.*

At Büyükdıç, there are 11 rim fragments belonging to the type of pot with an everted, simple rim and a long neck. The examples of this type, which has a rather simple rim and a broad, excurving neck, include pots of small, medium and large size (**Figure 70: 2-6**). A small pot (**Figure 70: 3**) belonging to the grey burnished ware (group 2B) has a similar from Toprakkale, Erzurum<sup>413</sup> which is attributed to the EIA. A fragment dated to the Iron Age from Kale, Bayburt<sup>414</sup> may be compared with Figure 70: 5 in terms of form. A rim fragment (**Figure 70: 6**) belonging to a large pot in this group may be compared with examples of similar form which are dated to the EIA at Lidar Höyük<sup>415</sup> and to the Iron Age at Kazlarboğazı Tepe, Bayburt.<sup>416</sup>

*Type 19.17.*

There is a single rim fragment belonging to this type of pot with an everted, long, simple rim and a long, narrow neck. Close similars, dated to the EIA and MIA, to the fragment (**Figure 70: 7**) belonging to the brown burnished ware (group 4B) have been recovered at Lidar Höyük<sup>417</sup>.

*Type 19.18.*

Five examples (**Figure 71: 1-2**) have been recovered belonging to this type, which consists in fragments of simple pots with an everted rim and a long, narrow neck.

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<sup>410</sup> Sevin 1987: fig. 22: 5.

<sup>411</sup> Sagona et al. 1992: fig. 5: 14.

<sup>412</sup> Sagona and Sagona 2004: 183, fig. 140: 3.

<sup>413</sup> Başgelen and Özfirat 1996: pl. 7: 3.

<sup>414</sup> Sagona and Sagona 2004: 184, fig. 112: 11.

<sup>415</sup> Müller 1999: Abb. 6, DA 01 (1100-1075 B.C.).

<sup>416</sup> Sagona and Sagona 2004: 184, fig. 184: 3.

<sup>417</sup> Müller 1999: Abb. 10, AC 02 (1000-900 B.C.); Abb.19, AC 02 (725-650 B.C.).



*Type 19.19.*

There are 25 rim fragments belonging to the type of pot with an everted, thickened, flat rim and a long neck, which is quite common at Büyükardıç. It is observed that pots of this type are generally of large size. There is a fine groove on the rim of one example (**Figure 71: 3**). A typological parallel to this pot, dated to the EIA, has been found at Kırkgöze, Muş<sup>418</sup>. Another example (**Figure 71: 4**) may be compared with similar ones attributed to the EIA from Okçuhan, Muş<sup>419</sup> and to the Iron Age from Balta Kaya Tepe 1, Bayburt<sup>420</sup>. Parallels attributed to the EIA to another large pot fragment of this type (**Figure 71: 5**) have been found at Kırkgöze, Muş<sup>421</sup>, Lidar Höyük<sup>422</sup> and Gordion<sup>423</sup>.

*Type 19.20.*

Three rim fragments have been found belonging to the type of pot with an everted, pointed rim and a long neck. Typologically similar examples of the fragment that belongs to the camelhair slipped, burnished ware (group 11B) (**Figure 71: 6**) have been found at Bahçecik, Bingöl<sup>424</sup> and at Lidar Höyük<sup>425</sup> and dated to the EIA.

***Type 20: Pots with a Conical Neck***

44 rim fragments have been recovered belonging to this secondary form which is described as “pots with a conical neck” because they generally have a conical neck which gets narrower towards the mouth. Of these fragments, 14 belong to the light greyish beige, burnished ware (group 9B) and 24 to the camelhair slipped, burnished ware (group 11B). These numbers indicate that the two ware groups in question were preferred for the pots with a conical neck. These fragments, belonging to such large pots as may also be regarded as pithoi in general, are considered under 6 separate types with respect to rim, neck and body features:

*Type 20.1.*

The common feature of the examples that belong to the type of pot with an everted, thickened-out rim, a broad neck and a long body, represented by three rim

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<sup>418</sup> Özfirat 2001: fig. 10: 2.

<sup>419</sup> Özfirat 2001: fig. 10: 4.

<sup>420</sup> Sagona and Sagona 2004: 184, fig. 142: 12, 140: 3.

<sup>421</sup> Özfirat 2001: fig. 10: 3.

<sup>422</sup> Müller 1999: Abb. 4, BA 03 (1100-1075 B.C.).

<sup>423</sup> The similar example in Henrickson 1994: fig. 10.6: f has a ledge in addition.

<sup>424</sup> Sevin 1987: fig. 22: 5.

<sup>425</sup> Müller 1999: Abb. 6, DB 09 (1100-1075 B.C.).

fragments (**Figure 72: 1-3**) is that they have a notched relief band decoration on the neck. These vessels have a mouth width of 40 to 48 cm and a wall thickness of 1.2 cm on average. Although they belong to rather large vessels, these fragments cannot be classified as pithoi due to their wall thickness. All three examples belong to the camelhair slipped, burnished ware (group 11B), one of the widespread and better-quality ware groups at Büyükdıç. A typological parallel to one of the examples (**Figure 72: 2**) has been found in the MBA layer at Lidar Höyük.<sup>426</sup> Both fragments are quite similar in terms of size, neck development, and decoration. A typologically similar example of another rim fragment (**Figure 72: 3**) belonging to this type has been found in the EIA layer again at Lidar Höyük.<sup>427</sup>

#### *Type 20.2.*

At Büyükdıç, eight rim fragments (**Figure 73: 1-2**) have been recovered belonging to the type of pot with a thickened-out rim, a short neck and a long body. It is noted that 5 of them is from the camelhair slipped, burnished ware (group 11B), again a widespread and select ware group. EIA parallels to this type, which generally consists of rather large pots, occur at Untepe, Niksar (Tokat)<sup>428</sup> and Lidar Höyük<sup>429</sup>. The example at Lidar Höyük belongs to a smaller pot. Although their rims are rather wide, the Büyükdıç examples cannot be described as pithoi since their body heights are unknown.

#### *Type 20.3.*

The type of pot with an everted, thickened rim, a short neck and a long body is also represented by 8 rim fragments (**Figure 73: 3-5**). Four of the fragments of large pots belong to the camelhair slipped, burnished ware (group 11B) and the other four to the light greyish beige, burnished ware (group 9B). A similar example of this type, dated to the EIA, occurs at Tsovinar, in the Sevan region, Armenia.<sup>430</sup>

#### *Type 20.4.*

This type consists in fragments of pots with an everted, thickened-out rim, a short neck and a long body. The rim fragments in this group, represented by seven rim fragments (**Figures 73: 6-7, 98: 2**), belong to rather large pots. Since it has not been possible to obtain information about their entire bodies, the term “pithos” is not used for these vessels. Four of the rim fragments belong to the camelhair slipped, burnished ware

<sup>426</sup> Kaschau 1999: Taf. 220: 2.

<sup>427</sup> Müller 1999: Abb. 4, AE 02 (1100-1075 B.C.).

<sup>428</sup> Durbin 1971: fig. 7: 87.

<sup>429</sup> Müller 1999: Abb. 5, CA 07 (1100-1075 B.C.)

<sup>430</sup> Tumanyan 2002: Tab. 10: 4.

(group 11B). This group of large pots may be compared typologically with a smaller pot found at Lidar Höyük, which is attributed to the EIA.<sup>431</sup>

#### *Type 20.5.*

The fragments belonging to the type of pot with an everted, thickened rim, a short, conical neck and a long body, represented by 4 rim fragments at Büyükdıç, also belong to rather large vessels. There is a notched, horizontal relief band decoration on the shoulder of one example (**Figures 74: 1, 99: 2**). This fragment may be compared typologically with a similar pot of smaller size from Lidar Höyük<sup>432</sup>, which is attributed to the EIA. Those similar to another example (**Figure 74: 2**) which are dated to the EIA have been encountered at Lidar Höyük.<sup>433</sup> Similar examples found at Çengiler Tepe, Bayburt<sup>434</sup> and Çayırıyolu Tepe 3<sup>435</sup> are dated to the Iron Age.

#### *Type 20.6.*

14 rim fragments have been found belonging to the type of pot with an everted, thickened rim, a short neck and a long body. Of the fragments, 5 belong to the light greyish beige, burnished ware (group 9B) and 7 to the camelhair slipped, burnished ware (group 11B). On the neck of one example (**Figure 74: 3**), there is a round, impressed relief band decoration. This fragment may be compared typologically with a pot found at Çayırıyolu Tepe 4, Bayburt<sup>436</sup>, which is dated to the Iron Age. With respect to another example (**Figure 74: 4**), a similar example attributed to the LBA-EIA has been found at Erentepe (Liz), Muş; another similar example attributed to the EIA at Lidar Höyük<sup>437</sup>; and a parallel dated to the Iron Age at Çengiler Tepe, Bayburt<sup>438</sup>. Similar to another example (**Figure 74: 5**), which are attributed to the EIA, occur at Lidar Höyük.<sup>439</sup> Another example (**Figure 74: 6**) which has a groove on its everted rim

<sup>431</sup> Müller 1999: Abb. 9, CA 05 (1075-1000 B.C.).

<sup>432</sup> Müller 1999: Abb. 9, CA 07 (1075-1000 B.C.).

<sup>433</sup> Müller 1999: Abb. 3, BA 02 (1200-1000 B.C.); A smaller pot in Abb. 5, CA 06 (1100-1075 B.C.); Müller 1999: Abb. 14, CA 05 (900-850 B.C.).

<sup>434</sup> Sagona and Sagona 2004: 185, fig. 192: 12.

<sup>435</sup> Sagona and Sagona 2004: 185, fig. 141: 3.

<sup>436</sup> Sagona and Sagona 2004: 184, fig. 142: 4.

<sup>437</sup> Müller 1999: Abb. 14, CA 10 (900-850 B.C.).

<sup>438</sup> Sagona and Sagona 2004: 185, fig. 192: 11.

<sup>439</sup> Müller 1999: Abb. 14, CA 07 (900-850 B.C.); Abb. 16 CA 11 (850-800 B.C.).

may be compared with pots from Büyüktepe, Bayburt<sup>440</sup> and Hamzatepe Höyük<sup>441</sup> which are dated to the Iron Age.

### ***Bottoms***

Within the Büyükardıç EIA ceramics, 118 bottom fragments have been recovered. They are considered first under 4 secondary groups as flat bottoms, ring bottoms, ring-shaped bases<sup>442</sup> and composite bottoms:

#### ***Flat Bottoms (Type 1)***

The flat bottoms are of two types : Type 1.1 and Type 1.2.

*Type 1.1:* In the examples of this type (**Figure 75: 1-3**), the lower part of the body is directly attached to the flat bottom. This simple, flat bottom, which seems to have been taken from the wheel by cutting it with a string, is the most common form of bottom at Büyükardıç with 78 fragments.

*Type 1.2:* In this type of flat bottoms, the lower part of the vessel is attached to the bottom at an angle. This type of bottom, in the form of a protrusion, is more conspicuous than Type 1.1. At Büyükardıç, 10 fragments (**Figure 75: 4-6**) have been recovered belonging to this type.

#### ***Ring Bottoms (Type 2)***

This group consists of ring bottoms, which occur less commonly at Büyükardıç. The ring bottoms, represented by 12 fragments, are considered under three separate types:

*Type 2.1:* In this type of bottom, which may be described also as a flat bottom with a hollow inside, there is a shallow ring bottom in question (**Figure 75: 7-8**). There are six fragments belonging to this type.

*Type 2.2:* Only one example (**Figure 75: 9**) has been recovered belonging to this type, which may be classified as the grooved ring bottom.<sup>443</sup> A similar example of this type, dated to the Iron Age, has been found at Eski Koyeri Tepe 1, Bayburt.<sup>444</sup>

<sup>440</sup> Sagona et al. 1992: fig. 6: 2, 4.

<sup>441</sup> Sagona and Sagona 2004: 183, fig. 187: 4.

<sup>442</sup> Ökse 1999: 91, fig. 26: 1052.

<sup>443</sup> Ökse 1999: 91, fig. 26: 1042.

<sup>444</sup> Sagona and Sagona 2004: 183, fig. 118: 5.

*Type 2.3:* The bottoms of this type, represented by five fragments at Büyükdıç, consist of ring bottoms that are somewhat higher and more conspicuous (**Figures 75: 10-12, 103**). A similar example of this type, dated to the EIA, occurs at Melekli, Ağrı.<sup>445</sup>

#### *Ring-Shaped Bases (Type 3)*

*Type 3.1:* The high ring-shaped bottom, represented by six fragments at Büyükdıç (**Figure 75: 13**), is in the form of a base.

#### *Composite Bottoms (Type 4)*

*Type 4.1:* A composite form structure (**Figure 75: 14**), probably due to the shape of the table on which the clay was placed to be moulded, is observed in this type of bottoms, represented by 12 fragments. The flat, ring and round bottom features coexist in this bottom form, which is also named “ring bottom with a protruding base centre”.<sup>446</sup>

#### *Handles*

An interesting feature noted in the Büyükdıç EIA ceramics is that almost no handles were used. Two exceptions in this regard are the vertical ring handle on a beaker fragment (**Figure 48: 3**) and the broken vertical ring handle on a body fragment (**Figure 102: 2**). Although the handle form in the first example, described as the handle with a crescent-shaped section<sup>447</sup>, was a common type in earlier periods, no other example has been encountered at Büyükdıç.

The absence of handled vessels among Early Iron Age pottery in Eastern Anatolia although they are known from the Late Bronze Age is explained by the simple repertory of this period, as with general vessel forms.<sup>448</sup>

#### *Ledges*

In their various types, ledges do occur among the Büyükdıç EIA ceramics, even if few in number. The ledges, mostly in the form of stump ledges,<sup>449</sup> have three different types: horizontal, vertical, and knob-shaped.

<sup>445</sup> Marro and Özfiat 2003: pl. 17: 10.

<sup>446</sup> For these types in the Ayanis Iron Age ceramics and their description, see Kozbe et al. 2001: 97 ff. pl. XIV: 32, 36.

<sup>447</sup> Ökse 1999: 94, fig. 27: 1122.

<sup>448</sup> For an assessment of the Norşuntepe EIA ceramics with regard to handles, see Bartl 1994: 482.

### *Horizontal Ledges*

At Büyükardıç, this type of ledge has been identified in only one vessel (**Figures 41: 7, 91: 3**). In the rim fragment of a pot that belongs to Type 4.3, the horizontal ledge with a pointed end immediately below the rim probably had a counterpart on the other side of the vessel.

### *Vertical Ledges*

Compared with horizontal ledges, vertical ones occur more commonly in the Büyükardıç pottery. The vertical ledge extending downwards just below the rim of a deep bowl that belongs to Type 8.1 (**Figures 46: 1, 92: 3**) is almost in the shape of a tongue. The vertical ledge noted in the oil lamp with a round body that belongs to Type 11.1 (**Figures 49: 1, 85: 3**) begins on the rim and goes down to the lower part of the body. Also in the fragment of a pot with a wide mouth and a long body that belongs to Type 14.2 (**Figures 53: 3, 92: 1**), the vertical ledge begins on the rim and terminates on the neck. The vertical ledge in a rim fragment belonging to Type 15.2 (**Figure 52: 2**), in the group of pots with a wide mouth, an S profile and a long body, begins on the neck and goes down to the shoulder, while the vertical ledge in a miniature pot of Type 15.5 (**Figures 53: 6, 92: 4**) begins on the rim and extends to the shoulder.

### *Knob-Shaped Ledges:*

Round, knob-shaped protrusions, which, in some examples, it is not possible to decide as being whether a type of ledge or a type of decoration, are an application known in Eastern Anatolia from the Bronze Age onwards. Although they do not seem to be practical for holding by hand, the knob-shaped protrusions with a round section on three vessels found at Büyükardıç may be regarded as ledges since they are close to the rim and large. Such ledges, which perhaps were intended to prevent the sliding of the string that fixed the leather or cloth cover placed on the mouth of the vessel, may be seen on a deep bowl of Type 8.1 (**Figures 46: 2, 91: 2**), a beaker of Type 10.1 (**Figure 48: 2**) and the fragment of a pot of Type 15.1 with a broad mouth, an S profile and a long body (**Figure 53: 1**). However, it is difficult to decide whether the two knobs placed across each other on the neck of a potsherd with a short neck of Type 17.2 (**Figures 56: 2, 92: 2**) are ledges for a similar purpose or a decorative application. Likewise, there is a difficulty in defining the knobs on the body fragments in Figure 82.

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<sup>449</sup> Ökse 1999: 96, fig. 27: 1141.

On the other hand, the knob-shaped protrusion on the shoulder of a pot with a short neck in Figures 60: 3, 92: 5 must rather be a decorative application considering in particular its position on the vessel.

### C. TYPES OF DECORATION

In spite of applications where composite elements of decoration occur, the types of decoration in the Büyükdıç ceramics may be considered under 7 separate groups: grooved, impressed, notched, incised, relief, knobbed, and painted.<sup>450</sup>

#### *Grooved Decoration*

This is the type of decoration consisting of lines with a U-section which form a wavy appearance on the surface of the vessel. Although known from earlier periods, this type of decoration is quite characteristic of Eastern Anatolia EIA ceramics in particular.<sup>451</sup> Grooved decoration can be applied sometimes in a single row and sometimes in several rows. At Büyükdıç, a single row of grooved decoration is observed below the rim (**Figures 39: 9, 40: 1, 9, 41: 2-4, 42: 3, 90: 2**) and on the body (**Figures 38: 3, 39: 4**) in 8 rim fragments with a pot form. Within the group of deep bowls, a single, broad row of grooved decoration exists in only one rim fragment (**Figure 47: 3**), on the shoulder of the vessel. In the pots without a neck, three rows of grooved decoration from the rim towards the shoulder have been identified again in only one rim fragment (**Figures 55: 3, 90: 1**). In the same example, a round impressed decoration is noted immediately below the groove in the lowest row. Within the group of pots with a short neck, a single row of grooved decoration occurs in a rim fragment (**Figure 60: 1**), just on the shoulder of the vessel. Another vessel in this group (**Figures 62: 7, 90: 3**) is a notable example with three rows of grooved decoration on the shoulder and two rows of protruding decorations between them. One of the two pot fragments of Type 18.13 (**Figure 63: 3**) has two broad rows of grooved decoration on its shoulder and the other (**Figure 63: 5**) a single, broad row of grooved decoration. In the group of pots with a long neck, a rim fragment belonging to a large vessel (**Figure 66: 1**) constitutes an interesting example with its four rows of grooved decoration starting from below the lip and going down to the neck in equal intervals. On the neck of a larger pot in the same group (**Figure 66: 4**), there is a single row of grooved decoration. Such decorations are observed on 11 body fragments (**Figures 80: 1-11, 90: 4**) found at Büyükdıç. All of the examples with grooved decoration in the Büyükdıç ceramics

<sup>450</sup> Drawings of a great majority of the decorated ceramic sherds found at Büyükdıç are included in this study.

<sup>451</sup> Rothman 2004: 135.

are considered above. It is observed that grooved decoration, which is known to be characteristic of the EIA,<sup>452</sup> is not very common at Büyükdıç for the pottery as a whole.

### *Impressed Decoration*

Impressed decoration is the type of decoration created by pressing on the surface of the vessel while it was still wet a stick with a round, oval or triangular section or a stamp on which simple shapes such as a rosette, concentric circles, etc. were previously carved. The impressed decoration practice, which seems to have been popular at Büyükdıç, has been identified on 8 rim fragments and 39 body fragments (**Figures 76 to 79**). In some examples, the impressed decoration was applied together with grooved, incised and relief band decorations. There are examples where a grooved decoration was applied on relief band decorations (**Figures 72: 1-3, 74: 3, 76: 1-2, 78: 1-6, 8-12, 79: 1, 5-11, 89: 1-2, 4-5**).

Impressed decoration made using sticks with a round section (**Figures 55: 3, 63: 1, 74: 3, 76: 1-2, 4-10, 77: 1-2, 88: 3-4**) is the most common type of decoration. Such decoration was also used together with grooved decoration (**Figure 55: 3**), rosette decoration (**Figure 76: 2**), ring decoration (**Figure 76: 1**), impressed decoration with concentric circles (**Figure 76: 4**) and incised decoration (**Figures 77: 1, 88:2**). Impressed decoration with a round section, generally arranged so as to form horizontal rows, was also used as a filling motif (**Figures 76: 2, 77: 1**).

Impressed decoration made using sticks with an oval section (**Figures 40: 7, 62: 7, 72: 1-3, 74: 1, 78: 1-12, 79: 1-11**) is also a widespread practice. This type of decoration was applied in vertical, horizontal or slightly sloping rows, and usually on relief bands. EIA-dated examples of impressed decoration with an oval section occur at Tesisi, Bingöl<sup>453</sup>, Gre Hese<sup>454</sup> and Kasımtığı,<sup>455</sup> Van, Talavaş Tepe, Diyarbakır<sup>456</sup>, Horom in Armenia<sup>457</sup>, and Kortlar Tepe in the Urmiya area<sup>458</sup>. Similar examples of this type of decoration belonging to earlier periods have been found in the MBA layer at Lidar

<sup>452</sup> Rothman (2004: 135) states that the number of Early Iron Age centres where grooved ceramics have been recovered is greater than the number of centres where Late Bronze Age ceramics have been found. Accordingly, it is emphasized both that grooved ceramics belong to the EIA and that EIA centres of settlement are more numerous than LBA centres of settlement.

<sup>453</sup> For Fig. 41: 7, see Sevin 1987: fig. 19: 3.

<sup>454</sup> For Fig. 41: 9, see Özfirat and Marro 2004: fig. 9: 1.

<sup>455</sup> For Fig. 41: 11, see Marro and Özfirat 2004: fig. 10: 8.

<sup>456</sup> For Fig. 41: 12, see Parker et al. 2001: fig. 9: J.

<sup>457</sup> For Fig. 41: 2, see Badaljan et al. 1994: fig. 12: 5.

<sup>458</sup> For Fig. 41: 10, see Kromer and Lippert 1976: Taf. I: 10.



Höyük.<sup>459</sup> The examples of this group with longer lines (**Figures 79: 1-5, 89: 2-3, 94: 3**) may also be called notched decoration.

Among the types of impressed decoration at Büyükardıç, those made using sticks with a rectangular section (**Figures 77: 3, 88: 1**) also exist even if few in number.

The fragments with decorations made using sticks with a triangular section (**Figures 77: 4-6, 87: 1-3**) constitute an interesting group among the Büyükardıç EIA ceramics. In one example (**Figures 77: 5, 87: 1**), this type of impressed decoration, which almost looks like cuneiform writing, was applied by filling the inside of triangle or zigzag patterns whose edges were generally determined by incised decoration. An example of this type of decoration, known from the MBA onwards, with incrustation applied occurs at Molla Cem, Van<sup>460</sup>, while LBA examples are known from Gözlükule, Tarsus<sup>461</sup> and from Tserovani in the Mtskheta region, Georgia.<sup>462</sup> The Büyükardıç examples show that this motif continued to be used in the EIA.

Three examples with rosette impressed decoration have been recovered. In the first one (**Figures 76: 1, 86: 3**), there are rings that follow each other, almost like buttons, with four dots inside them. The second example (**Figure 76: 2**) and the third example (**Figures 76: 11, 86: 4**) feature rosette impressions that follow each other, in the form of a circle divided into four. In addition to the rosette impressions, impressed decorations made using sticks with a round section were used as a filling motif in both examples. A parallel to the rosette motif in the form of a circle divided into four, which the author wants to date to the Iron Age, is known from Beşiktepe, Erzurum.<sup>463</sup>

Among the types of impressed decoration at Büyükardıç, there are two body fragments with impressed decoration in the form of concentric circles (**Figures 76: 3-4, 86:1-2**). Fragments with a similar motif found at Gözlükule, Tarsus<sup>464</sup>, at Molla Cem, Van<sup>465</sup> and at Tserovani in the Mtskheta region, Georgia<sup>466</sup> are dated to the LBA while a fragment found during surface research in Eastern Thrace<sup>467</sup> is attributed to the EIA. Paint decorated examples of this motif are quite common among the Cappadocian painted wares of the first millennium B.C.<sup>468</sup>

<sup>459</sup> For Fig. 42: 6, see Kaschau 1999: Taf. 17: 4.

<sup>460</sup> Marro and Özfiat 2004: pl.10: 4.

<sup>461</sup> Goldman 1956: pl. 315: 1091-1093.

<sup>462</sup> Sadradze 1991: LXIX, fig. 2, 8. This type of decoration applied in the form of more regular triangles was extensively used in the vessels found in the tombs at Tserovani.

<sup>463</sup> Sagona C. (1999: fig. 3: 4) uses the words "probably the Iron Age" in dating this fragment.

<sup>464</sup> Goldman 1956: pl. 315: 1093.

<sup>465</sup> Marro and Özfiat 2004: pl.10: 1-2.

<sup>466</sup> Sadradze 1991: Pl. LXVIII, fig. 12-13, LXIX, fig. 3, 5, 7

<sup>467</sup> Özdoğan 1998: fig. 2b.

<sup>468</sup> Bkz. Özgüç 1982: pl. 69-70.

### ***Relief Band Decoration***

Another type of decoration observed in the Büyükardıç EIA ceramics is relief band decoration. This type of decoration, identified on rim and body fragments, is in the form of a thick and wide, horizontal relief band or a horizontal relief band forming a protrusion with a V section. There is a wide relief band decoration on the shoulder of a short-necked pot (**Figure 57: 1**). In two potsherds belonging to this group, a relief band decoration with a V section was preferred on the shoulder part of the vessels (**Figure 58: 4-5**). In only one example (**Figure 64: 5**) among the long-necked pots, a wide relief band application is noted on the neck of the vessel. In three examples belonging to the group of large pots with a conical neck (**Figures 72: 1-3, 74: 3**), a single row of impressed/notched decoration was applied on the relief band decoration, with a V section in the necks of the vessels. In addition to rim fragments, body fragments with this type of decoration (**Figure 81: 1-6**) have also been recovered.

### ***Knobbed Decoration***

Knobbed decoration, which was applied at Büyükardıç for the purpose of decoration rather than for its function as a ledge, has been identified in the rim fragments of one beaker (**Figure 48: 2**) and two short-necked pots (**Figures 56: 2, 60: 3, 92: 2**). The application of knobbed decorations stuck to each other is observed in only two (**Figures 82: 1-2, 91: 5**) of the body fragments in which this type of decoration occurs (**Figures 82: 11, 91: 1,4**).

### ***Incised Decoration***

Although not very common, incised decoration is also observed in the Büyükardıç EIA ceramics. One intact bottle (**Figure 49: 3**) features a decoration consisting of horizontal, short, dotted lines running from the neck to the shoulder and bunches of long, slanting lines on the body. In addition to this, in a coarse rim fragment belonging to a long-necked pot (**Figures 65: 3, 93: 5**), the inside of the frieze formed by two linear bands on the shoulder of the vessel is decorated with a zigzag motif.

The incised decorations identified on body fragments (**Figure 83: 1-13**) include patterns of zigzags (**Figures 83: 1-2, 93: 2**), concentric triangles (**Figures 83: 3-4, 93: 4**), slanting and horizontal lines (**Figures 83: 5-10, 93: 1, 3**), leaves (**Figure 83: 11**) and intersecting lines (**Figures 83: 12-13, 93: 6**). An EIA parallel to the zigzag decoration placed inside a horizontal frieze has been found at Korucutepe.<sup>469</sup> The pattern of

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<sup>469</sup> Winn 1980: pl. 56: 5.

concentric triangles is known from the LBA and EIA layers of Sos Höyük<sup>470</sup> and Korucutepe<sup>471</sup>. The same pattern has been discovered in the Iron Age context at Tepecik, Elazığ<sup>472</sup>. The pattern of intersecting lines (**Figure 83: 12**) occurs in the LBA layer of Metnadzor, Armenia.

### *Scratched Decoration*

A type of decoration that belongs to earlier periods in Eastern Anatolia, scratched decoration has been identified in only two fragments at Büyükdıç (**Figure 84: 1-2**). In the rim fragment of a pot with a conical neck and a broad mouth (**Figures 84: 2, 94: 1**), a scratched decoration in the form of a curved line is observed on the neck of the vessel. In the other fragment (**Figures 84: 1, 94: 2**), an attempt seems to have been made to form the decoration by scratching the slip in a more shallow and simple fashion.

### *Paint Decoration*

Such decoration is observed in only 8 body fragments (**Figures 84: 3-10, 95**) among the Büyükdıç ceramics. Rather irregular and coarse patterns consisting of horizontal and curved lines are seen in this type of decoration, which appears not to have been common. Similar paint decorated vessels from the EIA have been found at Gre Dimse<sup>473</sup>, Talavaş Tepe<sup>474</sup> and Kenan Tepe<sup>475</sup>, Diyarbakır, at Norşuntepe<sup>476</sup>, and at Karahöyük, Malatya<sup>477</sup>. On the other hand, it is stated that the paint decorated fragments recovered in the EIA layers at Büyükkaya, Boğazköy belong to the middle and late periods of this age<sup>478</sup> although they are different from the Büyükdıç paint decorated motifs.

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<sup>470</sup> Güneri 1992: fig. 8: 1.

<sup>471</sup> Winn 1980: pl. 56: 5.

<sup>472</sup> Esin 1970: pl. 7: 7.

<sup>473</sup> Karg 1999: fig. 10: 1; 2002, fig. 3: d.

<sup>474</sup> Parker and Creekmore 2002: fig. 39: X, Y, Z.

<sup>475</sup> Parker et al. 2004: fig. 14: AA.

<sup>476</sup> Bartl 1994: Abb. 15.

<sup>477</sup> Russel 1980: 36, fig. 18: 164.63, (Group EE)

<sup>478</sup> Genz 2000: 36, Abb.5: 4-9; 9;10.

No.	Ware Group	Sub-Group	
1	Micaceous Grey Ware	1A	Non-burnished
		1B	Burnished
2	Grey Ware	2A	Non-burnished
		2B	Burnished
3	Greyish Brown Ware	3A	Non-burnished
		3B	Burnished
4	Brown Ware	4A	Non-burnished
		4B	Burnished
		4C	Slipped
5	Ware Brown on the Outside, Red on the Inside	5A	Non-burnished
		5B	Burnished
6	Reddish Ware	6A	Non-burnished
		6B	Burnished
7	Greenish Beige Ware		
8	Yellowish Beige Ware	8A	Non-burnished
		8B	Burnished
9	Light Greyish Beige Ware	9A	Non-burnished
		9B	Burnished
10	Red Slipped, Burnished Ware		
11	Camelhair Slipped Ware	11A	Non-burnished
		11B	Burnished

Table 1: Paste Groups

Type No	Sub-Type	Description
		<b>BOWLS</b>
<b>Type 1</b>		<b>Bowls with a Shallow Body</b>
	1.1	Bowls with a shallow body and slightly inverted, simple rim
	1.2	Bowls with a shallow body and flat or round, simple rim
	1.3	Bowls with a shallow body and pointed, simple rim
	1.4	Bowls with a shallow, undulated body and slightly everted, simple rim
	1.5	Bowls with a shallow body and thickened-out rim
<b>Type 2</b>		<b>Bowls with a Round Body</b>
	2.1	Bowls with a round body and slightly thickened, simple rim
	2.2	Bowls with a round body and slightly inverted, simple rim
	2.3	Bowls with a round body and inverted, simple rim
	2.4	Bowls with a round body and thickened, inverted, simple rim
	2.5	Bowls with a round body and thickened-out rim
<b>Type 3</b>		<b>Carinated Shallow Bowls</b>
	3.1.	Carinated bowls with a simple rim
	3.2.	Carinated bowls with a thickened rim
<b>Type 4</b>		<b>Bowls with a Semi-Spherical Body</b>
	4.1	Bowls with a semi-spherical body and slightly thickened-in, simple rim
	4.2	Bowls with a semi-spherical body and slightly thickened-out, simple rim
	4.3	Bowls with a semi-spherical body and simple rim
	4.4.	Bowls with a semi-spherical body and slightly inverted, simple rim
	4.5.	Bowls with a semi-spherical body and inverted, thickened rim
<b>Type 5</b>		<b>Carinated Bowls</b>
	5.1	Carinated bowls with a slightly thickened-out, simple rim
<b>Type 6</b>		<b>Bell-Shaped Bowls</b>
	6.1.	Bell-shaped bowls with a simple rim and straight profile
	6.2.	Bell-shaped bowls with an internally and externally thickened rim and a straight profile
	6.3.	Bell-shaped bowls with a round, simple rim
	6.4.	Bell-shaped bowls with a slightly everted rim
	6.5.	Bell-shaped bowls with a slightly everted, simple rim
	6.6.	Bell-shaped bowls with an everted, simple rim
	6.7.	Slightly carinated, bell-shaped bowls with a slightly inverted, simple rim
<b>Type 7</b>		<b>Bowls with an S Profile</b>
	7.1	Bowls with a slight S profile and a thickened-out rim
	7.2	Bowls with an S profile and a simple rim
	7.3	Bowls with an S profile and a slightly thickened rim
		<b>DEEP BOWLS</b>
<b>Type 8</b>		<b>Deep Bowls with a Straight Profile</b>
	8.1.	Deep bowls with a straight profile and simple rim
	8.2.	Deep bowls with a straight profile and slightly inverted rim
	8.3.	Deep bowls with a straight profile and slightly thickened-out rim
<b>Type 9</b>		<b>Deep Bowls with a Spherical Body</b>
	9.1	Deep bowls with a spherical body and simple rim
	9.2	Deep bowls with a spherical body and a slightly thickened-in, simple rim
	9.3	Deep bowls with a spherical body and a slightly everted, simple rim
<b>Type 10</b>		<b>BEAKERS</b>
	10.1.	Bell-shaped beakers with a simple rim
	10.2.	Beakers with a straight profile and a simple rim
	10.3.	Miniature beaker with an oval body and a slightly everted, simple rim
<b>Type 11</b>		<b>OIL LAMPS</b>
	11.1.	Oil lamp with a simple rim, vertical ledge and round bottom
	11.2.	Oil lamp with an everted, flat rim, concave body and flat bottom
<b>Type 12</b>		<b>BOTTLES</b>
	12.1.	Bottle with a simple rim, a long, narrow neck, a low, spherical body and a flat bottom
	12.2.	Bottle with a simple, everted rim and a long, narrow neck

		<b>POTS WITH A BROAD RIM</b>
<b>Type 13</b>		<b>Pots with a Broad Rim and Broad Belly</b>
	13.1.	Pots with a slightly thickened, simple rim and in the form of a deep saucepan
	13.2.	Pots with a simple rim, an S profile and a wide body
	13.3.	Pots with a thickened-out rim, an incurving neck and a wide body
<b>Type 14</b>		<b>Pots with a Broad Rim and Long Body</b>
	14.1.	Pots with a simple rim and a long body which broadens from the rim towards the bottom
	14.2.	Pots with a slightly everted rim and a long body which broadens towards the bottom
	14.3.	Pots with a slightly thickened rim, an excurving neck and a long body which broadens towards the bottom
<b>Type 15</b>		<b>Pots with a Broad Rim, an S Profile and a Long Body</b>
	15.1.	Pots with a slightly everted rim, a wide neck, a long body and an S profile
	15.2.	Pots with a simple rim, a broad, everted neck, a long body and an S profile
	15.3.	Pot with an everted rim, an excurving, broad neck, a long body and an S profile
	15.4.	Pots with a simple rim, an excurving, broad neck and an S profile
	15.5.	Miniature pot with a thickened rim, an excurving, broad neck and an oval body
<b>Type 16</b>		<b>POTS WITHOUT A NECK</b>
	16.1.	Pots without a neck and with a simple rim and a spherical body
	16.2.	Pots without a neck and with a slightly everted rim and a spherical body
	16.3.	Pots without a neck and with a simple rim and an incurving, spherical body
	16.4.	Pots without a neck and with a slightly thickened rim and an incurving, spherical body
		<b>POTS WITH A SHORT NECK</b>
<b>Type 17</b>		<b>Pots with a Very Short, Broad Neck</b>
	17.1.	Pots with an everted, simple rim, a very short neck and a spherical body
	17.2.	Pots with a simple rim, a broad and short neck and a spherical body
	17.3.	Pots with a flat, simple rim, a broad, short and straight neck and a spherical body
	17.4.	Pots with a thickened-out rim, a broad and short neck and a spherical body
	17.5.	Pots with a thickened-out, flat rim, a broad and short neck and a spherical body
	17.6.	Pots with a slightly everted, flat rim, a broad and short neck and a spherical body
	17.7.	Pots with a round, simple rim, a straight and short neck and a spherical body
	17.8.	Pots with a slightly everted, simple rim, a straight and short neck and a spherical body
	17.9.	Pots with a simple or thickened-out rim, a very short neck and a spherical body
	17.10.	Pots with a thickened-out rim, a very short neck and a spherical body
	17.11.	Pots with an everted, thickened-out rim, a very short neck and a spherical body
	17.12.	Pots with an inverted and everted rim and a short, conical neck
	17.13.	Pots with an everted rim, a short, broad neck and an oval body
	17.14.	Pots with an inverted and everted, flat rim, a short neck and an oval body
<b>Type 18</b>		<b>Pots with a Short, Broad Neck</b>
	18.1.	Pots with a simple rim, a short, broad and straight neck and a round body
	18.2.	Pots with a simple rim, a short, broad and excurving neck and a round body
	18.3.	Pots with a slightly inverted rim, a short, broad and excurving neck and a round body
	18.4.	Pots with a round, simple rim, a short, broad and slightly excurving neck and a round body
	18.5.	Pots with a flat, simple rim, a short, broad and slightly excurving neck and a round body
	18.6.	Pots with a flat, simple rim, a short, broad and excurving neck and a round body
	18.7.	Pots with a thickened, flat rim, a short, broad and excurving neck and a round body
	18.8.	Pots with a thickened, round rim, a short, broad and excurving neck and a round body
	18.9.	Pots with a thickened, grooved rim, a short, broad and excurving neck and a round body
	18.10.	Pots with a round, simple rim, a short, broad and excurving short neck and a spherical body
	18.11.	Pots with a simple rim, a short, broad and excurving neck and a round body
	18.12.	Pots with a grooved rim, a short, broad and excurving neck and a spherical body
	18.13.	Pots with a thickened rim, a short, broad and excurving neck and a spherical body

		<b>POTS WITH A LONG NECK</b>
<b>Type 19</b>		<b>Pots with a Long Neck</b>
	19.1.	Pots with a simple rim and a long, narrow and straight neck
	19.2.	Pots with a long, narrow and straight neck and a broad relief band on the neck
	19.3.	Pots with an everted and flat rim and a long, narrow and slightly excurving neck
	19.4.	Pots with an everted rim and a long, narrow and straight neck
	19.5.	Pots with an everted, thickened rim and a long, narrow and straight neck
	19.6.	Pots with a thickened-out rim and a long, narrow and straight neck
	19.7.	Pots with a thickened-out, grooved rim and a long, narrow and straight neck
	19.8.	Pots with a thickened-out rim and a long and straight neck
	19.9.	Pots with a thickened, everted rim and a long and straight neck
	19.10.	Pots with a thickened, everted rim and a long, narrow and straight neck
	19.11.	Pots with a thickened, everted, grooved rim and a long, narrow and straight neck
	19.12.	Pots with an everted rim and a long, narrow and straight neck
	19.13.	Pots with a simple, everted rim and a long neck
	19.14.	Pots with a slightly thickened, everted rim and a long and narrow neck
	19.15.	Pots with a slightly everted, simple rim and a long neck
	19.16.	Pots with an everted, simple rim and a long neck
	19.17.	Pots with an everted, long, simple rim and a long and narrow neck
	19.18.	Pots with an everted rim and a long and narrow neck
	19.19.	Pots with an everted, thickened, flat rim and a long neck
	19.20.	Pots with an everted, pointed rim and a long neck
<b>Type 20</b>		<b>POTS WITH A CONICAL NECK</b>
	20.1.	Pots with an everted, thickened-out rim, a broad neck and a long body
	20.2.	Pots with a thickened-out rim, a short neck and a long body
	20.3.	Pots with an everted, thickened rim, a short neck and a long body
	20.4.	Pots with an everted, thickened-out rim, a short neck and a long body
	20.5.	Pots with an everted, thickened rim, a short, conical neck and a long body
	20.6.	Pots with an everted, thickened rim, a short neck and a long body

**Table 2:** Typology of Vessel Forms

BUYUKARDIÇ TYPOLOGICAL STATISTICS																						
	1A	1B	2A	2B	3A	3B	4A	4B	4C	5A	5B	6A	6B	7	8A	8B	9A	9B	10	11A	11B	TOT.
BOWLS	Bowls with a Shallow Body																					
	1.1.												1									1
	1.2.		2			1		1			2		3						3		1	13
	1.3.													1		2						3
	1.4.												1									1
	1.5.								1													1
	TOP		2			1		1	1		2		5	1		2			3		1	
	Bowls with a Round Body																					
	2.1.		1				2	1		1		1							1		1	8
	2.2.						3					1	1	1				1	6			13
	2.3.							1														1
	2.4.							1										1	6			8
	2.5.				1																	1
	TOP		1			1		5	3		1		2	1	1				2	13		1
	Carinated Shallow Bowls																					
	3.1.																		1			1
	3.2.																		2			2
	TOP																		3			
	Bowls with a Semi-Spherical Body																					
	4.1.								1				1			1						3
	4.2.		1		1		3	1	2	1		2	1			2	1		1		1	17
	4.3.		5	1		1	2		2	1		2	4	3	1		4		1	2		30
	4.4.					4	1	1				1							2		2	11
	4.5.						2		1									1	3		1	8
	TOP		6	1	1	1	9	4	6	3		5	5	4	1	2	6		4	6		5
	Carinated Bowls																					
	5.1.												1									1
	TOP												1									
	Bell-Shaped Bowls																					
	6.1.		1			1	2	1				1				1					1	8
	6.2.						1															1
	6.3.												1									1
	6.4.	1											1									2
	6.5.		1		1					1	1					1					2	7
	6.6.		2	1			1															4
	6.7.																		1			1
	TOP	1	4	1	1		2	3	1		1	1	1	2		2			1		3	
	Bowls with an S Profile																					
	7.1.										1											1
	7.2.																				1	1
	7.3.																		1			1
	TOP										1								1		1	
TOTAL		1	13	2	2	2	12	12	11	4	2	9	8	13	3	2	10		6	27		11

150

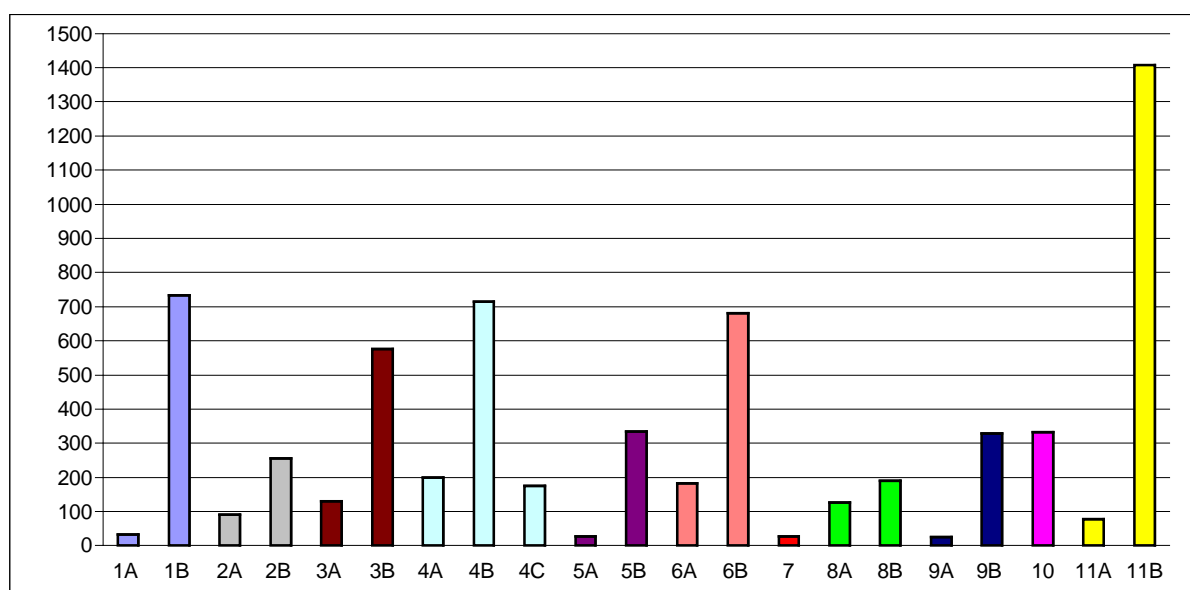
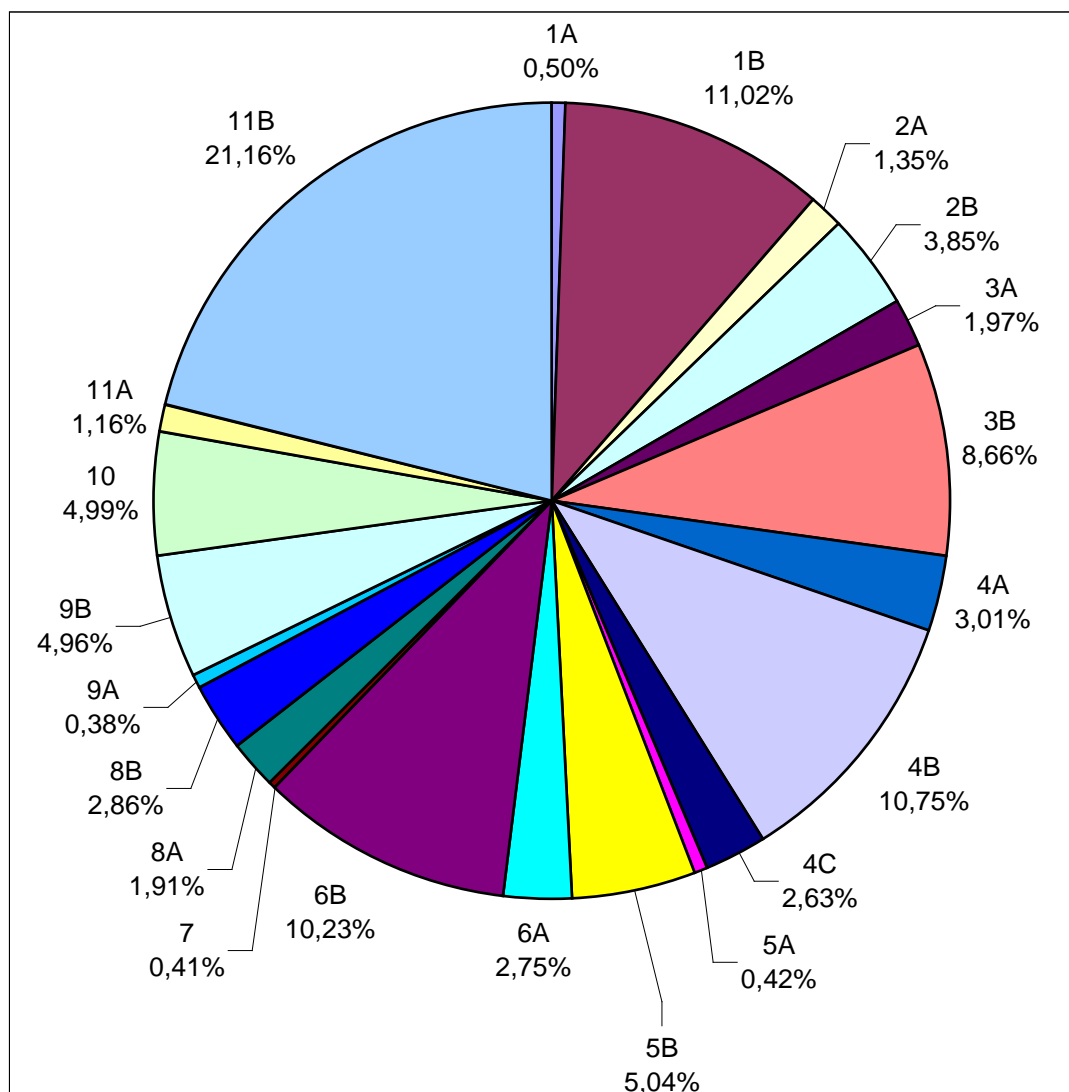


MAL/FABRIC	1A	1B	2A	2B	3A	3B	4A	4B	4C	5A	5B	6A	6B	7	8A	8B	9A	9B	10	11A	11B	TOT.			
DEEP BOWLS	Deep Bowls with a Straight Profile																					29	44		
	8.1.		1			1	1		1			2	1						3		2			12	
	8.2.		1	1	2			1										1			2			8	
	8.3.		4					1				1	1			1				1	9				
	TOP		6	1	2	1	1	1	2			3	2			1		1	3		5				
	Deep Bowls with a Spherical Body																					15			
	9.1.		4		1		2					1			1	1			2		1			13	
	9.2.				1																			1	
	9.3.													1										1	
	TOP		4		2		2						1		1	1	1			2		1			
	TOTAL		10	1	4	1	3	1	2				4	2	1	1	2		1	5		6			
	BEAKERS	BEAKERS																						7	7
10.1.			1				1		2										1			5			
10.2.									1													1			
10.3.									1													1			
TOP			1				1		4										1						
TOTAL		1				1		4											1						
OIL LAMPS	OIL LAMPS																					2		2	
	11.1.						1																		1
	11.2.																		1						1
	TOP						1												1						
TOTAL						1													1						
BOTTLES	BOTTLES																					3		3	
	12.1.					1																			1
	12.2.								1										1						2
	TOP																								
TOTAL						1		1											1						
POTS WITH A BROAD RIM	Pots with a Broad Rim and Broad Belly																					11		40	
	13.1.		1				1	1	1				1		1				1		1				8
	13.2.														1						1				2
	13.3.																			1	1				
	TOP		1				1	1	1				1		2				1		3				
	Pots with a Broad Rim and Long Body																					21			
	14.1.		2				1	4	2			1		2		1			1		1				15
	14.2.		1			1			1					1											4
	14.3.								1					1											2
	TOP		3			1	1	4	4			1		4		1			1		1				
	Pots with a Broad Rim, an S Profile and a Long Body																					8			
	15.1.										1														1
	15.2.		1					1													2				4
	15.3.																1								1
	15.4.						1																		1
	15.5.								1																1
	TOP		1				1	1	1		1						1				2				
	TOTAL		5			1	3	6	6		1	1		5		3	1			2		6			

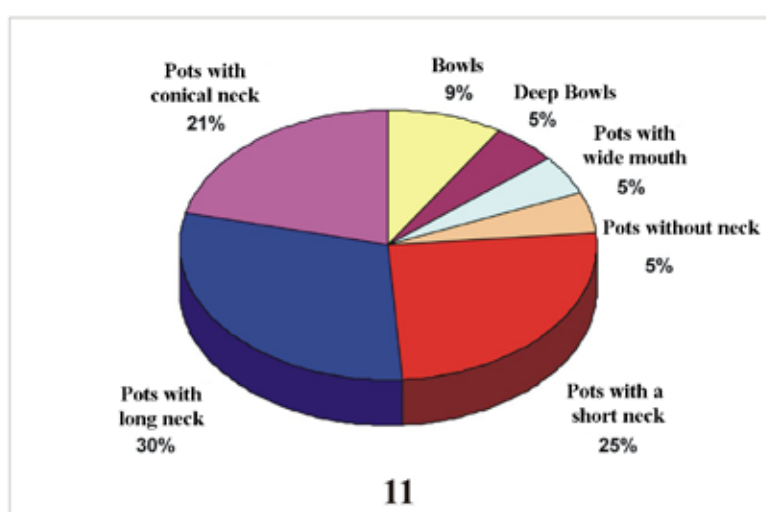
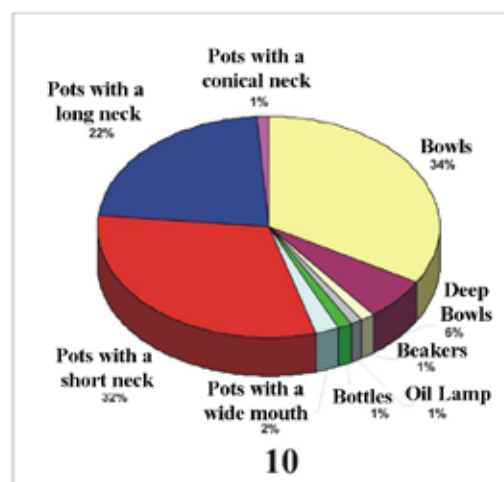
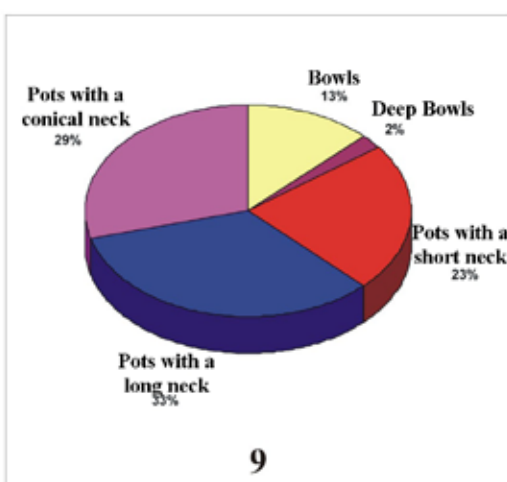
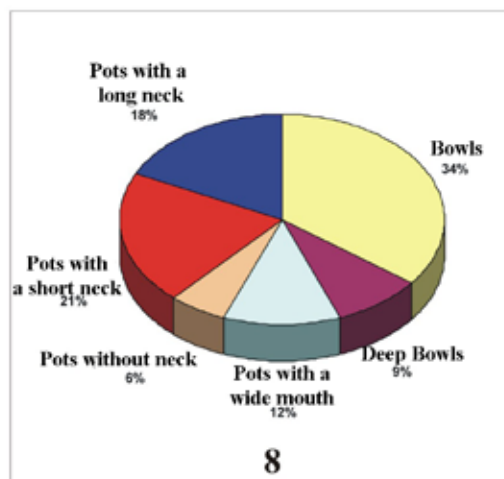
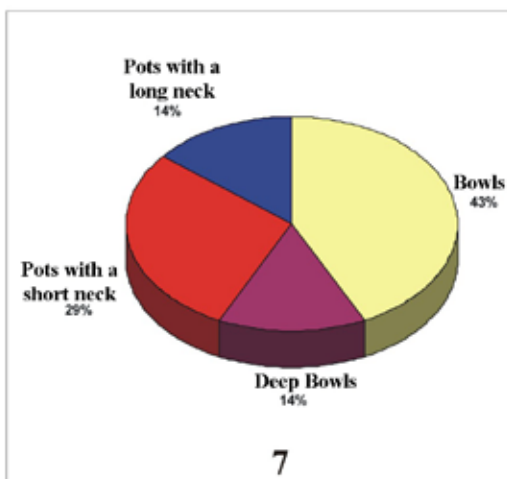
MAL/FABRIC		1A	1B	2A	2B	3A	3B	4A	4B	4C	5A	5B	6A	6B	7	8A	8B	9A	9B	10	11A	11B	TOT.		
POTS WITHOUT A NECK	POTS WITHOUT A NECK																						26		
	16.1.					1	1		1			1	1								2	7			
	16.2.							1														1			
	16.3.		1		5		1		1	1			1		1	1					4	16			
	16.4.								1			1										2			
	TOP		1		5		2	1	2	3				2	2		1	1						6	
TOTAL			1		5		2	1	2	3			2	2		1	1					6			
POTS WITH A SHORT NECK	Pots with a Very Short, Broad Neck																						132		
	17.1.		1										1		1	1						4			
	17.2.		2		2		1		1				2							1	1	10			
	17.3.					1												1				2			
	17.4.										2											2			
	17.5.																			1		1			
	17.6.													1								1			
	17.7.			1	2																			3	
	17.8.				1										1									2	
	17.9.		1			1														1				3	
	17.10.										1				1									2	
	17.11.																	1						1	
	17.12.												1											1	
	17.13.				1						1										1			3	
	17.14.		2			1																		3	
	TOP		6	1	6	2	2		1				4		4		4	1		2	1	1		3	
	Pots with a Short, Broad Neck																							94	
	18.1.		1		1																1				3
	18.2.		2		1		1	1	1			1	1	3					1	3	1	4			20
	18.3.																		1			1			2
18.4.						1																1			
18.5.		1											1	1								3			
18.6.				1		1	1	2			1		1			1			1		3	12			
18.7.							1											3	1		1	6			
18.8.						1	1						2					1			5	10			
18.9.																					1	1			
18.10.															1							1			
18.11.																		1	16		5	22			
18.12.														1				2		1	1	5			
18.13.								2											3		3	8			
TOP		4		3		2	4	7				2	1	7	2	1	1		9	24	3	24			
TOTAL			10	1	9	2	4	4	8			6	1	11	2	5	2		11	25	4	27			

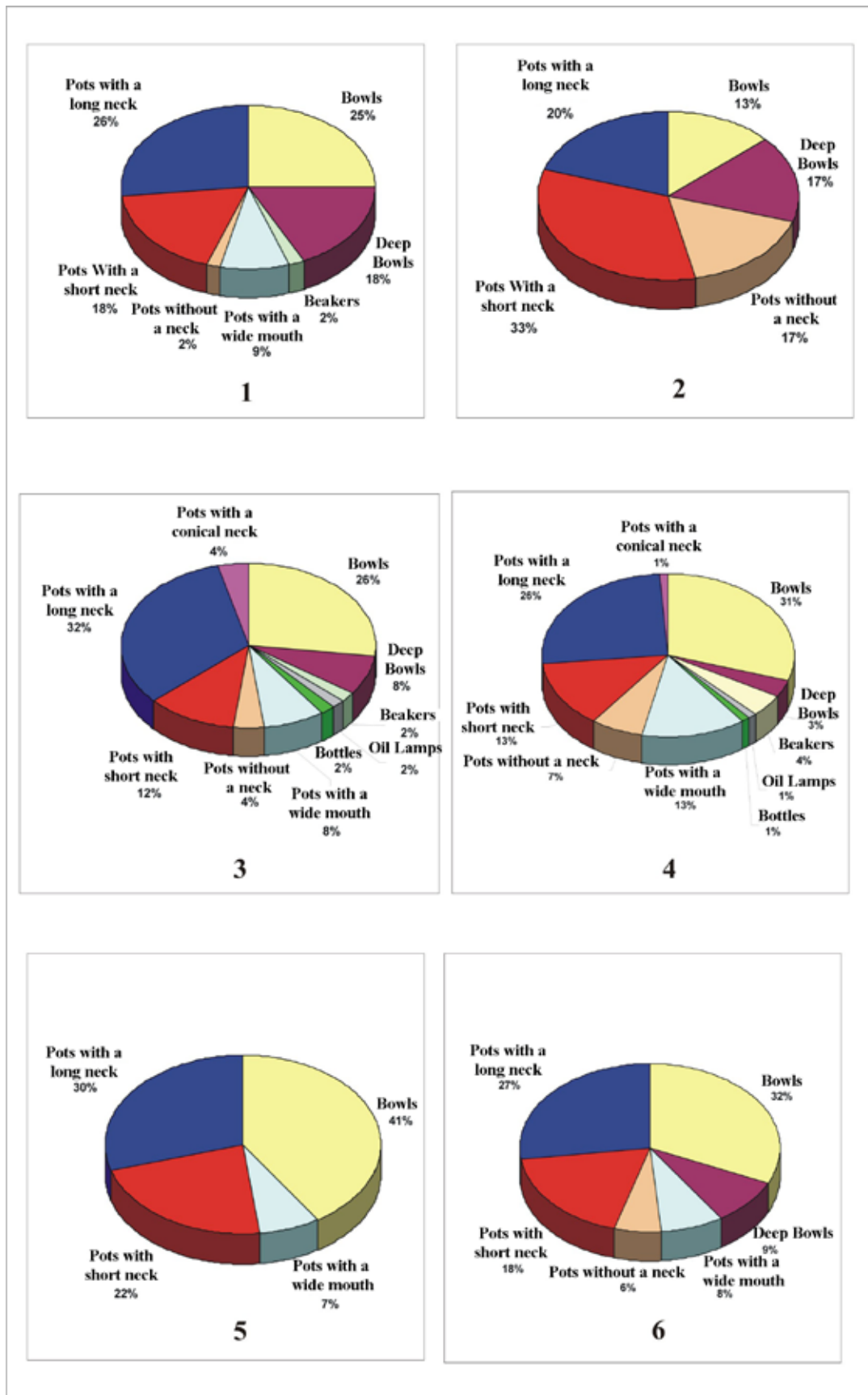
MAU/FABRIC	1A	1B	2A	2B	3A	3B	4A	4B	4C	5A	5B	6A	6B	7	8A	8B	9A	9B	10	11A	11B	TOT.
POTS WITH A LONG NECK	POTS WITH A LONG NECK																					165
	19.1.	1	2			1			1		1		1		1				1	5	14	
	19.2.		1						1												2	
	19.3.																			2	2	
	19.4.				1		1		1										1		4	
	19.5.		1			1	1	1	1			1		2				1	1		10	
	19.6.												1								1	
	19.7.							1													1	
	19.8.												1							1	2	
	19.9.						1														1	
	19.10.							1				1	1	1				4	2		3	13
	19.11.						2					1	1						3		3	10
	19.12.		1				1					1				1		7			2	13
	19.13.		2		1		4	1	2	3		2	1	2	1	1			1	3	4	28
	19.14.	1					2	1	2	1			1	1		1		1	2	1	3	17
	19.15.				1								1									2
	19.16.				2								1		1	1		1	2		3	11
	19.17.							1														1
	19.18.							1											1	1	2	5
	19.19.	1	5		1	1	2	1	1	1		1	1	2				1	2		5	25
	19.20.							1													2	3
	TOP	3	12		6	2	15	4	12	7		8	5	13	1	4	2		16	18	2	35
TOTAL		3	12		6	2	15	4	12	7		8	5	13	1	4	2		16	18	2	35
POTS WITH A CONICAL NECK																						44
POTS WITH A CONICAL NECK	20.1.																			3	3	
	20.2.																	2		1	5	8
	20.3.																	4			4	8
	20.4.								1									1	1		4	7
	20.5.																	2		1	1	4
	20.6.					1	1											5			7	14
	TOP					1	1			1								14	1	2	24	
TOTAL																						
BOTTOMS																						118
BOTTOMS	1.1.	5	2	5		2	6	8			2	2	16		2	3		1	3	1	20	78
	1.2.	1		1		2				1			1		1	1			1	1		10
	2.1.				1			1							2						2	6
	2.2.									1												1
	2.3.						1											2	2			5
	3.1.					2					1				1				2			6
	4.1.	2		2			1				1	1	5									12
	TOP	8	2	8	1	6	8	9		2	4	3	22		6	4		3	8	2	22	
TOTAL		8	2	8	1	6	8	9		2	4	3	22		6	4		3	8	2	22	
TOPLAM / TOTAL																						731

Table 3: Statistics of Pottery Wares and Types



**Graph 1:** Distribution of ware groups





**Graph 2:** Distribution of ware groups by vessel form

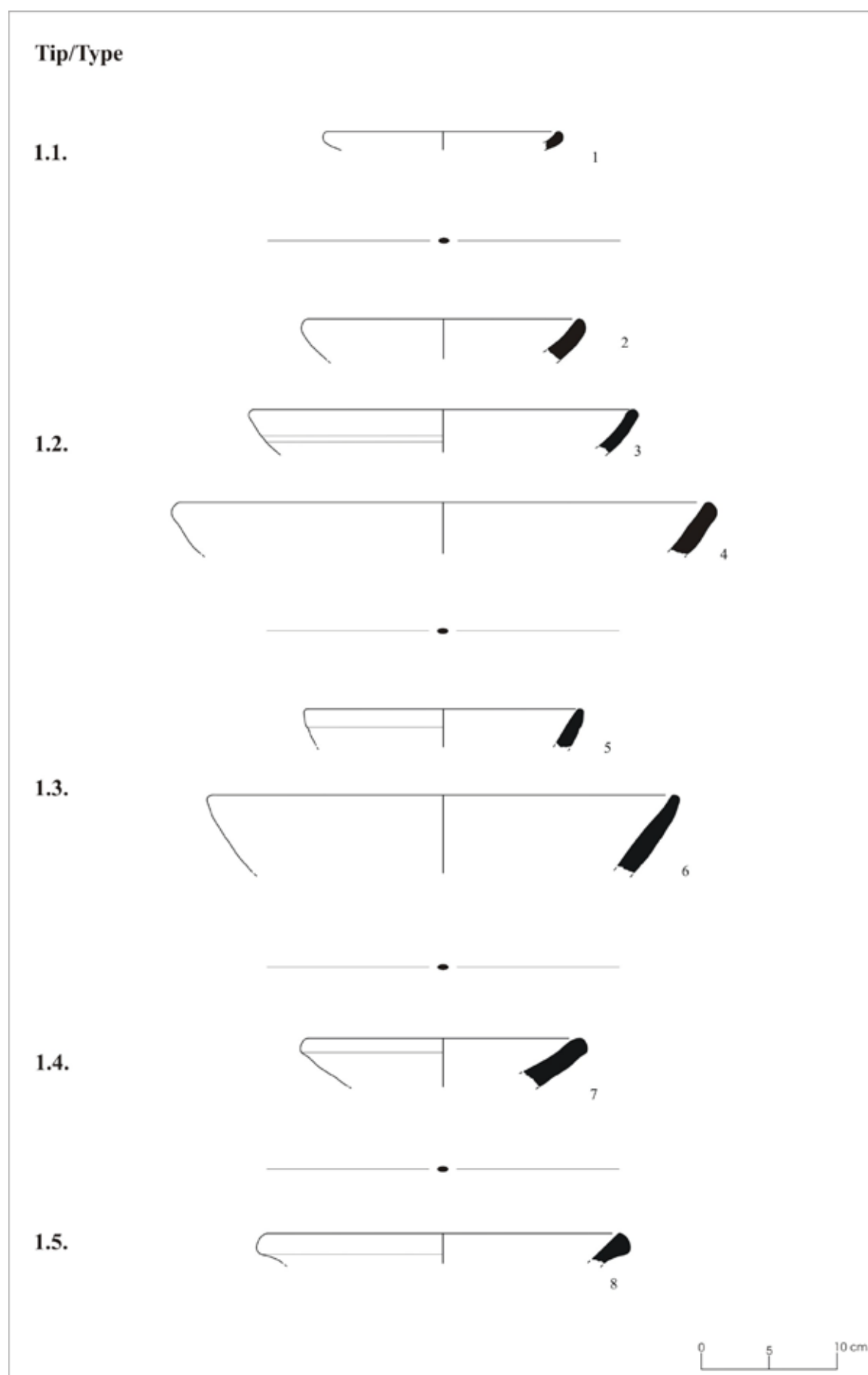
**D. CATALOGUE OF POTTERY FINDS****Abbreviations**

C	Context
D	Decoration
EI	Early Iron Age
I	Iron Age
LB	Late Bronze Age
MB	Middle Bronze Age
MI	Middle Iron Age
T	Type
W	Ware

Res. – Fig. 38

Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	B-1	1.1.	6B	Elazığ- Korucutepe	ED/EI	Winn 1980: pl. 15: c.
				Malatya-Barsikkale	ED/EI	Sevin 1987: res. 2: 3.
				Bayburt-Çayır yolu Tepe 3	D/I	Sagona and Sagona 2004: 184, fig. 139: 1.
				Bayburt-Çayır yolu Tepe 2	D/I	Sagona and Sagona 2004: 184, fig. 138: 2.
				Malatya-Kaleköy	OD/MI	Ökse 1988: Abb. 873.
2	S-12	1.2.	3B	Erzurum-Toprakkale	ED/EI	Başgelen and Özfirat 1996: lev. VIII: 9.
				Şanlıurfa-Lidar Höyük	ED/EI (1000-900)	Müller 1999: Abb. 10, AA 01.
				Malatya-Kaleköy	OD/MI	Ökse 1988: Abb. 317.
3	A-1	1.2.	5B	Elazığ-Genefik	ED/EI	Sevin 1987: res. 22: 2.
				Şanlıurfa-Lidar Höyük	ED/EI (1075-1000)	Müller 1999: Abb. 7, AB 09.
4	B-1	1.2.	6B	Bayburt-Çayır yolu Tepe 3	D/I	Sagona and Sagona 2004: 184, fig. 138: 18.
				Şanlıurfa-Lidar Höyük	ED/EI (1200-1100)	Müller 1999: Abb. 2, AB03.
				Şanlıurfa-Lidar Höyük	ED/EI (1075-1000)	Müller 1999: Abb. 7, AA 01.
				Şanlıurfa-Lidar Höyük	ED/EI (1000-900)	Müller 1999: Abb. 10, AA 05.
				Şanlıurfa-Lidar Höyük	ED/EI (900-850)	Müller 1999: Abb. 13, AA 06.
				Gordion	ED/EI	Henrickson and Voigt 1998: fig. 14: 3.
5	S-10	1.3.	1B	Şanlıurfa-Lidar Höyük	ED/EI (1100-1075)	Müller 1999: Abb. 4, AA 04.
6	S-2	1.3.	8B	Elazığ- Korucutepe	ED/EI	Winn 1980: pl. 15: i.
				Bayburt-Kilise Tepe	D/I	Sagona and Sagona 2004: 184, fig. 172: 13.
				Bayburt-Pulur (Gökçedere)	D/I	Sagona and Sagona 2004: 184, fig. 158: 3.
				Şanlıurfa-Lidar Höyük	ED/EI (1075-1000)	Müller 1999: Abb. 7, AA 04.
				Şanlıurfa-Lidar Höyük	ED/EI (1000-900)	Müller 1999: Abb. 10, AA 04.
7	A'-1	1.4.	6B	Gordion	GT/LB	Henrickson 1994: fig. 10.2.1: h.
				Elazığ- Korucutepe	ED/EI	Winn 1980: pl. 15: e.
				Şanlıurfa-Lidar Höyük	ED/EI (1200-1100)	Müller 1999: Abb. 2, AA 01.
				Şanlıurfa-Lidar Höyük	ED/EI (1000-900)	Müller 1999: Abb. 10, AA 03.
				Gordion	GT/LB	Henrickson 1993: fig. 3: 2.
8	S-1	1.5.	4C	Gordion	GT/LB	Henrickson 1994: fig. 10.2.1.: l; Henrickson and Voigt 1998: fig. 9: 5.
				Elazığ-Norşuntepe	GT/LB	Hauptmann 1969/70: Abb. 4: 3.
				Şanlıurfa-Lidar Höyük	ED/EI (1100-1075)	Müller 1999: Abb. 4, AA 03.
				Şanlıurfa-Lidar Höyük	OD/MI (725-650)	Müller 1999: Abb. 19, AB 28.





*Res. - Fig. 38*

Res. – Fig. 39

Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	S-2	2.1.	6A	Elazığ-Norşuntepe	ED/EI	Bartl 1994: Abb. 9: 4.
				Şanlıurfa-Lidar Höyük	ED/EI (1200-1100)	Müller 1999: Abb. 2, AB 05.
2	S-1	2.1.	1B			
3	B-1	2.1.	4A	Şanlıurfa-Lidar Höyük	ED/EI (1200-1100)	Müller 1999: Abb. 2, AB 02.
4	A-1	2.2.	9B	Elazığ-Haroğlu	ED/EI	Sevin 1987: res. 43: 2.
5	Y-2	2.2.	10	Elazığ-Norşuntepe	ED/EI	Bartl 1994: Abb. 6: 1-2; 19: 4.
				Bayburt-Örenşar 1	D/I	Sagona and Sagona 2004: 184, fig. 177: 9.
				Diyarbakır-Grê Dimsê	ED/EI	Karg 2001: şek. 9.
				Diyarbakır-Talavaş Tepe	ED/EI	Parker et al. 2001: şek. 9: E.
6	S-11	2.2.	10	Elazığ-Norşuntepe	ED/EI	Bartl 1994: Abb. 6: 1-2.
7	A'-1	2.2.	10	Gordion	ED/EI	Henrickson 1993: fig. 12: 2.
8	A-1	2.2.	10	Şanlıurfa-Lidar Höyük	ED/EI (1100-1075)	Müller 1999: Abb. 4, AA 09.
				Şanlıurfa-Lidar Höyük	ED/EI (1000-900)	Müller 1999: Abb. 10, AB 09.
				Malatya-Kaleköy	OD/MI	Ökse 1988: Abb. 42.
9	S-2	2.3.	4B	Diyarbakır-Talavaş Tepe	ED/EI	Parker et al. 2001: şek. 9: D.

**Tip/Type**

**2.1.**



**2.2.**



**2.3**



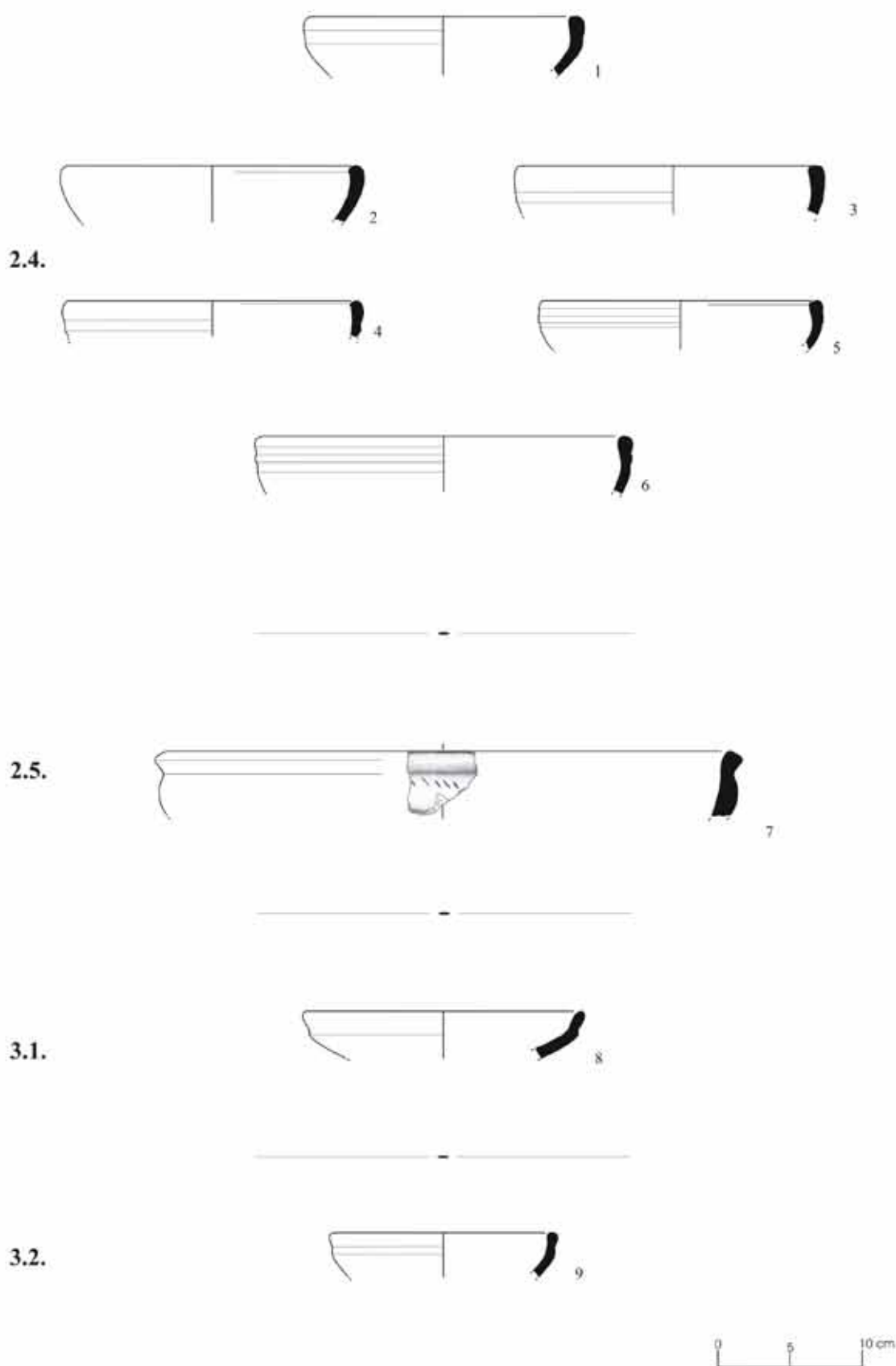
0 5 10 cm

*Res. - Fig. 39*

Res. – Fig. 40

Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	A'-1	2.4.	10	Elazığ- Korucutepe	ED/EI	Winn 1980: pl. 15: f.
				Van-İt Kalesi	ED/EI	Marro and Özfirat 2004: pl. 11: 4, 12: 4.
				Van-Kengerkor	ED/EI	Marro and Özfirat 2004: pl. 12: 2.
				Van-Şorik	ED/EI	Marro and Özfirat 2004: pl. 12: 3.
				Ağrı-Mağaralar Mevkii	ED/EI	Marro and Özfirat 2003: pl. 9: 1-2.
2	S-1	2.4.	10	Porsuk	ED/EI	Dupré 1983: pl. 46: 11.
3	A-2	2.4.	9B	Porsuk	ED/EI	Dupré 1983: pl. 45: 9.
4	S-6	2.4.	10	Diyarbakır-Kenan Tepe	ED/EI	Parker et al. 2004: şek. 14: C.
5	S-1	2.4.	10	Şanlıurfa- Lidar Höyük	OT/MB	Kaschau 1999: Taf. 18: 1.
				Diyarbakır-Talavaş Tepe	ED/EI	Parker et al. 2001: şek. 9: C.
6	S-2	2.4.	4B			
7	S-1	2.5.	3A	Muş-Bozbulut (Kömüs)	GT/LB	Rothman 2004: 168-169, fig. 6: 14.12.
				Van-Ernis	ED/EI	Sevin 1996: res. 5:3.
				Muş-Mezarlıktepe	ED/EI	Özfırat 2001: çiz. 9:10.
				Diyarbakır-Kenan Tepe	ED/EI	Parker et al. 2004: şek. 14: F, O.
				Bayburt-Çayır yolu Tepe 3	D/I	Sagona and Sagona 2004: 184, fig. 138: 14.
				Şanlıurfa-Lidar Höyük	ED/EI (1200-1100)	Müller 1999: Abb. 2, AB 04.
8	S-2	3.1.	10	Bayburt-Bayrampaşa Tepe	D/I	Sagona and Sagona 2004: 184, fig. 152: 4.
				Urmiye-Tappeh Gijlar	D/I II (1000-800)	Belgiorno et al 1984b: fig. 62: 19.
				Gordion	ED/EI	Henrickson 1994: fig. 10.4: j.
				Şanlıurfa-Lidar Höyük	ED/EI (1200-1100)	Müller 1999: Abb. 2, AB 01.
				Malatya-Kaleköy	OD/MI	Ökse 1988: Abb. 794.
9	S-7	3.2.	10	Urmiye-Tappeh Gijlar	D/I II (1000-800)	Belgiorno et al 1984b: fig. 62: 22.
				Urmiye-Alixan	D/I III (800-600)	Belgiorno et al. 1984: fig. 30: 3 .
				Malatya-Kaleköy	OD/MI	Ökse 1988: Abb. 120.

**Tip/Type**



*Res. - Fig. 40*

Res. – Fig. 41

Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	B-1	4.1.	6B	--	GT/LB	Sevin 1991a: fig. 1: 9.
				Porsuk	ED/EI	Dupré 1983: pl. 45: 8.
				Elazığ-Norşuntepe	ED/EI	Bartl 1994: Abb. 6: 5.
				Gordion	ED/EI	Henrickson 1994: fig. 10.4: b.
				Şanlıurfa-Lidar Höyük	ED/EI (1075-1000)	Müller 1999: Abb. 7, AA 03.
				Urmiye- Dinkha Tepe	D/I II	Muscarella 1974: fig. 36: 114.
2	S-1	4.1.	8B	Muş-Bozbulut (Kömüs)	GT-ED/LB-EI	Rothman 2004: 168-169, fig. 6: 14.257.1.
				Urmiye-Balajuk	D/I I-II	Belgiorno et al 1984: fig. 25: Urmiye-Balajuk 23.
3	A-2	4.2	3B	Elazığ-Haroğlu	ED/EI	Sevin 1987: res. 43: 6.
				Malatya-İmikuşığı	GT/LB II	Sevin 1995: res. 14: 3.
4	B-1	4.2.	5B	--	GT/LB	Sevin 1991a: fig. 1: 8.
				Şanlıurfa-Lidar Höyük	ED/EI (900-850)	Müller 1999: Abb. 13, AB 17.
5	S-1	4.3.	1B	Sevan-Tsovinar	GT/LB	Tumanyan 2002: Tab. 4: 1.
				Şanlıurfa-Lidar Höyük	ED/EI (900-850)	Müller 1999: Abb. 13, AB 09.
6	S-11	4.3.	8B	Malatya-İmikuşığı	GT/LB II	Sevin 1995: res. 14: 5.
				Şanlıurfa-Lidar Höyük	ED/EI (1075-1000)	Müller 1999: Abb. 8, AB 14.
7	Y-7	4.3.	1B	Bayburt-Büyüktepe	D/I	Sagona et all. 1992: fig. 4: 1-2
				Porsuk	ED/EI	Dupré 1983: pl. 44: 1.
8	A-1	4.3.	5B	Muş-Türkertepe (Soğkom)	E-OD ?/E-MI ?	Rothman 2004: 173, fig. 8: 19.19.
				Elazığ- Korucutepe	ED/EI	Winn 1980: pl. 11: f.

Tip/Type



Res. - Fig.41

Res. – Fig. 42

Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	S-2	4.4.	11B	Bayburt-Büyüktepe	D/I	Sagona et all. 1992: fig. 4: 2.
2	S-13	4.4.	5B	Urmiye-Geoy Tepe	D/I I (1300-1000)	Muscarella 1994: fig. 12.5: (fig. 32: 402)
				Malatya-Köşkerbaba	OD/MI	Ökse 1988: Abb. 781.
3	S-1	4.5.	10	Elazığ- Korucutepe	ED/EI	Winn 1980: pl. 9: f.
				Van-Ernis	ED/EI	Sevin 1996: res. 3: 2.
				Van-İt Kalesi	ED/EI	Marro and Özfirat 2004: pl. 11: 4.
4	Y-1	4.5.	10	Van-Ernis	ED/EI	Sevin 1996: res. 3: 1.
				Van-Mollacem	ED/EI	Marro and Özfirat 2004: pl.11:3.
				Elazığ- Korucutepe	ED/EI	Winn 1980: pl. 16: a.
				Gordion	ED/EI	Henrickson 1994: fig. 10.6: e
				Tokat-Turhal Kale	ED/EI	Durbin 1971: fig. 7: 50.
5	S-1	5.1.	6B	Porsuk	ED/EI	Dupré 1983: pl. 44: 5.
				Van-Karagündüz	ED/EI	Sevin and Kavaklı 1996: res. 25: 8.
				Malatya-Kızıluşağı	ED/EI	Sevin 1987: res. 5: 6.
				Urmiye-Tappeh Gijlar	D/I II (1000-800)	Belgiorna et al. 1984a: fig. 62: 19-20.
				Urmiye-Balajuk	D/I III	Belgiorno et al. 1984: fig. 25: Urmiye-Balajuk 26.
				Şanlıurfa-Lidar Höyük	ED/EI (1100-1075)	Müller 1999: Abb. 4, AB 01.
				Şanlıurfa-Lidar Höyük	ED/EI (1200-1100)	Müller 1999: Abb. 2, AB 01.
				Malatya-Kaleköy	OD/MI	Ökse 1988: Abb. 796.



**Tip/Type**



**4.4.**



**4.5.**



**5.1.**



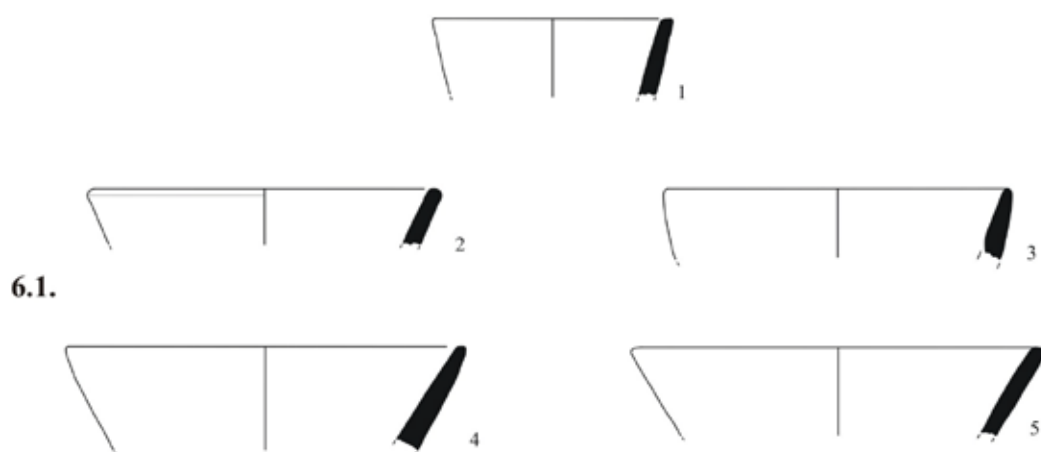
0 5 10 cm

*Res. - Fig. 42*

Res. – Fig. 43

Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	S-1	6.1.	4A	Elazığ-Norşuntepe	ED/EI	Bartl 1994: Abb. 6: 5.
2	S-10	6.1.	4A			
3	A-1	6.1.	1B			
				Şanlıurfa-Lidar Höyük	ED/EI (900-850)	Müller 1999: Abb. 13, AC 02.
				Malatya-Kaleköy	OD/MI	Ökse 1988: Abb. 4.
5	S-11	6.1.	6A			
6	S-2	6.2.	11B			
7	B-1	6.3.	6B			
8	S-2	6.4.	4A	Elazığ-Norşuntepe	ED/EI	Bartl 1994: Abb. 7: 8.
9	S-2	6.4.	6B	Erzurum-Bulamaç	ED/EI	Güneri et al. 2003: fig. 10: 59.
				Elazığ-Norşuntepe	ED/EI	Bartl 1994: Abb. 7: 6.

Tip/Type



6.2.



6.3.



6.4.



0 5 10 cm

Res. - Fig. 43

**Res. – Fig. 44**

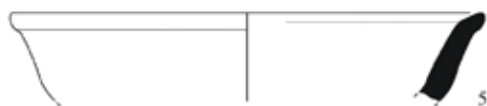
B�y�kardı�				Karşılařtırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	B-1	6.5.	5B			
2	S-1	6.5.	11B	Elazığ-Norşuntepe	ED/EI	Bartl 1994: Abb. 7: 6.
3	S-2	6.5.	5A	Urmiye-Tappeh Gijlar	D/I II (1000-800)	Belgiorna et al. 1984a: fig. 62: 4.
4	S-10	6.5.	1B	Elazığ-Norşuntepe	ED/EI	Bartl 1994: Abb. 7: 6.
5	A-1	6.6.	3B			
6	B-1	6.6.	1B	Malatya-Kaleköy	OD/MI	Ökse 1988: Abb. 24.
7	S-10	6.7.	10			

**Tip/Type**

**6.5.**



**6.6.**



**6.7.**



0 5 10 cm

*Res. - Fig. 44*

Res. – Fig. 45

Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	S-12	7.1.	5B	Şanlıurfa-Lidar Höyük	ED/EI (1200-1100)	Müller 1999: Abb. 2, AE 01.
2	S-2	7.2.	11B	Elazığ- Korucutepe	ED/EI	Winn 1980: pl. 54: 4.
				Van	D/I	Russel 1980: fig. 19/257.7.
				Urmiye-Tappeh Gijlar	D/I II (1000-800)	Belgiorna et al. 1984a: fig. 62: 27.
				Urmiye- Dinkha Tepe	D/I II (1000-800)	Muscarella 1974: fig. 37: 858.
				Şanlıurfa-Lidar Höyük	ED/EI (1075-1000)	Müller 1999: Abb. 8, BB 01.
				Şanlıurfa-Lidar Höyük	ED/EI (1000-900)	Müller 1999: Abb. 10, AC 01.
3	S-2	7.3.	10	Mtskheta-Tserovani	GT/LB	Sadradze 1991: Pl. LXXXII, fig. 17.
				Elazığ- Korucutepe	ED/EI	Winn 1980: pl. 52: 1.
				Erzurum-Bulamaç	ED/EI	Güneri et al. 2003: fig. 6: 32.
				Van	D/I	Russel 1980: fig. 19/257.7.
				Gordion	ED/EI	Henrickson 1994: fig. 10.6: d

**Tip/Type**

**7.1.**



**7.2.**



**7.3.**



*Res. - Fig. 45*

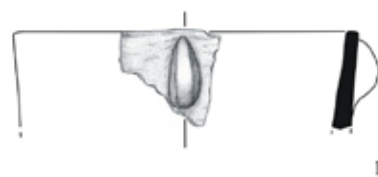
Res. – Fig. 46

Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Datı ng M.Ö. / B.C.	Yayınlar/Literature
1	S-2	8.1.	3A			
2	A'-1	8.1.	10	Bayburt-Çimentepe	GT-ED/LB-EI	Sagona and Sagona 2004: 181, fig. 159: 8.
				Şanlıurfa-Lidar Höyük	OD/MI (800-725)	Müller 1999: Abb. 17, AD 04.
3	S-1	8.1.	11B			
4	S-1	8.2.	2A			
5	S-2	8.2.	11B			
6	S-1	8.3.	1B			
7	S-2	8.3.	8B			



Tip/Type

8.1.



8.2.



8.3.



0 5 10 cm

Res. - Fig. 46

Res. – Fig. 47

Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	S-11	9.1.	1B	Şanlıurfa-Lidar Höyük	ED/EI (1000-900)	Müller 1999: Abb. 11, BB 04.
2	S-1	9.1.	10	Porsuk	ED/EI	Dupré 1983: pl. 52: 57.
				Bayburt-Pulur (Danişment)	D/I	Sagona and Sagona 2004: 185, fig. 117:7.
				Bayburt-Uğrak Taşlık Höyük	D/I	Sagona and Sagona 2004: 184, fig. 112:6.
3	S-13	9.1.	2B	Urmiye-Tappeh Gijlar	D/I II (1000-800)	Belgiorno et al 1984b: fig. 62: 12.
				Şanlıurfa-Lidar Höyük	ED/EI (1100-1075)	Müller 1999: Abb. 5, BB 03.
4	S-7	9.2.	2B			
5	S-1	9.3.	7	Urmiye-Balu 1	D/I III	Belgiorno et al. 1984: fig. 24: 74.

**Tip/Type**

**9.1.**



1



2



3



**9.2..**



4



**9.3.**



5

0 5 10 cm

*Res. - Fig. 47*

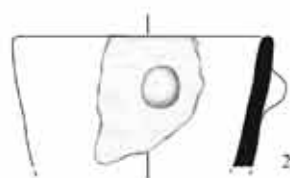
Res. – Fig. 48

B�y�kardı�				Karşılařtırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.�. / B.C.	Yayınlar/Literature
1	S-2	10.1.	4B			
2	S-8	10.1.	1B	Erzurum-Bulama�	GT-ED/LB-EI	G�neri et al. 2003: fig. 2: 12.
3	S-2	10.2.	4B	Urmiye-Kordlar Tepe	GT-D/LB-I	Lippert 1979: Abb. 12: 10.
4	S-2	10.3.	4B	Elazı�-Nor�untepe	ED/EI	Bartl 1994: Abb. 7: 7.

Tip/Type



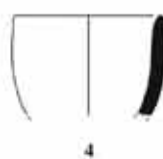
10.1.



10.2.



10.3.



0 5 10 cm

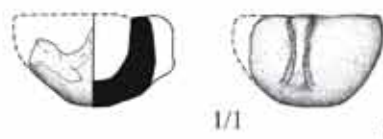
Res. - Fig. 48

**Res. – Fig. 49**

<b>Büyükardıç</b>				<b>Karşılaştırma/Parallels</b>		
<b>No.</b>	<b>K/C</b>	<b>T</b>	<b>M/W</b>	<b>Yerleşim Merkezi/Site</b>	<b>Tarihleme/Dating M.Ö. / B.C.</b>	<b>Yayınlar/Literature</b>
1	A'-1	11.1.	3B			
2	S-2	11.2.	10			
3	B-1	12.1.	3A	Sevan-Martuni	ED/EI	Tumanyan 2002: Tab. 8: 2.
4	S-7	12.2.	10			

**Tip/Type**

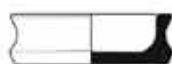
11.1.



1/1

1

11.2.

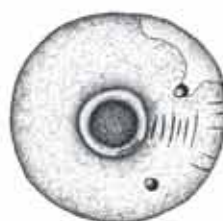


2

12.1.



3



12..2.



4

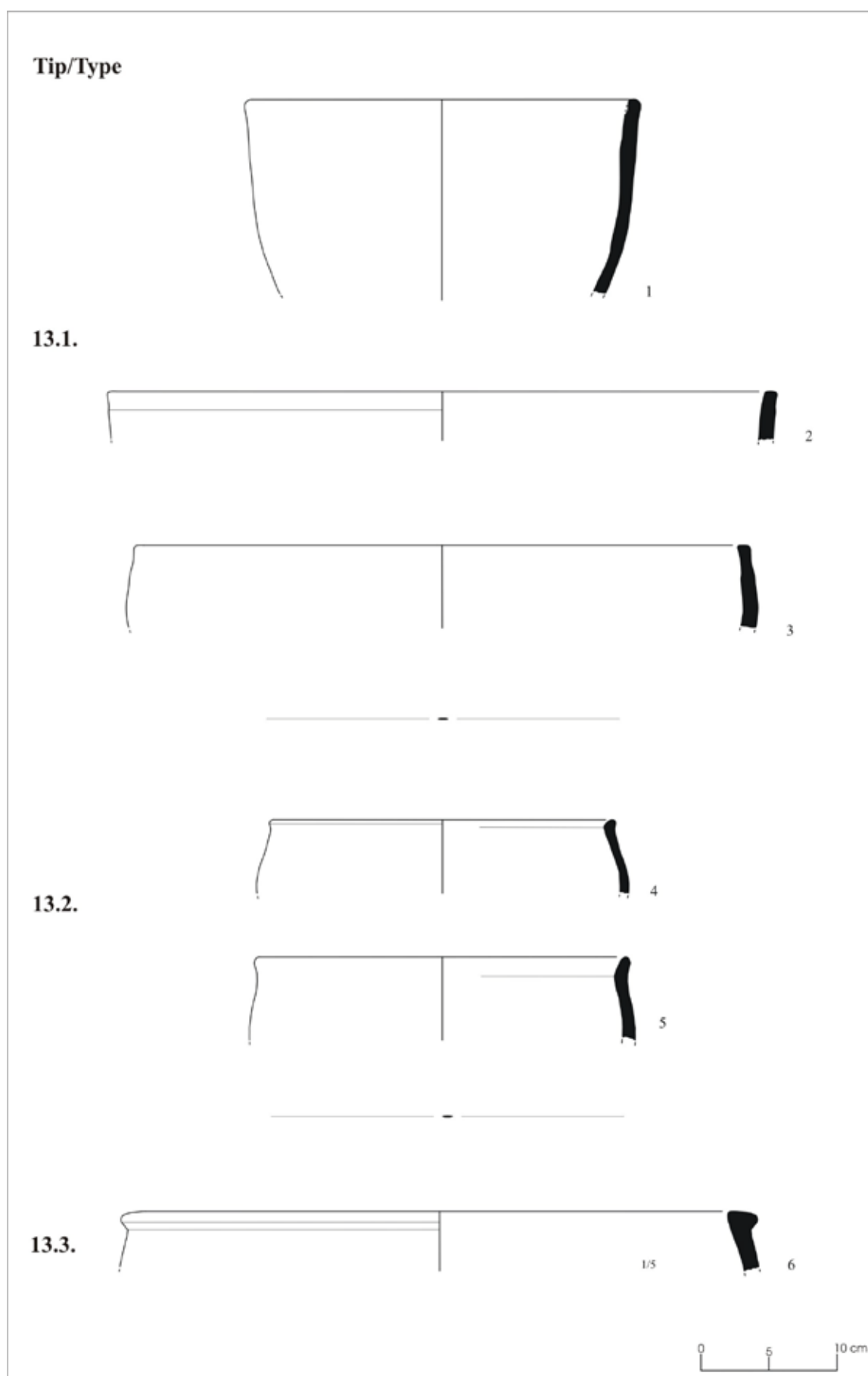


*Res. - Fig. 49*

Res. – Fig. 50

B�y�kardı�				Karşılařtırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	A'-1	13.1.	11B	Elazığ-Norşuntepe	ED/EI	Bartl 1994: Abb. 9: 1.
2	A'-1	13.1.	10	Bayburt-Hoburnu Tepe	D/I	Sagona and Sagona 2004: 184, fig. 153: 5.
3	B-1	13.1.	1B			
4	A-1	13.2.	8A	Malatya-İmikuşığı	ED/EI	Sevin 1995: res. 14: 9.
				Erzurum-Sos	D/I	Sagona et al. 1996: fig. 5: 6.
				Bayburt-B�y�ktepe	D/I	Sagona et al. 1992: fig. 4: 4.
5	S-1	13.2.	11B	Urmiye-Balajuk	D/I III	Belgiorno et al. 1984: fig. 25: Urmiye-Balajuk:38.
6	B-1	13.3.	11B	Urmiye-Tappeh Gijlar	D/I II (1000-800)	Belgiorna et al. 1984a: fig. 62: 78.





*Res. - Fig. 50*

**Res. – Fig. 51**

<b>Büyükardıç</b>				<b>Karşılaştırma/Parallels</b>		
<b>No.</b>	<b>K/C</b>	<b>T</b>	<b>M/W</b>	<b>Yerleşim Merkezi/Site</b>	<b>Tarihleme/Dating M.Ö. / B.C.</b>	<b>Yayınlar/Literature</b>
1	S-2	14.1.	6B	Urmiye-Tappeh Gijlar	D/I II (1000-800)	Belgiorna et al. 1984a: fig. 62: 46.
2	S-2	14.1.	4A			
3	A'-1	14.1.	4A	Porsuk	ED/EI	Dupré 1983: pl. 52: 56.
4	S-1	14.1.	10			
5	S-2	14.1.	1A	Bayburt-Büyüktepe	OT-GT/MB-LB	Sagona and Sagona 2004: 180, fig.144: 7.
6	S-1	14.1.	1B			

Tip/Type

14.1.



1



2



3



4



5



6

0 5 10 cm

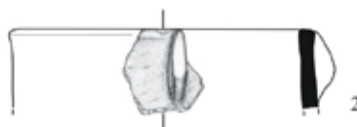
Res. - Fig. 51

**Res. – Fig. 52**

<b>Büyükardıç</b>				<b>Karşılaştırma/Parallels</b>		
<b>No.</b>	<b>K/C</b>	<b>T</b>	<b>M/W</b>	<b>Yerleşim Merkezi/Site</b>	<b>Tarihleme/Dating M.Ö. / B.C.</b>	<b>Yayınlar/Literature</b>
1	S-1	14.2.	6B	Şanlıurfa-Lidar Höyük	ED/EI (1100-1075)	Müller 1999: Abb. 5, BB 05.
2	S-6	14.2.	3A			
3	B-1	14.2.	1B			
4	S-2	14.3.	4B	Bayburt-Akşar Höyük	D/I	Sagona and Sagona 2004: 185, fig. 123:3.
				Gordion	GT/LB	Henrickson 1994: fig. 10.2.1: j.
5	A-1	14.3	6B			

Tip/Type

14.2.



14.3.

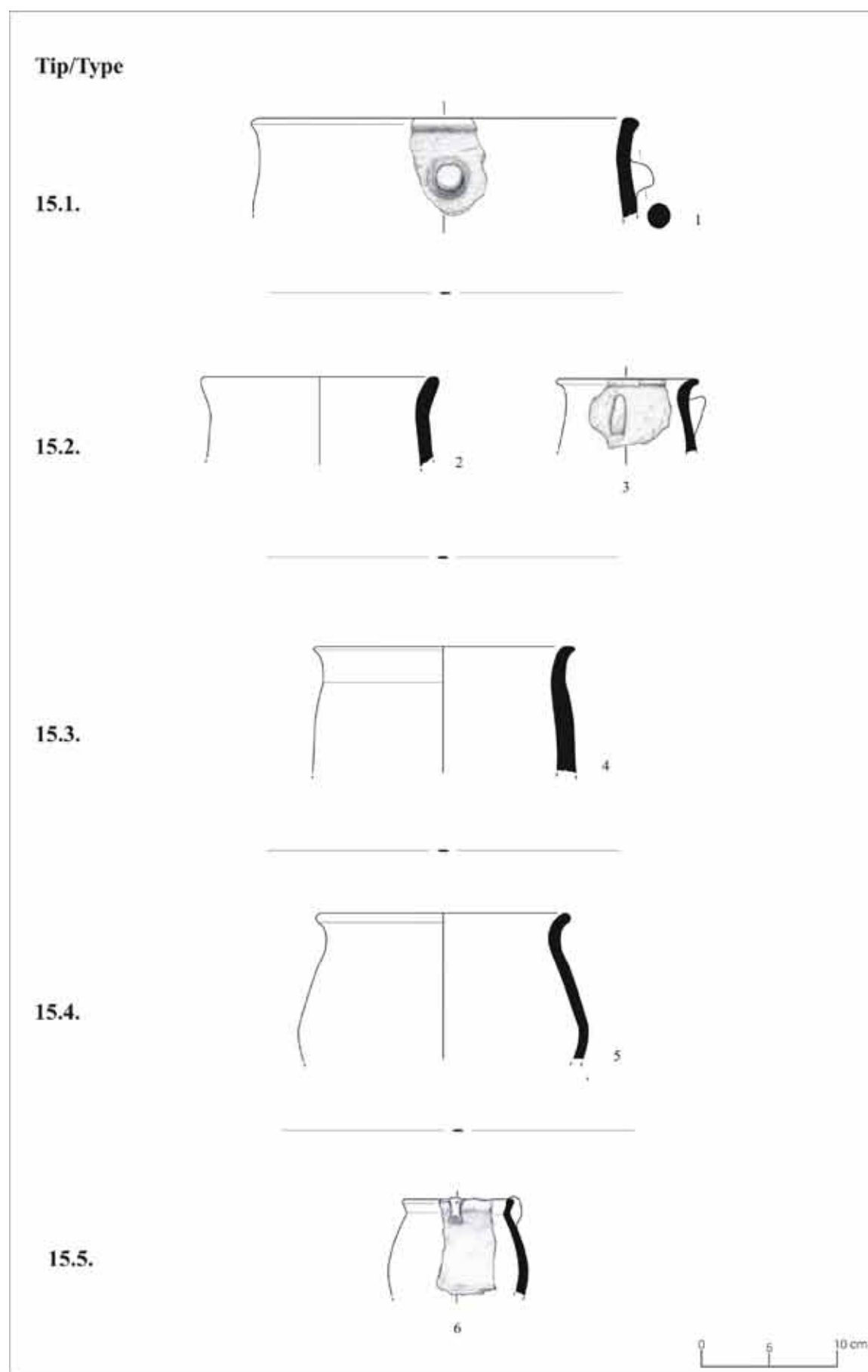


0 5 10 cm

Res. - Fig. 52

Res. – Fig. 53

Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	S-7	15.1.	5A	Gordion	ED/EI	Henrickson 1994: fig. 10.6: b.
2	S-2	15.2.	1B	----	D/I	Whallon 1979: p. 122 gg.
				Urmiye-Kordlar Tepe	GT-D/LB-I I	Lippert 1979: Abb. 10: 2.
3	B1	15.2.	11B			
4	S-1	15.3.	8B	Van-Evdi Tepe	ED/EI	Sevin 2004: 192-193, fig. 2: 9.
				Urmiye-Geoy Tepe	D/I I (1300-1000)	Muscarella 1994: fig. 12.5: (fig. 16: 16)
5	Y-5	15.4.	3B			
6	S-10	15.5.	4B	Şanlıurfa-Lidar Höyük	ED/EI (1075-1000)	Müller 1999: Abb. 8, AC 01.



Res. - Fig. 53

**Res. – Fig. 54**

<b>Büyükardıç</b>				<b>Karşılaştırma/Parallels</b>		
<b>No.</b>	<b>K/C</b>	<b>T</b>	<b>M/W</b>	<b>Yerleşim Merkezi/Site</b>	<b>Tarihleme/Dating M.Ö. / B.C.</b>	<b>Yayınlar/Literature</b>
1	S-2	16.1.	4C	Bayburt-Karaçayır Mevkii 2	GT-ED/LB-EI	Sagona and Sagona 2004: 181, fig. 150:1.
2	S-13	16.1.	4A			
3	S-1	16.1.	11B			
4	S-2	16.1.	6B	Urmiye-Tappeh Gijlar	D/I II (1000-800)	Belgiorno et al 1984b: fig.62:13.
5	S-1	16.1.	11B	Porsuk	GT/LB	Dupré 1983: pl. 34: 213.
				Şanlıurfa-Lidar Höyük	ED/EI (1075-1000)	Müller 1999: Abb. 8, BB 02, BB03.
				Şanlıurfa-Lidar Höyük	ED/EI (1000-900)	Müller 1999: Abb. 11, BB 02.
6	Y-4	16.2.	4B	Şanlıurfa-Lidar Höyük	ED/EI (1000-900)	Müller 1999: Abb. 11, BB 06.



Tip/Type

16.1.



16.2.



0 5 10 cm

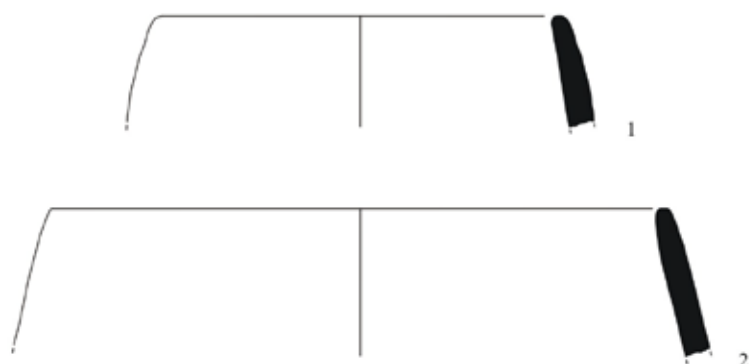
Res. - Fig. 54

Res. – Fig. 55

Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	A-1	16.3.	11B	Urmiye-Tappeh Gijlar	D/I II (1000-800)	Belgiorna et al. 1984a: fig. 62: 49.
2	B-1	16.3.	1B	Porsuk	GT/LB	Dupré 1983: pl. 33: 212.
3	A'-1	16.4.	4C	Elazığ-Tepecik	D/I	Esin 1970: lev. 7: 9.
				Elazığ Bölgesi	ED/EI	Sevin 1991a: fig. 2: 6.
				----	ED/EI	Whallon 1979: fig. 36/dd.
				Ermenistan-Horom	ED/EI	Badaljan et al. 1993: fig. 12: 4.
				Diyarbakır-Hakemi Use	ED/EI	Tekin 2004: şek.8: 8.
				Şanlıurfa-Lidar Höyük	ED/EI (1100-1075)	Müller 1999: Abb. 5, BB 02.
4	S-1	16.4.	6A	Şanlıurfa- Lidar Höyük	OT/MB	Kaschau 1999: Taf. 340: 5.
				Porsuk	GT/LB	Dupré 1983: pl. 32: 207.
5	S-10	17.1.	1B			
6	A-1	17.1.	6B			

Tip/Type

16.3.



16.4.



17.1.

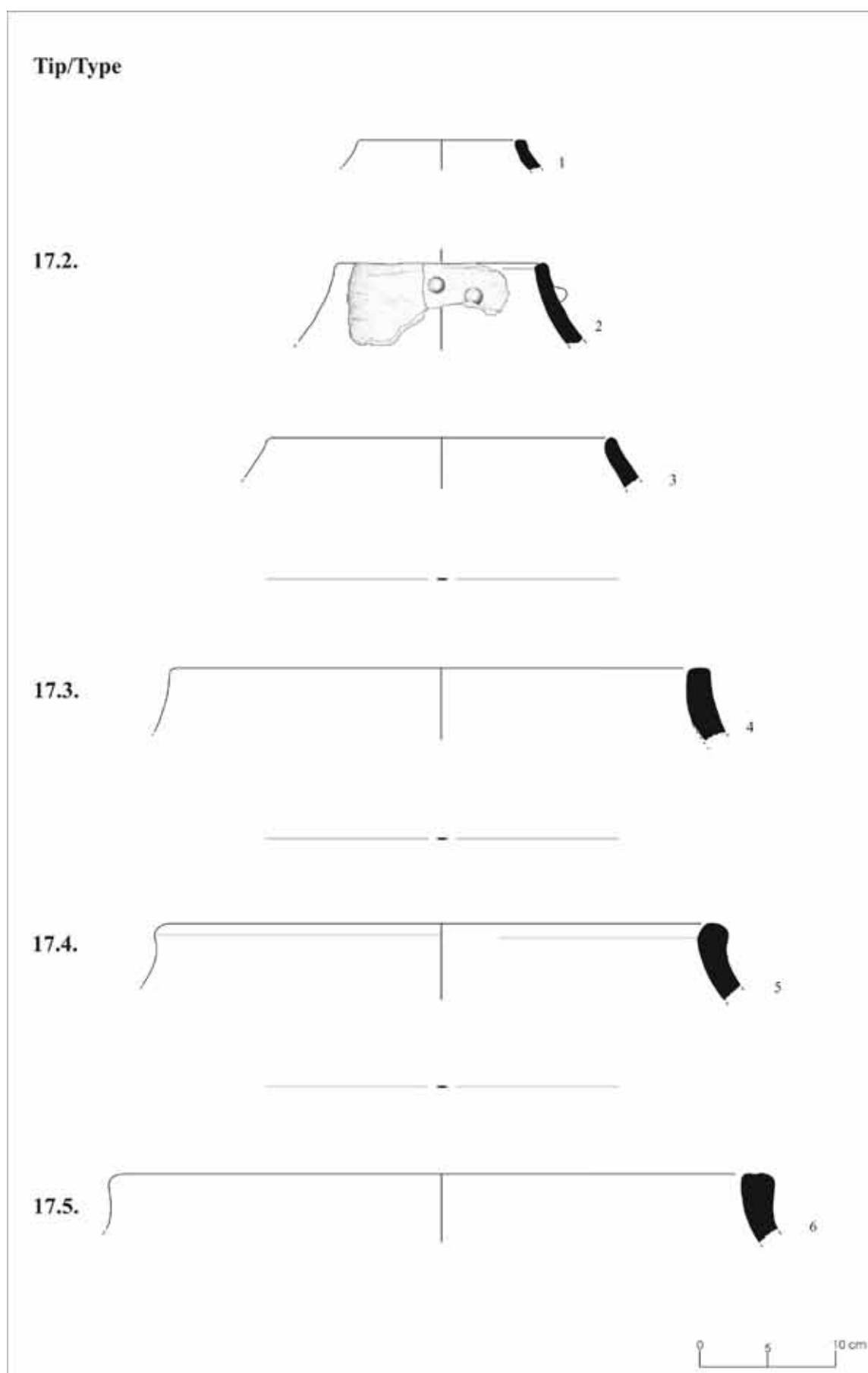


0 5 10 cm

Res. - Fig. 55

Res. – Fig. 56

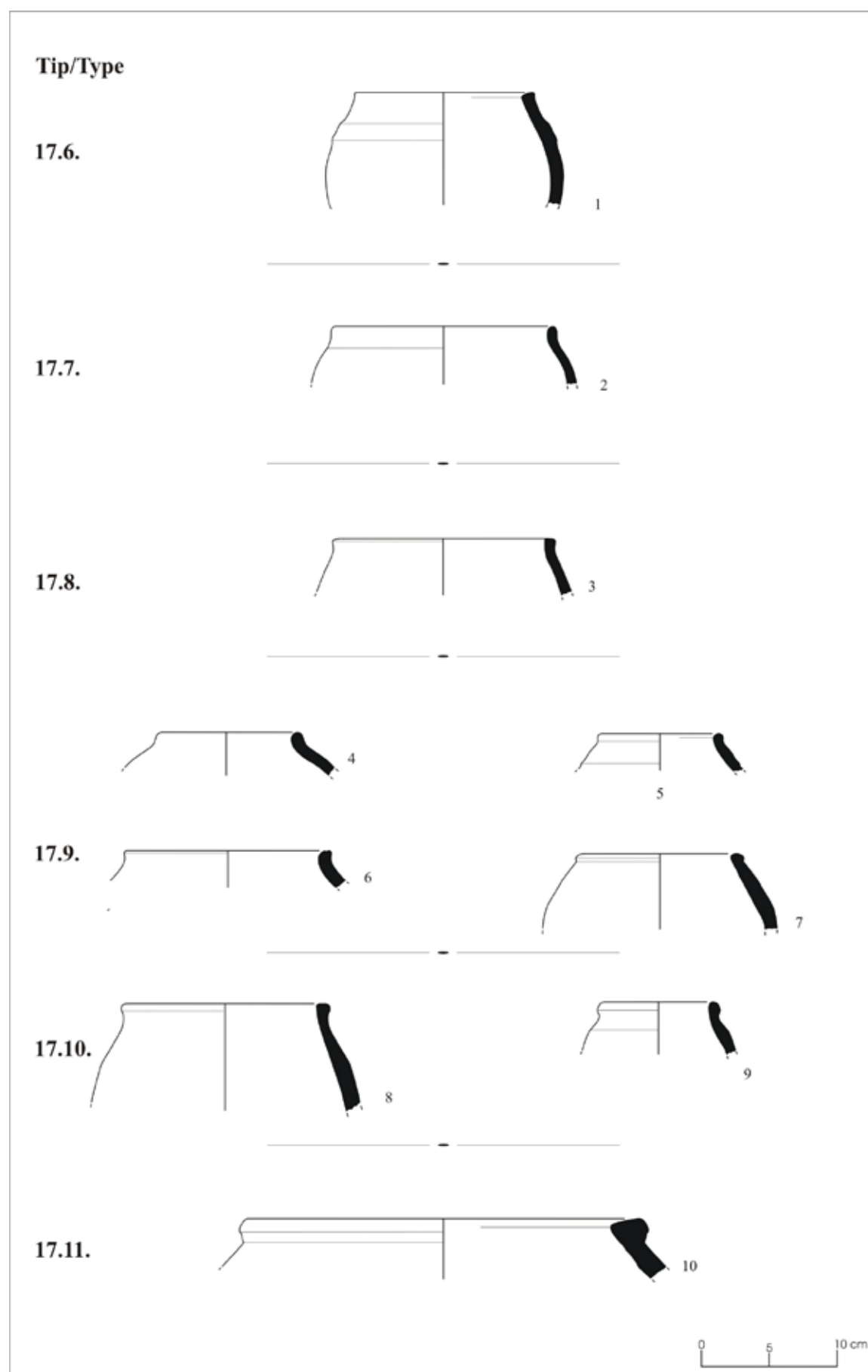
Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	S-2	17.2.	4B	Şanlıurfa-Lidar Höyük	ED/EI (1000-900)	Müller 1999: Abb. 11, BB 08.
2	B-1	17.2.	6B	Tokat (Niksar)-Untepe	ED/EI	Durbin 1971: fig. 7: 51.
				Porsuk	GT/LB	Dupré 1983: pl. 35: 218.
3	B-1	17.2.	3B	Porsuk	GT/LB	Dupré 1983: pl. 35: 219.
4	S-1	17.3.	3B			
5	S-2	17.4.	5B	Van-Evdi Tepe	ED/EI	Sevin 2004: 182, 194-195, fig. 3: 2.
				Urmiye-Tappeh Gijlar	D/I II (1000-800)	Belgiorna et al. 1984a: fig. 62: 58-59.
6	S-1	17.5.	11B			



Res. - Fig. 56

Res. – Fig. 57

Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	S-2	17.6.	8A	Urmiye-Kordlar Tepe	GT-D/LB-I I	Lippert 1979: Abb. 7: 14.
				Malatya-Değirmen-tepe	OD/MI	Ökse 1988: Abb. 876.
2	S-2	17.7.	2B	Şanlıurfa-Lidar Höyük	ED/EI (1000-900)	Müller 1999: Abb. 11, BB 07.
				Malatya-Değirmen-tepe	OD/MI	Ökse 1988: Abb. 878, 1023.
3	S-11	17.8.	2B	Van-Evdi Tepe	ED/EI	Sevin 2004: 182, 194-195, fig. 3: 2.
4	Y-20	17.9.	3A	Şanlıurfa-Lidar Höyük	ED/EI (1100-1075)	Müller 1999: Abb. 5, BC 02.
				Şanlıurfa-Lidar Höyük	ED/EI (1075-1000)	Müller 1999: Abb. 9, BC 01.
				Şanlıurfa-Lidar Höyük	OD/MI (800-725)	Müller 1999: Abb. 17, BC 02.
5	S-1	17.9.	10			
6	B-2	17.9.	1B	Elazığ-Norşuntepe	ED/EI	Bartl 1994: Abb. 17: 2.
7	A-1	17.9.	5B	Şanlıurfa-Lidar Höyük	ED/EI (850-800)	Müller 1999: Abb. 15, BC 02.
8	S-10	17.10.	5B	Van-Evdi Tepe	ED/EI	Sevin 2004: 182, 194-195, fig. 3: 3.
				Şanlıurfa-Lidar Höyük	ED/EI (1075-1000)	Müller 1999: Abb. 9, DB 05.
				Şanlıurfa-Lidar Höyük	ED/EI (850-800)	Müller 1999: Abb.15, BC 03.
9	S-1	17.10.	8A			
10	S-11	17.11.	9B	Şanlıurfa-Lidar Höyük	ED/EI (1100-1075)	Müller 1999: Abb. 5, BC 01.
				Şanlıurfa-Lidar Höyük	ED/EI (1000-900)	Müller 1999: Abb. 11, BC 04.
				Tokat (Niksar)-Untepe	ED/EI	Durbin 1971: fig. 7: 65.
				Malatya-Üyücek Tepe	OD/MI	Ökse 1988: Abb. 1036.
				Malatya-İmamoglu	OD/MI	Ökse 1988: Abb. 1091.



Res. - Fig. 57

Res. – Fig. 58

Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	S-1	17.12.	6B	Malatya-İmikuşağı	ED/EI	Sevin 1995: res. 16: 6.
2	S-10	17.13.	11B	Urmiye-Tappeh Gijlar	D/I II (1000-800)	Belgiorna et al. 1984a: fig. 62: 77.
				Urmiye-Balu 1	D/I I-II	Belgiorno et al. 1984: fig. 24: 52.
3	B-3	17.13.	2B	Erzurum-Bulamaç	GT-ED/LB-EI	Güneri et al. 2003: res. 7: 44.
				Urmiye-Balajuk	D/I II-III	Belgiorno et al. 1984: fig. 25: Urmiye-Balajuk:44.
4	S-1	17.14.	1B			
5	S-10	17.14.	1B	Urmiye-Balu 1	D/I I-II	Belgiorno et al. 1984: fig. 24: 70.



Tip/Type

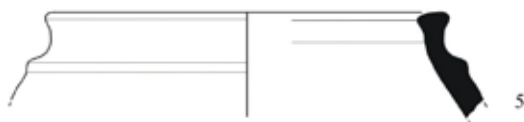
17.12.



17.13.



17.14.



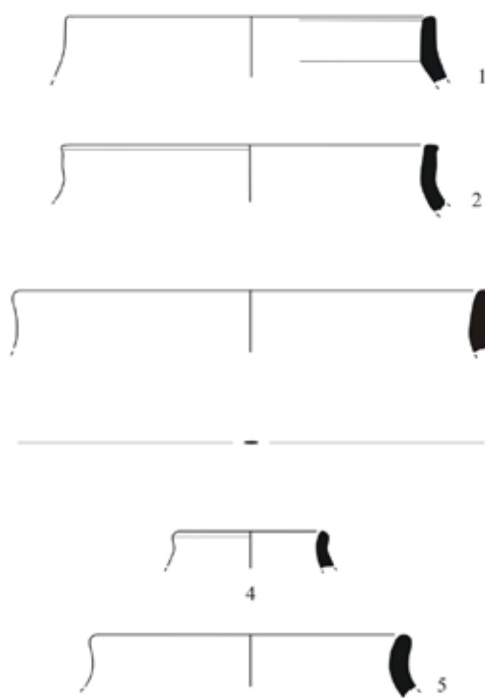
Res. - Fig. 58

Res. – Fig. 59

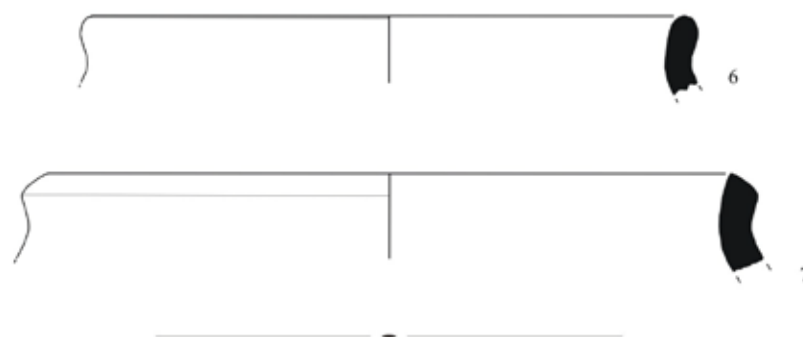
B�y�kardı�				Karşılařtırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	S-2	18.1.	1B			
2	S-1	18.1.	2B			
3	S-1	18.1.	11A			
4	A'-1	18.2.	6A	Malatya-İmikuşadı	ED/EI	Sevin 1995: res. 14: 11.
5	B-1	18.2.	5B	Malatya-İmikuşadı	ED/EI	Sevin 1995: res. 16: 2.
				Sevan-Sangar	ED/EI	Tumanyan 2002: Tab. 5: 14.
				Urmiye- Dinkha Tepe	D/I II	Muscarella 1974: fig. 28: 255.
6	S-1	18.2.	9B			
7	C-1	18.2.	11B			
8	S-11	18.3.	9B			
9	S-12	18.3.	11B			

## Tip/Type

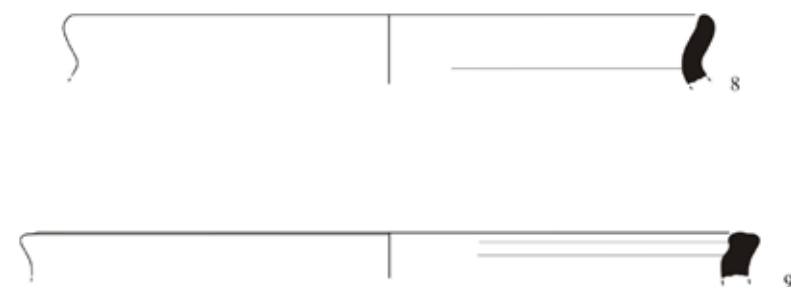
18.1.



18.2.



18.3.

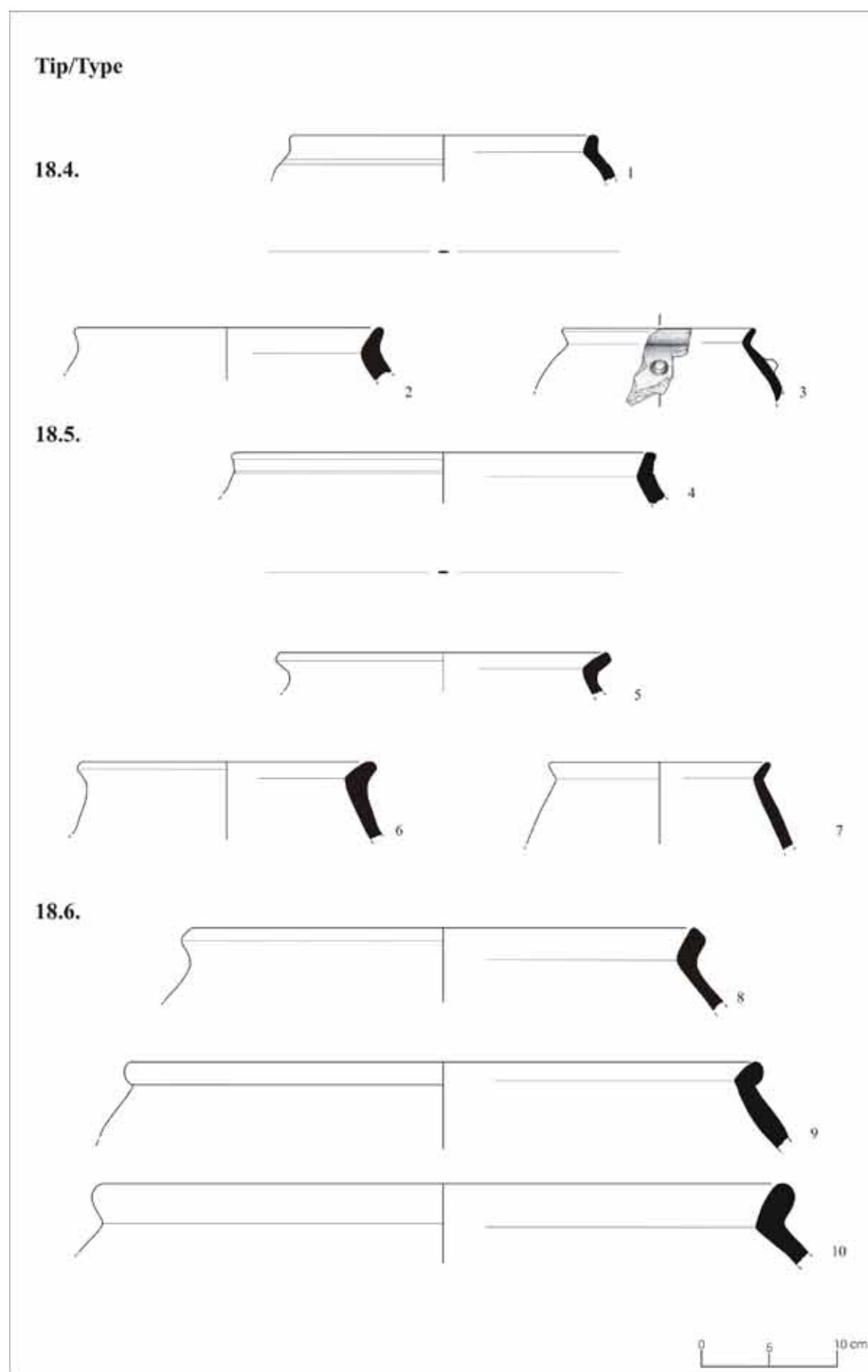


0 5 10 cm

Res. - Fig. 59

Res. – Fig. 60

Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	A-1	18.4.	4A			
2	S-11	18.5.	6B	Bayburt-Hoburnu Tepe	D/I	Sagona and Sagona 2004: 185, fig. 153: 11.
3	S-1	18.5.	7	Ermenistan-Horom	ED/EI	Badaljan 1994: fig. 12: 4.
				Urmiye-Balu 1	D/I I-II	Belgiorno et al. 1984: fig. 24: 66.
				Şanlıurfa-Lidar Höyük	ED/EI (900-850)	Müller 1999: Abb. 13, BC 05.
4	S-1	18.5.	1B			
5	S-7	18.6.	4B	Şanlıurfa-Lidar Höyük	OT/MB	Kaschau 1999: Taf. 61: 3.
				Van-Karagündüz	ED/EI	Sevin and Kavaklı 1996: res. 25: 12.
				Urmiye-Balu 1	D/I I-II (1350-800)	Belgiorno et al. 1984: fig. 24: 66.
6	S-1	18.6.	5B	Şanlıurfa-Lidar Höyük	ED/EI (1200-1100)	Müller 1999: Abb. 3, CA 01.
				Gordion	ED/EI	Henrickson 1994: fig. 10.4: g.
7	Y-6	18.6.	3B	Urmiye-Kordlar Tepe	GT-D/LB-I I	Lippert 1979: Abb. 2: 1.
				Malatya-Kaleköy	OD/MI	Ökse 1988: Abb. 1044.
8	S-11	18.6.	11B			
9	S-1	18.6.	6B	Urmiye-Tappeh Gijlar	D/I II (1000-800)	Belgiorna et al. 1984a: fig. 62: 75.
				Şanlıurfa-Lidar Höyük	ED/EI (1075-1000)	Müller 1999: Abb. 8, AE 02.
				Şanlıurfa-Lidar Höyük	ED/EI (850-800)	Müller 1999: Abb. 15, BC 01.
10	S-8	18.6.	11B	Şanlıurfa- Lidar Höyük	OT/MB	Kaschau 1999: Taf. 61: 8.
				Urmiye-Balu 1	D/I III	Belgiorno et al. 1984: fig. 24: 64-65.



*Res. - Fig. 60*

**Res. – Fig. 61**

<b>Büyükardıç</b>				<b>Karşılaştırma/Parallels</b>		
<b>No.</b>	<b>K/C</b>	<b>T</b>	<b>M/W</b>	<b>Yerleşim Merkezi/Site</b>	<b>Tarihleme/Dating M.Ö. / B.C.</b>	<b>Yayınlar/Literature</b>
1	A-2	18.7.	4B	Urmiye-Tappeh Gijlar	D/I II (1000-800)	Belgiorna et al. 1984a: fig. 62: 75.
2	S-1	18.7.	9B			
3	S-22	18.7.	11B	Şanlıurfa-Lidar Höyük	OD/MI (800-725)	Müller 1999: Abb. 18, CA 16.
4	B-2	18.8.	11B			
5	S-1	18.8.	11B	Urmiye-Kordlar Tepe	GT-D/LB-I I	Lippert 1979: Abb. 1.
6	S-2	18.8.	6B	Elazığ-Haroğlu	ED/EI	Sevin 1987: res. 43: 7.
7	A-3	18.9.	11B			

**Tip/Type**



**18.7.**



**18.8.**



**18.9.**



0 5 10 cm

*Res. - Fig. 61*

Res. – Fig. 62

B�y�kard��				Kar�ıla�tırma/Parallels		
No.	K/C	T	M/W	Yerle�im Merkezi/Site	Tarihleme/Dating M.�. / B.C.	Yayınlar/Literature
1	S-11	18.10.	8A	Malatya-�miku�a�ı	ED/EI	Sevin 1995: res.16:1.
				�anlıurfa-Lidar H�y�k	ED/EI (1000-900)	M�ller 1999: Abb. 11, BC 5.
2	S-1	18.11.	10			
3	S-2	18.11.	10			
4	S-11	18.11.	10	Porsuk	GT/LB	Dupr� 1983: pl. 26: 160.
5	S-11	18.11.	10			
6	S-11	18.11.	10			
7	S-1	18.11.	9B			

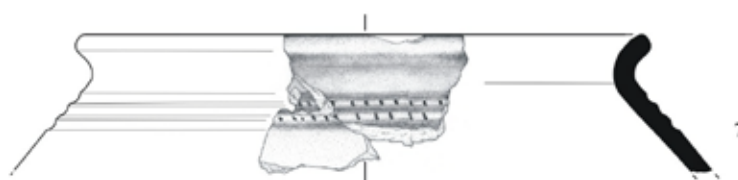
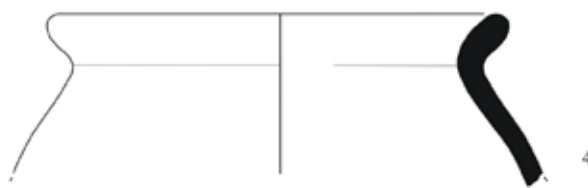


Tip/Type

18.10.



18.11.



0 5 10 cm

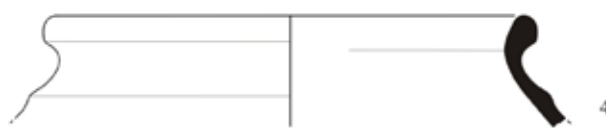
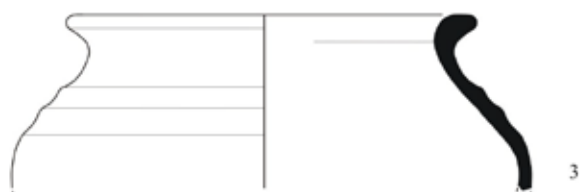
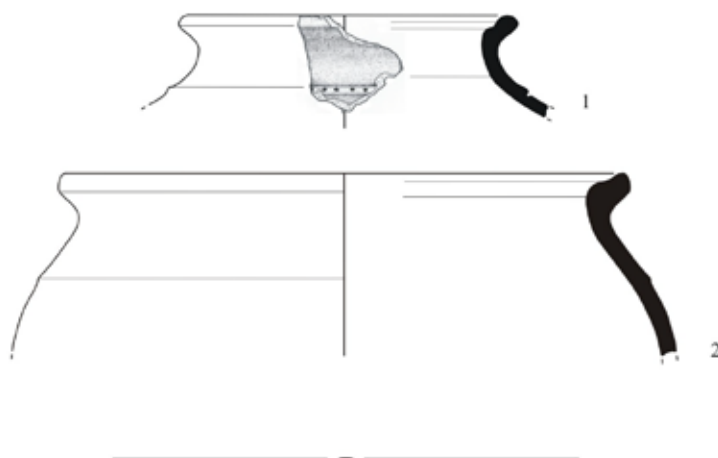
Res. - Fig. 62

Res. – Fig. 63

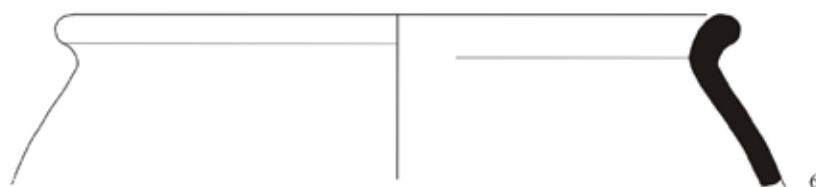
Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	S-2	18.12.	7	Malatya-İmikuşağı	ED-OD/EI-MI	Sevin 1995: res. 18: 3.
				Tokat-Maşat	D/I	Durbin 1971: fig. 7: 55
				Tokat-Maşat	D/I	Özgüç 1982: şek. J: 11, K: 6.
2	S-11	18.12.	9B	Tokat-Maşat	D/I	Özgüç 1982: şek. K: 4.
				Gordion	ED/EI	Henrickson and Voigt 1998: fig. 15: 3.
				Porsuk	GT/LB	Dupré 1983: pl. 26: 159.
3	S-11	18.13.	10	Mtskheta-Tserovani	GT/LB	Sadradze 1991: LI, fig. 3.
				Malatya-İmikuşağı	ED/EI	Sevin 1995: res. 17: 2.
				Şanlıurfa-Lidar Höyük	ED/EI (1000-900)	Müller 1999: Abb. 12, CA 07.
4	Y-30	18.13.	10			
5	S-1	18.13.	10	Van-Aşağı Karaçay	ED/EI	Marro and Özfirat 2004: pl. 15: 1.
6	S-11	18.13.	11B	Urmiye-Tappeh Gijlar	D/I II (1000-800)	Belgiorna et al. 1984a: fig. 62: 84.
7	S-1	18.13.	4B	Urmiye-Kordlar Tepe	GT-D/LB-I I	Lippert 1979: Abb. 3: 2.

Tip/Type

18.12.



18.13.



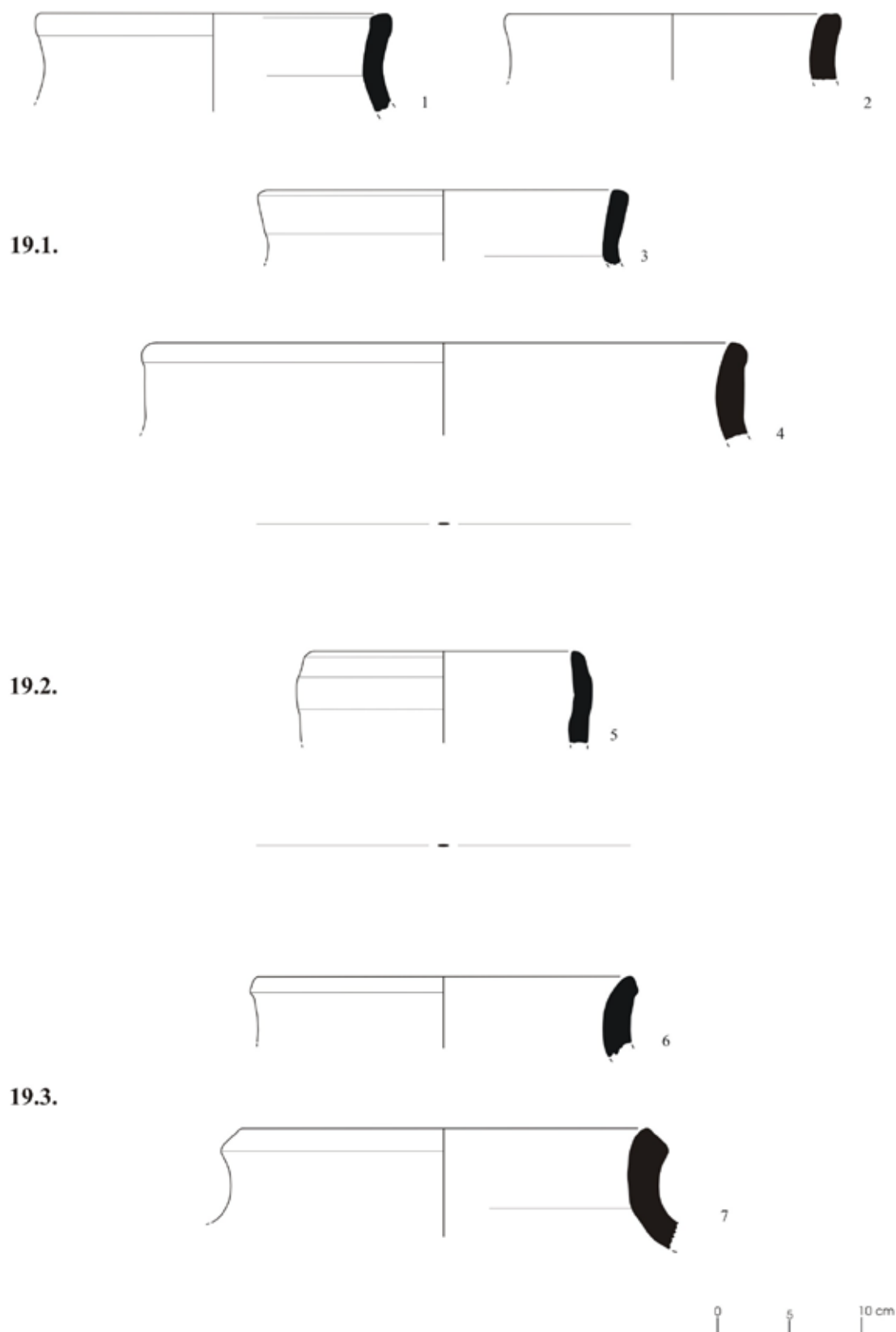
0 5 10 cm

Res. - Fig. 63

Res. – Fig. 64

Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	A'-1	19.1.	1A			
2	S-1	19.1.	11B	Urmiye- Dinkha Tepe	D/I II	Muscarella 1974: fig. 26: 173.
3	A'-1	19.1.	8A	Şanlıurfa-Lidar Höyük	ED/EI (1200-1100)	Müller 1999: Abb. 3, DB 04.
				Şanlıurfa-Lidar Höyük	ED/EI (1100-1075)	Müller 1999: Abb. 6, DB 05.
4	S-1	19.1.	6B			
5	B-2	19.2.	4C			
6	A'-1	19.3.	11B	Muş-Türker Tepe Soğkom	GT-ED/LB-EI	Rothman 2004: 172, fig. 8: 19.10.
7	S-2	19.3.	11B			

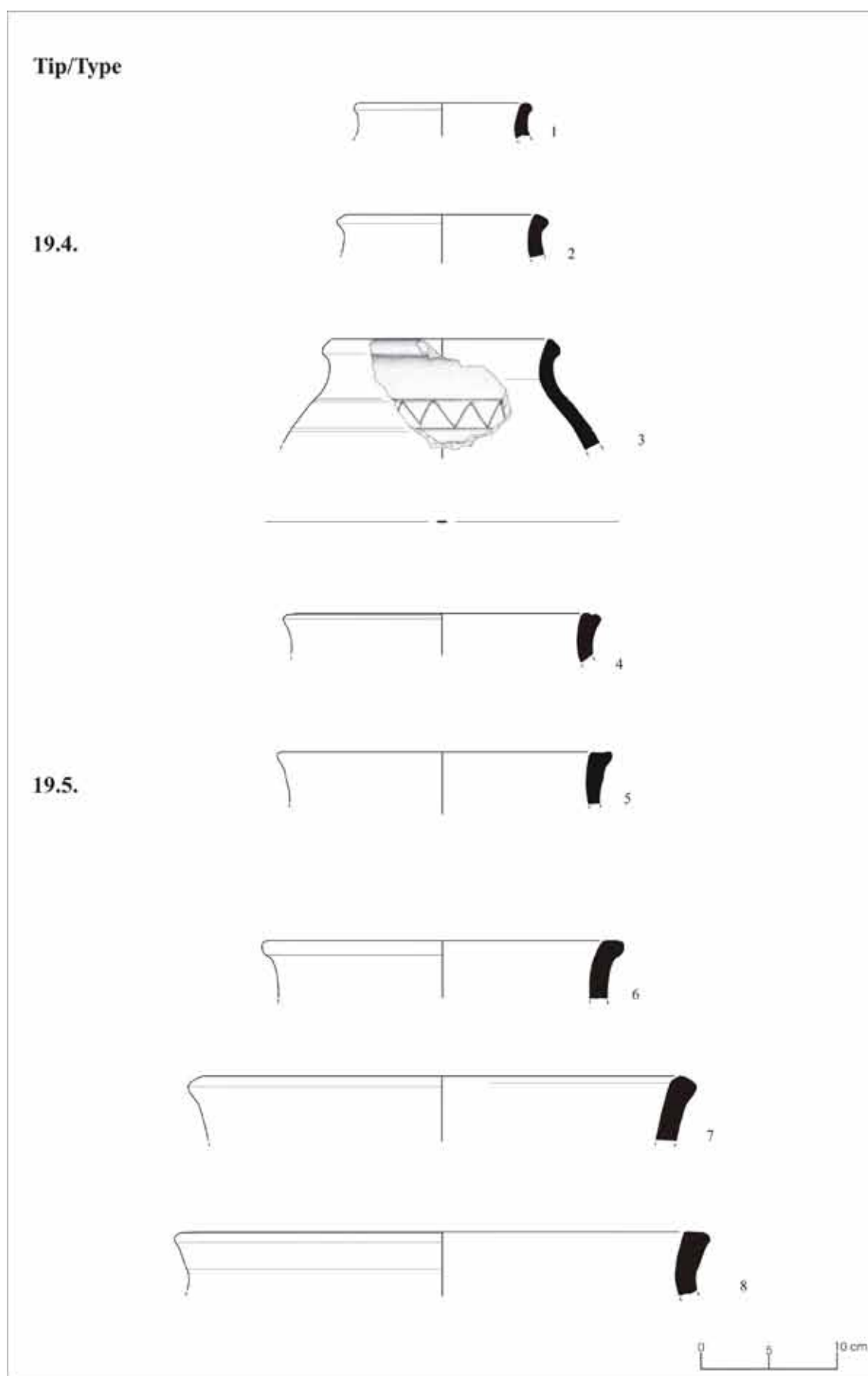
Tip/Type



Res. - Fig. 64

Res. – Fig. 65

Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	A-1	19.4.	2B	Van-Evdi Tepe	ED/EI	Sevin 2004: 182, 192-193, fig. 2: 14.
				Bayburt-Aksaçlı	D/I	Sagona and Sagona 2004:184, fig. 115: 1-2.
2	B-1	19.4.	3B	Sevan-Kari Dur	GT/LB	Tumanyan 2002: Tab.4:3.
				Bayburt-Çayıryolu Tepe 1	D/I	Sagona and Sagona 2004: 183, fig. 137: 2.
				Urmiye-Tappeh Gijlar	D/I II (1000-800)	Belgiorna et al. 1984a: fig. 62: 73.
				Şanlıurfa-Lidar Höyük	ED/EI (1200-1100)	Müller 1999: Abb. 3, BA 03.
				Şanlıurfa-Lidar Höyük	ED/EI (1100-1075)	Müller 1999: Abb. 6, DB 08.
				Şanlıurfa-Lidar Höyük	ED/EI (1075-1000)	Müller 1999: Abb. 9, DB 06.
				Şanlıurfa-Lidar Höyük	ED/EI (1000-900)	Müller 1999: Abb. 12, CB 03.
3	A-1	19.4.	2B	Van-Aliler Kale	ED/EI	Sevin 2004: 184-185, fig. 4: 3.
4	A'-1	19.5.	1B			
5	A'-1	19.5.	6B	Van-Evdi Tepe	ED/EI	Sevin 2004: 182, 192-193, fig. 3: 1.
6	A'-1	19.5.	9B	Van-Evdi Tepe	ED/EI	Sevin 2004: 182, 192-193, fig. 3: 1.
				Bayburt-Hoburnu Tepe	D/I	Sagona and Sagona 2004: 183, fig. 153: 8.
				Şanlıurfa-Lidar Höyük	ED/EI (1200-1100)	Müller 1999: Abb. 3, DB 05.
7	A-1	19.5.	10	Bayburt-Eski Koyeri Tepe 2	D/I	Sagona and Sagona 2004: 184, fig. 118: 12.
8	S-1	19.5.	4B			

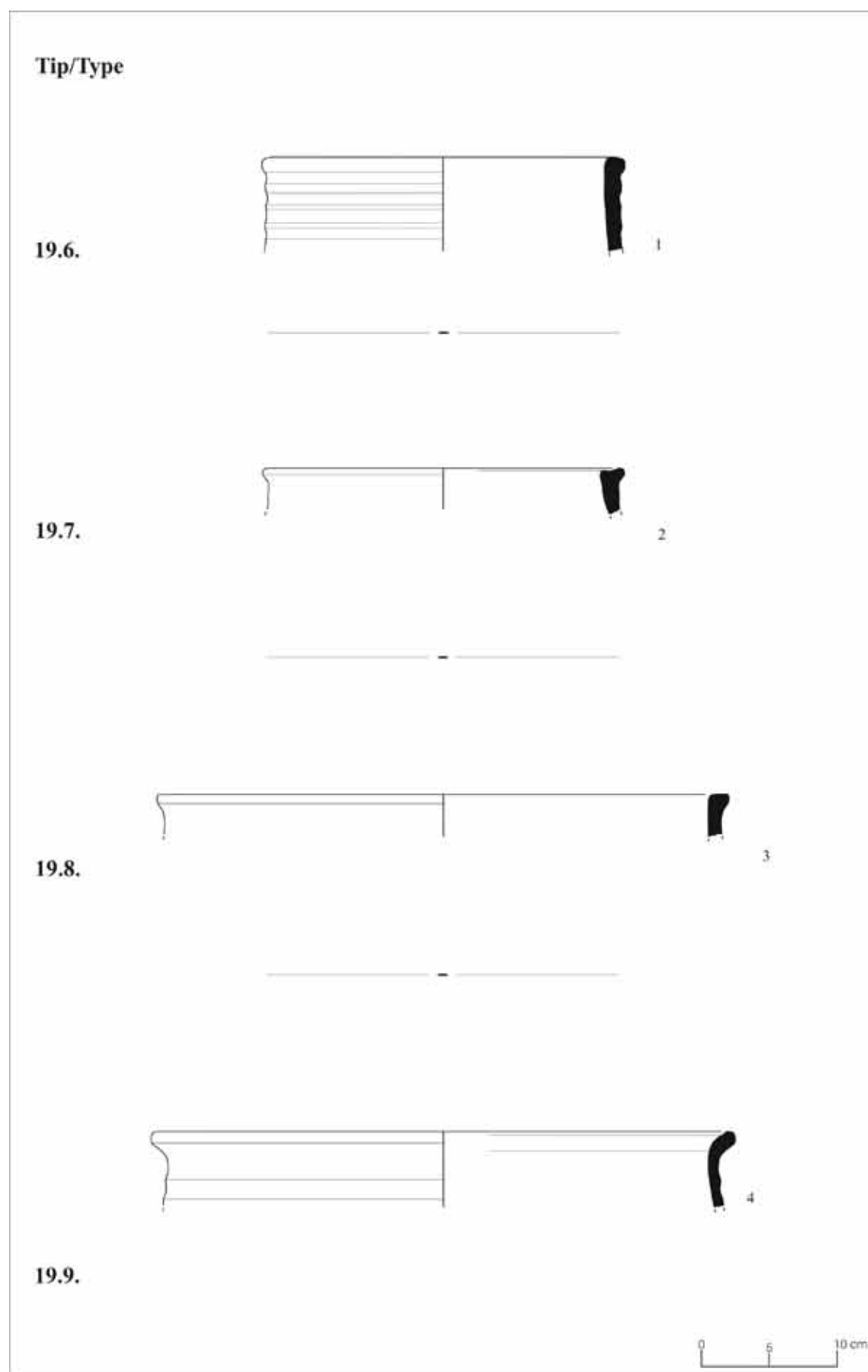


*Res. - Fig. 65*

**Res. – Fig. 66**

<b>Büyükardıç</b>				<b>Karşılaştırma/Parallels</b>		
<b>No.</b>	<b>K/C</b>	<b>T</b>	<b>M/W</b>	<b>Yerleşim Merkezi/Site</b>	<b>Tarihleme/Dating M.Ö. / B.C.</b>	<b>Yayınlar/Literature</b>
1	S-13	19.6.	6B			
2	A-1	19.7.	4B	Urmiye-Kul	D/I I-II	Belgiorno et al. 1984: fig. 25: Urmiye-Kul:10.
				Şanlıurfa-Lidar Höyük	ED/EI (1000-900)	Müller 1999: Abb. 11, BB 05.
3	A'-1	19.8.	6B	Şanlıurfa-Lidar Höyük	OD/MI (800-725)	Müller 1999: Abb.17, AE 04.
				Malatya-İmikuşığı	ED-OD/EI-MI	Sevin 1995: res. 17: 4.
4	A'-1	19.9.	3B	Şanlıurfa-Lidar Höyük	ED/EI (1075-1000)	Müller 1999: Abb. 8, AE 01.





*Res. - Fig. 66*

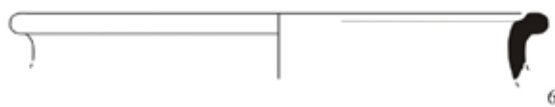
Res. – Fig. 67

Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	S-1	19.10.	6B			
2	A'-1	19.10.	9B	Şanlıurfa-Lidar Höyük	ED/EI (1075-1000)	Müller 1999: Abb. 9, DB 04.
3	S-10	19.10.	10	Bayburt-Çayıryolu Tepe 3	D/I	Sagona and Sagona 2004: 184, fig. 140: 10.
4	B-1	19.10.	9B			
5	S-1	19.10.	11B	Bayburt-Çengiler Tepe	D/I	Sagona and Sagona 2004: 184, fig. 192: 3.
				Şanlıurfa-Lidar Höyük	ED/EI (1075-1000)	Müller 1999: Abb. 8, BB 05.
6	S-10	19.11.	5B	Sevan-Berdi Dosh	ED/EI	Tumanyan 2002: Tab. 6:7.
				Malatya-Değirmentepe	OD/MI	Ökse 1988: no. 374.
				Diyarbakır-Grê Dimsê	ED/EI	Karg 2001: şek. 9.
				Porsuk	OD/MI	Dupré 1983: pl. 88: 225.
7	S-2	19.11.	3B	Sevan-Berdi Dosh	ED/EI	Tumanyan 2002: Tab. 6: 7.
				Malatya-İmikuşağı	ED/EI	Sevin 1995: res. 18: 3.
				Porsuk	OD/MI	Dupré 1983: pl. 88: 230.

Tip/Type



19.10.



19.11.



0 5 10 cm

Res. - Fig. 67

Res. – Fig. 68

B�y�kard��				Kar�ıla�tırma/Parallels		
No.	K/C	T	M/W	Yerle�im Merkezi/Site	Tarihleme/Dating M.�. / B.C.	Yayınlar/Literature
1	S-2	19.12.	9B	Porsuk	GT/LB	Dupr� 1983: pl. 37: 231.
2	S-1	19.12.	9B	Malatya-De�irmentepe	OD/MI	�kse 1988: no. 375.
3	S-1	19.12.	9B	Porsuk	GT/LB	Dupr� 1983: pl. 37: 234.
				Urmiye-Tappeh G�jlar	D/I II (1000-800)	Belgiorna et al. 1984a: fig. 62: 86.
				�anlıurfa-Lidar H�y�k	ED/EI (1200-1100)	M�ller 1999: Abb. 3, CB 01.
				�anlıurfa-Lidar H�y�k	ED/EI (900-850)	M�ller 1999: Abb. 13, AE 04.
4	S-10	19.12.	9B	Urmiye- Dinkha Tepe	D/I II	Muscarella 1974: fig. 37: 169.
5	A-1	19.12.	9B			

Tip/Type



19.12.



0 5 10 cm

Res. - Fig. 68

Res. – Fig. 69

Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	S-1	19.13.	8A	Van-Evdi Tepe	ED/EI	Sevin 2004: 182, 192-193, fig. 2: 12
				Şanlıurfa-Lidar Höyük	ED/EI (1000-900)	Müller 1999: Abb. 12, DA 02.
				Bayburt-Pulur (Danışment)	D/I	Sagona and Sagona 2004: 184, fig. 116: 11.
2	A'-1	19.13.	4C	Bayburt-Akşar Höyük	D/I	Sagona and Sagona 2004: 184, fig. 123: 9.
				Bayburt-Pulur (Danışment)	D/I	Sagona and Sagona 2004: 184, fig. 116: 14.
				Şanlıurfa-Lidar Höyük	ED/EI (1075-1000)	Müller 1999: Abb. 9, DA 01.
3	S-1	19.13.	11B	Bayburt-Değirmen-tepe	D/I	Sagona and Sagona 2004: 184, fig. 147: 13.
4	A-1	19.13.	3B			
5	A'-1	19.13.	1B			
6	A-1	19.14.	8A	Bayburt-Pulur (Danışment)	D/I	Sagona and Sagona 2004: 183, fig. 116: 14.
7	S-1	19.14.	6A	Urmiye-Tappeh Gijlar	D/I II (1000-800)	Belgiorna et al. 1984a: fig. 62: 98.
				Urmiye- Dinkha Tepe	D/I II	Muscarella 1974: fig. 27: 422.
				Şanlıurfa-Lidar Höyük	ED/EI (900-850)	Müller 1999: Abb. 14, DB 05.
8	S-10	19.14.	10	Bayburt-Akşar Höyük	D/I	Sagona and Sagona 2004: 183, fig. 123: 9.
				Urmiye- Dinkha Tepe	D/I II	Muscarella 1974: fig. 26: 252.
9	S-1	19.14.	9B	Şanlıurfa-Lidar Höyük	ED/EI (1075-1000)	Müller 1999: Abb. 8, AF 01.

Tip/Type



19.13.



19.14.



0 5 10 cm

Res. - Fig. 69

Res. – Fig. 70

Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	S-1	19.15.	6B	Elazığ -Genefik	ED/EI	Sevin 1987: res. 22: 5.
				Bayburt-Büyüktepe	D/I	Sagona et al. 1992: fig. 5: 14.
				Bayburt-Çayırıolu Tepe 3	D/I	Sagona and Sagona 2004: 183, fig. 140: 3.
2	B-1	19.16.	9B	Malatya-İmikuşığı	ED/EI	Sevin 1995: res. 18: 5.
3	A'-1	19.16.	2B	Erzurum-Toprakkale	ED/EI	Başgelen and Özfırat 1996: lev. 7: 3.
4	A'-1	19.16.	2B			
5	S-2	19.16.	6B	Bayburt Kale	D/I	Sagona and Sagona 2004: 184, fig. 112: 11.
6	S-10	19.16.	11B	Şanlıurfa-Lidar Höyük	ED/EI (1100-1075)	Müller 1999: Abb. 6, DA 01.
				Bayburt- Kazlarboğazı Tepe	D/I	Sagona and Sagona 2004: 184, fig. 184: 3.
7	S-2	19.17.	4B	Şanlıurfa-Lidar Höyük	ED/EI (1000-900)	Müller 1999: Abb. 10, AC 02.
				Şanlıurfa-Lidar Höyük	OD/MI (725-650)	Müller 1999: Abb.19, AC 02.



Tip/Type

19.15.



19.16.



19.17.



0 5 10 cm

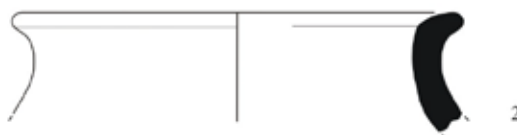
Res. – Fig. 71

Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	S-1	19.18.	10			
2	S-2	19.18.	4B			
3	S-1	19.19.	11B	Muş-Kırkgöze	ED/EI	Özfırat 2001: res. 10: 2.
4	A'-1	19.19.	1B	Muş-Okçuhan	ED/EI	Özfırat 2001: res. 10: 4.
				Bayburt-Balta Kaya Tepe 1	D/I	Sagona and Sagona 2004: 184, fig. 142: 12, 140: 3.
5	S-2	19.19.	11B	Muş-Kırkgöze	ED/EI	Özfırat 2001: res. 10: 3.
				Gordion	ED/EI	Henrickson 1994: fig. 10.6: f
				Şanlıurfa-Lidar Höyük	ED/EI (1100-1075)	Müller 1999: Abb. 4, BA 03.
6	S-1	19.20.	11B	Bingöl-Bahçecik	ED/EI	Sevin 1987: res. 22: 5.
				Şanlıurfa-Lidar Höyük	ED/EI (1100-1075)	Müller 1999: Abb. 6, DB 09.

Tip/Type



19.18.



19.19.



19.20.

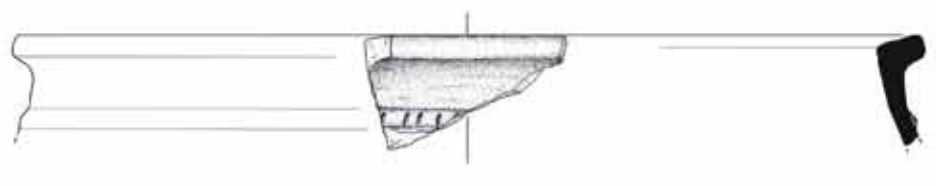


Res. - Fig. 71

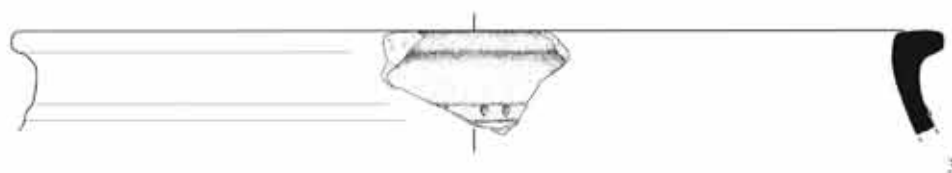
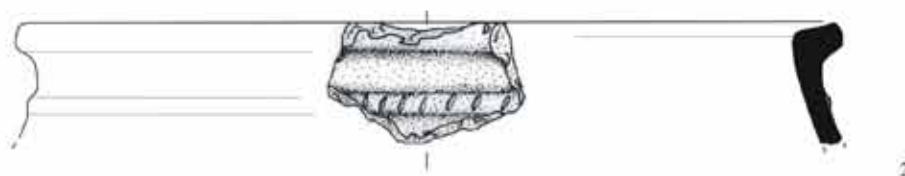
**Res. – Fig. 72**

<b>Büyükardıç</b>				<b>Karşılaştırma/Parallels</b>		
<b>No.</b>	<b>K/C</b>	<b>T</b>	<b>M/W</b>	<b>Yerleşim Merkezi/Site</b>	<b>Tarihleme/Dating M.Ö. / B.C.</b>	<b>Yayınlar/Literature</b>
1	S-2	20.1.	11B			
2	S-2	20.1.	11B	Şanlıurfa- Lidar Höyük	OT/MB	Kaschau 1999: Taf. 220: 2.
3	S-11	20.1.	11B	Şanlıurfa-Lidar Höyük	ED/EI (1100-1075)	Müller 1999: Abb. 4, AE 02.

Tip/Type



20.1.

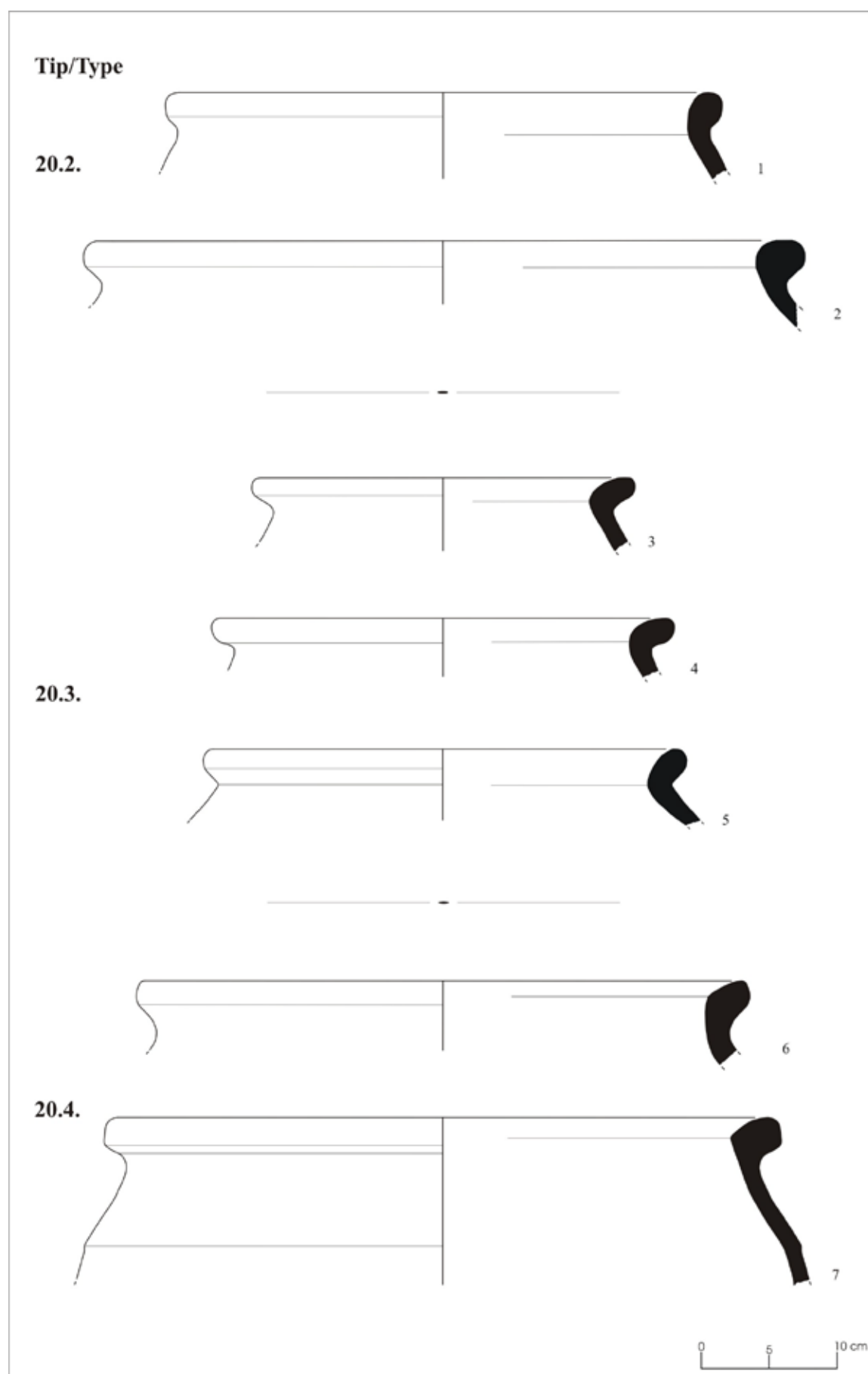


0 5 10 cm

Res. - Fig. 72

Res. – Fig. 73

B�y�kard��				Kar�ıla�tırma/Parallels		
No.	K/C	T	M/W	Yerle�im Merkezi/Site	Tarihleme/Dating M.�. / B.C.	Yayınlar/Literature
1	S-1	20.2.	11B	Tokat (Niksar)-Untepe	ED/EI	Durbin 1971: fig. 7: 87.
2	A'-1	20.2.	11B	�anlıurfa-Lidar H�y�k	ED/EI (1100-1075)	M�ller 1999: Abb. 5, CA 07.
3	S-2	20.3.	9B	Sevan-Tsovinar	ED/EI	Tumanyan 2002: Tab. 10: 4.
4	S-6	20.3.	11B			
5	S-2	20.3.	9B			
6	S-13	20.4.	11B	�anlıurfa-Lidar H�y�k	ED/EI (1075-1000)	M�ller 1999: Abb. 9, CA 05.
7	S-1	20.4.	9B			

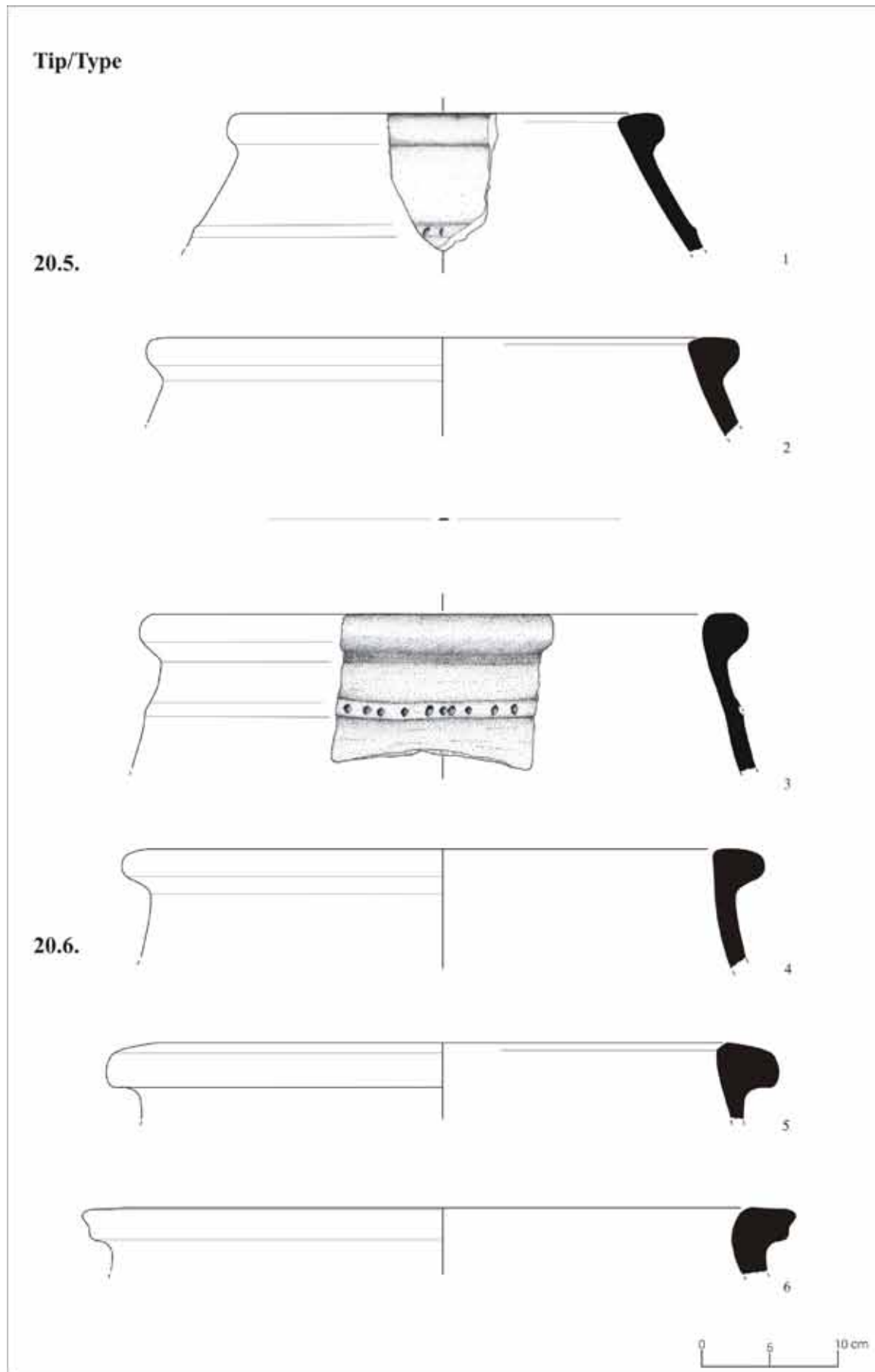


Res. - Fig. 73

Res. – Fig. 74

Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	S-1	20.5.	9B	Şanlıurfa-Lidar Höyük	ED/EI (1075-1000)	Müller 1999: Abb. 9, CA 07.
2	S-1	20.5.	9B	Bayburt-Çengiler Tepe	D/I	Sagona and Sagona 2004: 185, fig. 192: 12.
				Bayburt-Çayırıyolu Tepe 3	D/I	Sagona and Sagona 2004: 185, fig. 141: 3.
				Şanlıurfa-Lidar Höyük	ED/EI (1200-1100)	Müller 1999: Abb. 3, BA 02.
				Şanlıurfa-Lidar Höyük	ED/EI (1100-1075)	Müller 1999: Abb. 5, CA 06.
				Şanlıurfa-Lidar Höyük	ED/EI (900-850)	Müller 1999: Abb. 14, CA 05.
3	A'-1	20.6.	9B	Bayburt-Çayırıyolu Tepe 4	D/I	Sagona and Sagona 2004: 184, fig. 142: 4.
4	S-1	20.6.	3B	Muş-Erentepe (Liz)	GT-ED/LB-EI	Rothman 2004: 161-162, fig. 3: 29.
				Bayburt-Çengiler Tepe	D/I	Sagona and Sagona 2004: 185, fig. 192: 11.
				Şanlıurfa-Lidar Höyük	ED/EI (900-850)	Müller 1999: Abb. 14, CA 10.
5	A-2	20.6.	11B	Şanlıurfa-Lidar Höyük	ED/EI (900-850)	Müller 1999: Abb. 14, CA 07.
				Şanlıurfa-Lidar Höyük	ED/EI (850-800)	Müller 1999: Abb. 16 CA 11.
6	A-1	20.6.	11B	Bayburt-Büyüktepe	D/I	Sagona et all. 1992: fig. 6: 2, 4.
				Bayburt-Hamzatepe Höyük	D/I	Sagona and Sagona 2004: 183, fig. 187: 4.

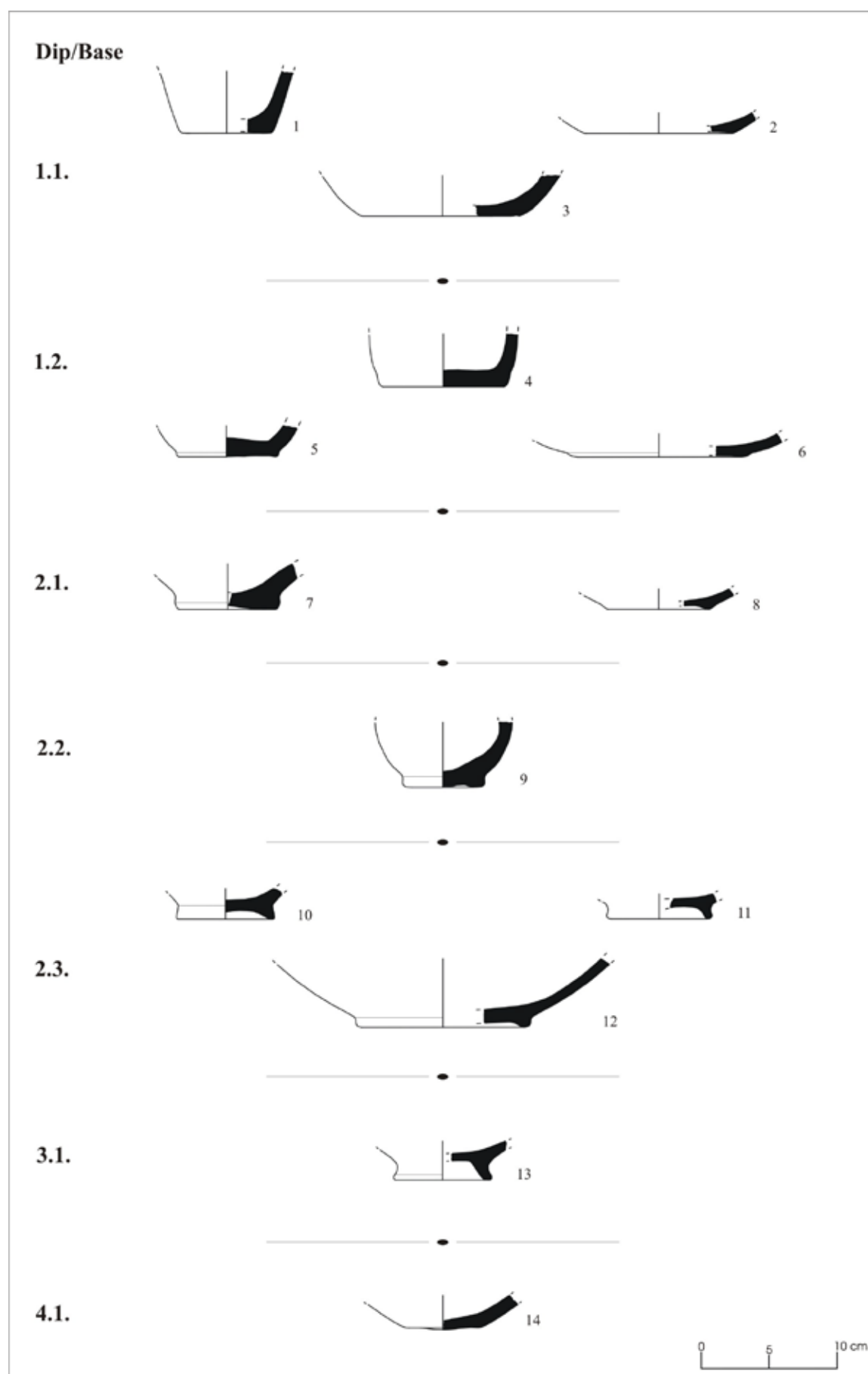




Res. - Fig. 74

Res. – Fig. 75

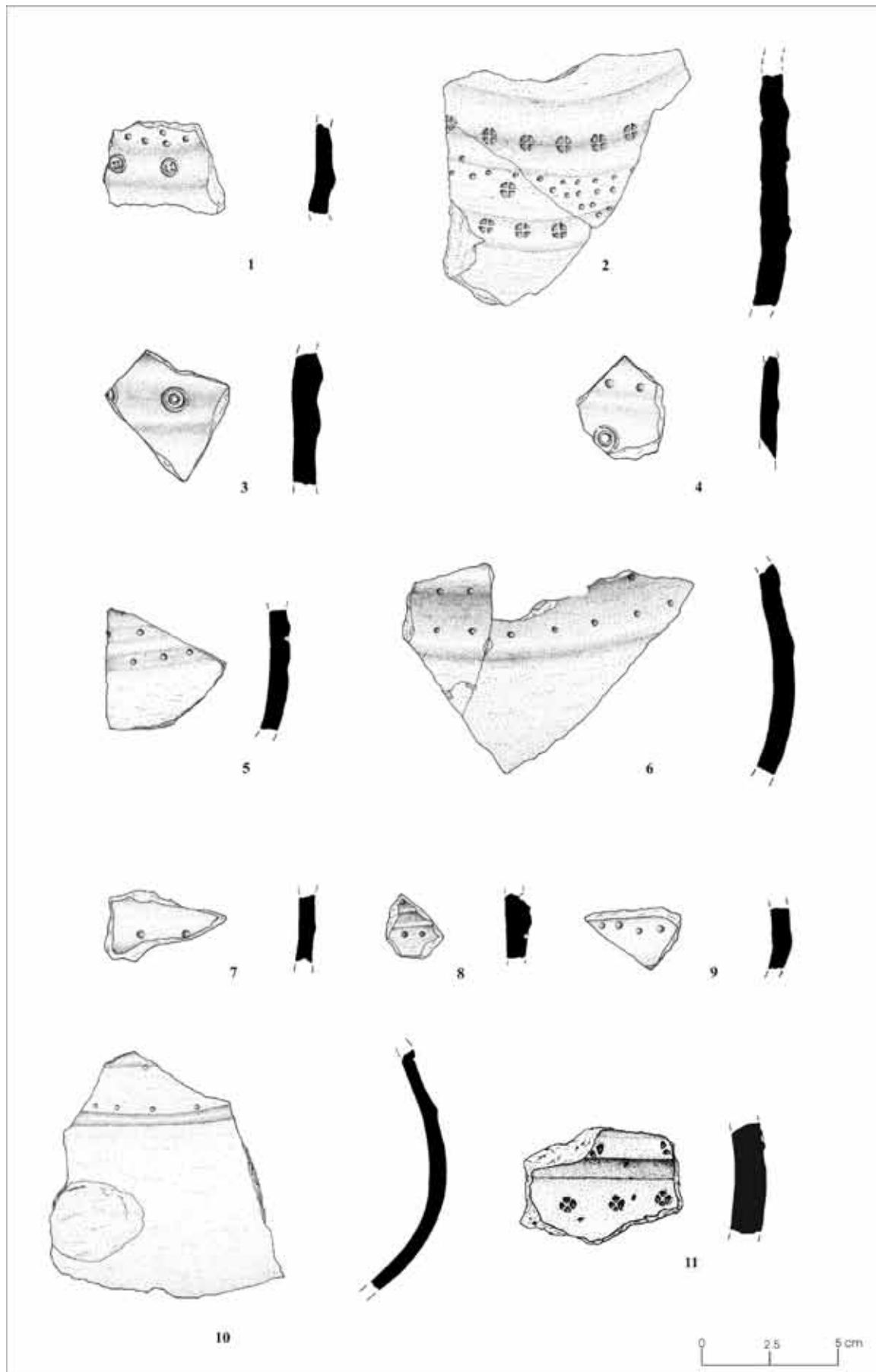
Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	T	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	S-1	Dip/Base 1.1	8B	Bayburt-Kilise Ardı Tepe	D/I	Sagona and Sagona 2004: 184, fig. 187: 6.
2	S-13	Dip/Base 1.1	10			
3	S-1	Dip/Base 1.1	2B			
4	A'-1	Dip/Base 1.2	3B	Bayburt-Aksaçlı	D/I	Sagona and Sagona 2004: 183, fig. 115: 6.
				Bayburt-Bayrampaşa Tepe	D/I	Sagona and Sagona 2004: 184, fig. 152: 9.
				Bayburt-Aksaçlı	D/I	Sagona and Sagona 2004: 184, fig. 115: 6.
				Bayburt-Örenşar 2	D/I	Sagona and Sagona 2004: 206, fig. 178: 8.
5	A'-1	Dip/Base 1.2	6B			
6	A-1	Dip/Base 1.2	1B			
7	S-2	Dip/Base 2.1	8A			
8	S-12	Dip/Base 2.1	11 B			
9	S-13	Dip/Base 2.2	5A	Bayburt-Eski Koyeri Tepe 1	D/I	Sagona and Sagona 2004: 183, fig. 118: 5.
10	S-2	Dip/Base 2.3	10			
11	A-1	Dip/Base 2.3	9B			
12	S-2	Dip/Base 2.3	4A	Ağrı-Melekli	ED/EI	Marro and Özfirat 2003: pl. 17: 10.
13	S-11	Dip/Base 3.1	3B			
14	S-1	Dip/Base 4.1	2B			



Res. - Fig. 75

Res. – Fig. 76

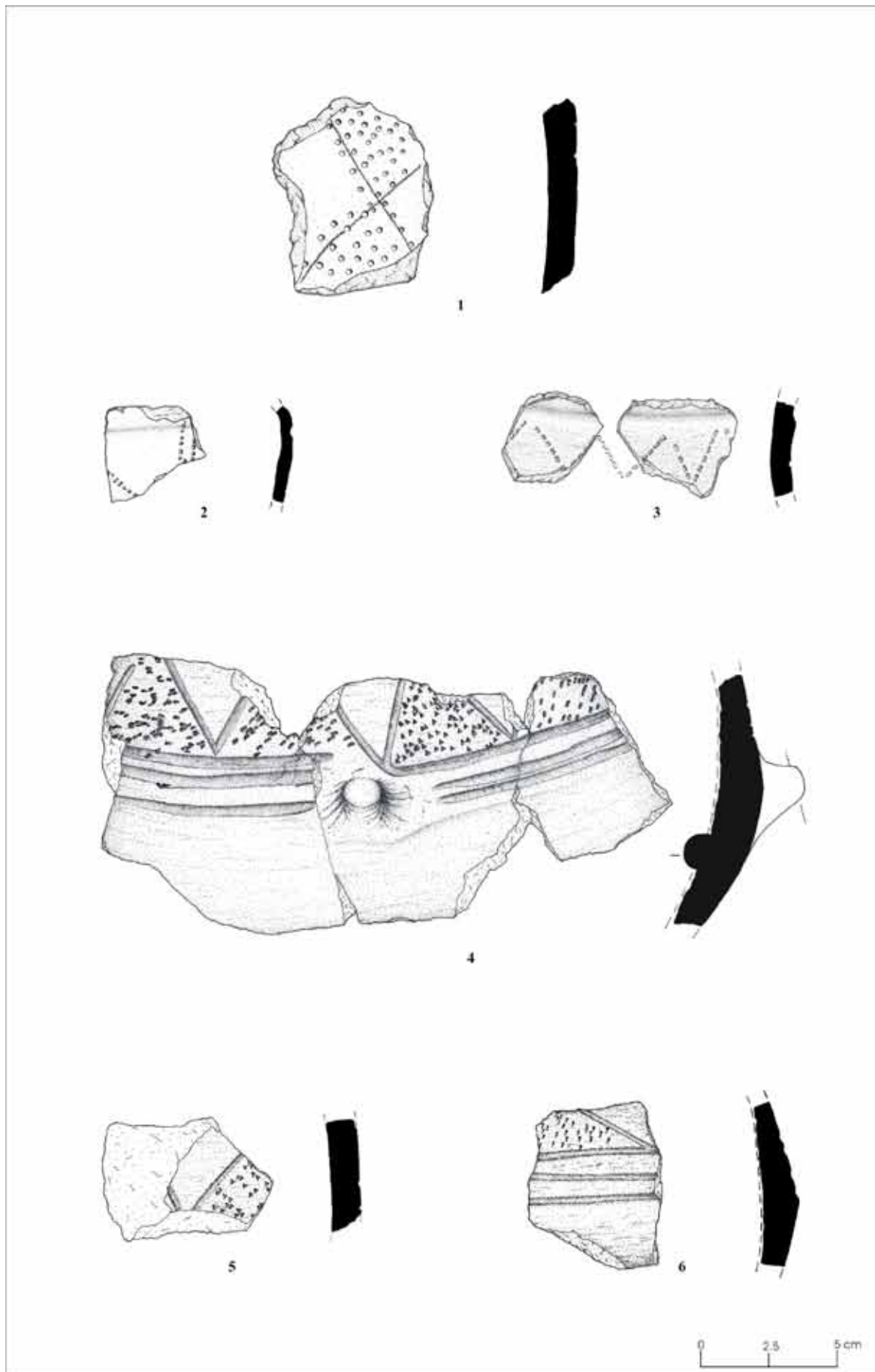
Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	B/D	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	S-1	Baskı/ Stamped	10			
2	B-2	Baskı/ Stamped	10	Erzurum-Beşiktepe	D/I	Sagona C. 1999: fig. 3: 4.
3	A-1	Baskı/ Stamped	2B	Doğu Trakya/Eastern Thrace	ED/EI	Özdoğan 1998: fig. 2b.
				Tarsus-Gözlü Kule	GT/LB	Goldman 1956: pl. 315: 1093.
				Van-Molla Cem	OT-GT/MB-LB	Marro and Özfirat 2004: pl. 10: 1-2.
				Mtskheta-Tserovani	GT/LB I	Sadradze 1991: Pl. LXVIII, fig. 12-13, LXIX, fig. 3, 5, 7
4	S-1	Baskı/ Stamped	3B			
5	A'-1	Baskı/ Impressed	10			
6	S-11	Baskı/ Impressed	10			
7	A-1	Baskı/ Impressed	10			
8	S-2	Baskı/ Impressed	10			
9	A'-1	Baskı/ Impressed	10			
10	A'-1	Baskı/ Impressed	6A			
11	S-12	Baskı/ Stamped	*			



Res. - Fig. 76

Res. – Fig. 77

Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	B/D	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	A-1	Baskı/ Impresed	11B			
2	S-7	Baskı/ Impresed	10			
3	A-1	Baskı/ Impresed	10			
4	S-10	Baskı/ Impresed	6A	Mtskheta-Tserovani	GT/LB	Sadradze 1991: LXIX, fig. 2, 8.
				Van-Molla Cem	OT/MB	Marro and Özfirat 2004: pl.10:4.
				Tarsus-Gözlü Kule	GT/LB I	Goldman 1956: pl. 315: 1091-1093.
5	B-1	Baskı/ Impresed	6A	Bkz. 4		
6	S-3	Baskı/ Impresed	6A	Bkz. 4		

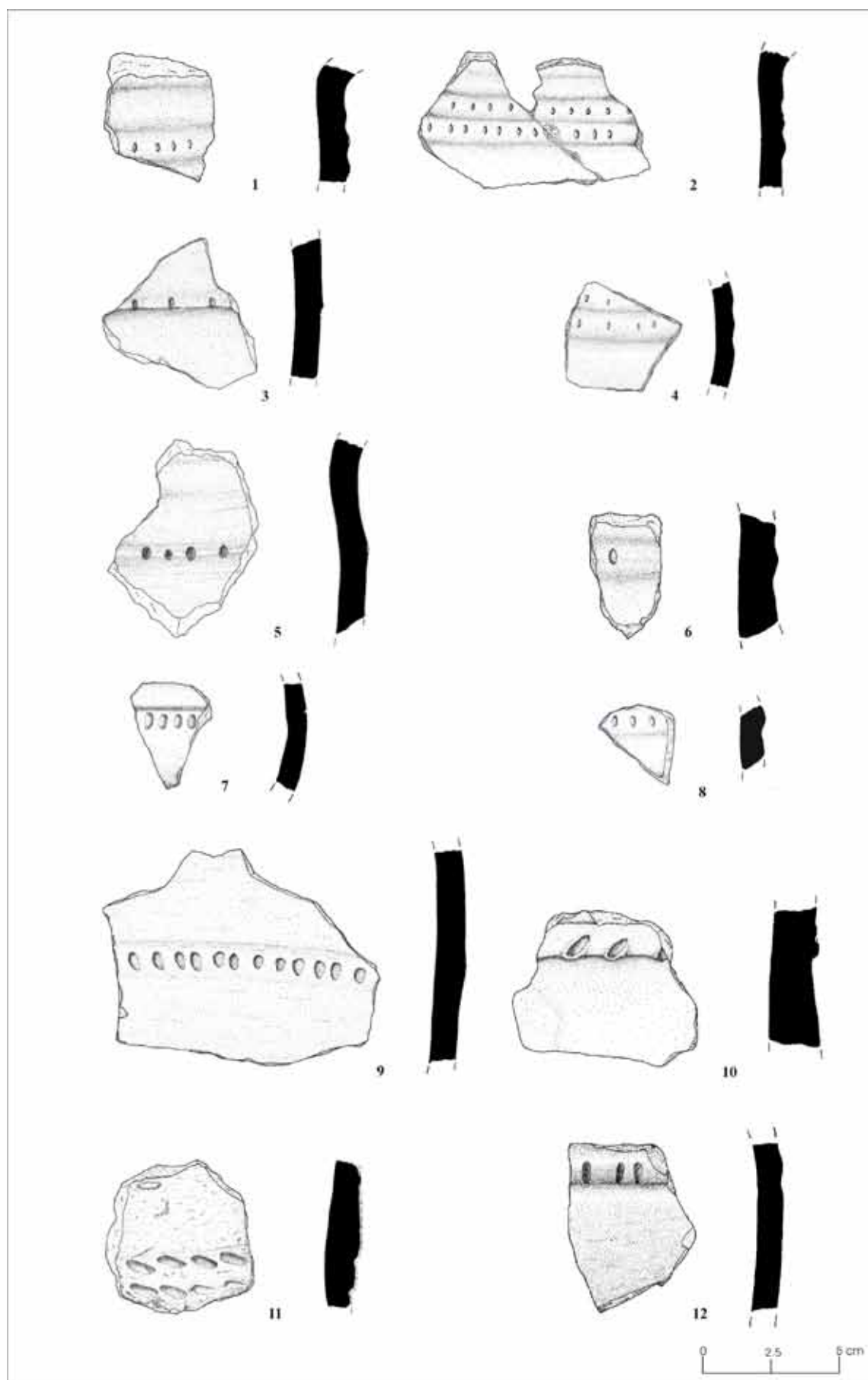


Res. - Fig. 77

Res. – Fig. 78

Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	B/D	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	S-8	Baskı/ Impresed	9B			
2	S-2	Baskı/ Impresed	9B	Ermenistan-Horom	ED/EI	Badaljan et al. 1994: fig. 12: 5.
3	S-2	Baskı/ Impresed	11B			
4	B-1	Baskı/ Impresed	4B			
5	S-11	Baskı/ Impresed	9B			
6	S-2	Baskı/ Impresed	11B			
7	A'-1	Baskı/ Impresed	6B	Bingöl Tesisi	ED/EI	Sevin 1987: res. 19: 3.
8	A'-1	Baskı/ Impresed	10			
9	S-11	Baskı/ Impresed	11B	Van-Gre Herşe	ED/EI	Özfırat and Marro 2004: res. 9: 1.
10	Y-9	Baskı/ Impresed	11B	---	D/I	Whallon 1979: fig.125/f.
				Urmiye-Kordlar Tepe	1300-800	Kromer and Lippert 1976: Taf. I: 10.
				Gordion	ED/EI	Voigt and Henrickson 2000: fig. 4: 6.
11	S-12	Baskı/ Impresed	4C	Van-Kasımtığı	ED/EI	Marro and Özfırat 2004: fig. 10: 8.
12	S-1	Baskı/ Impresed	4C	Diyarbakır-Talavaş Tepe	ED/EI	Parker et al. 2001: şek. 9: J.

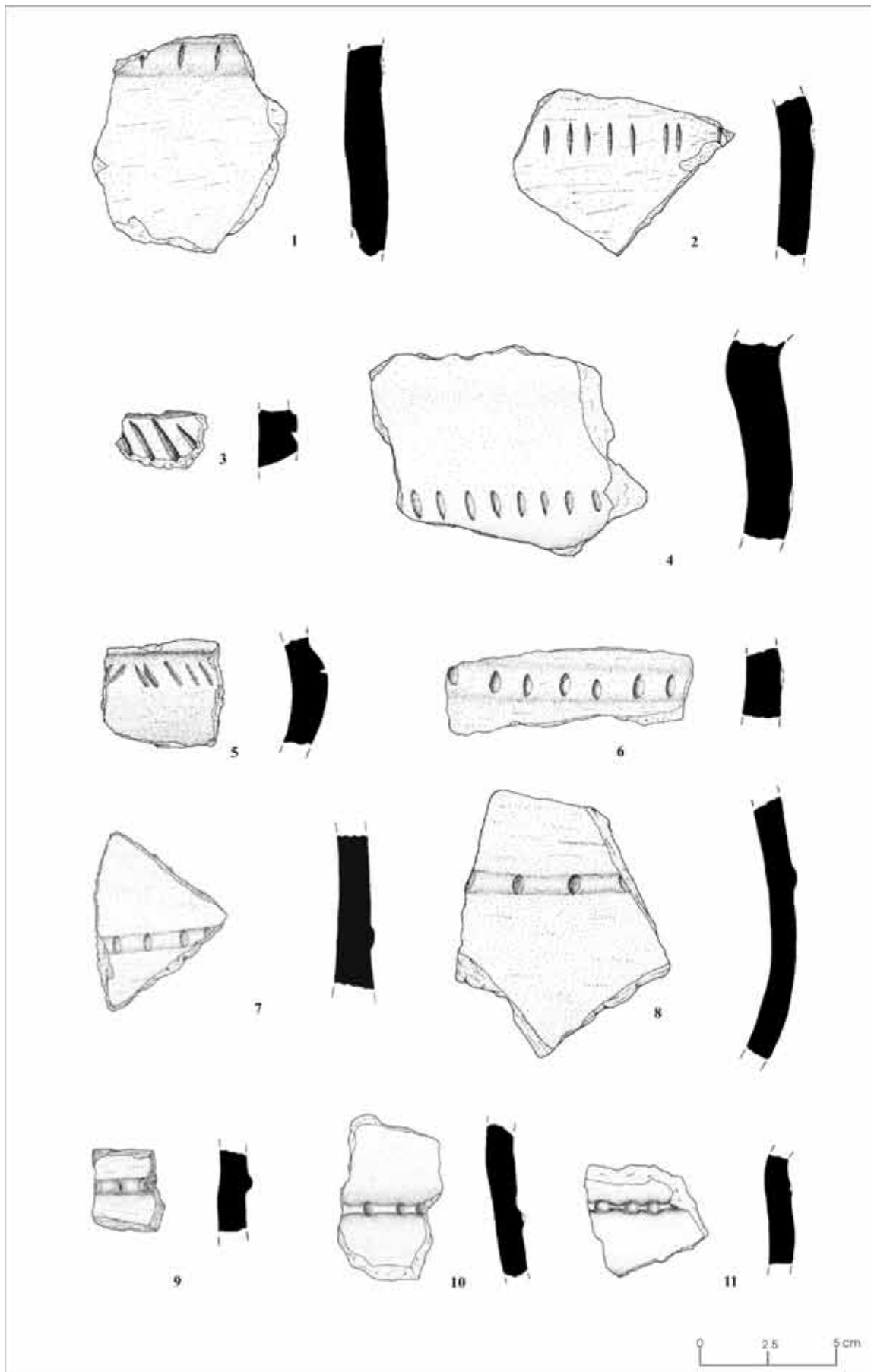




Res. - Fig. 78

Res. – Fig. 79

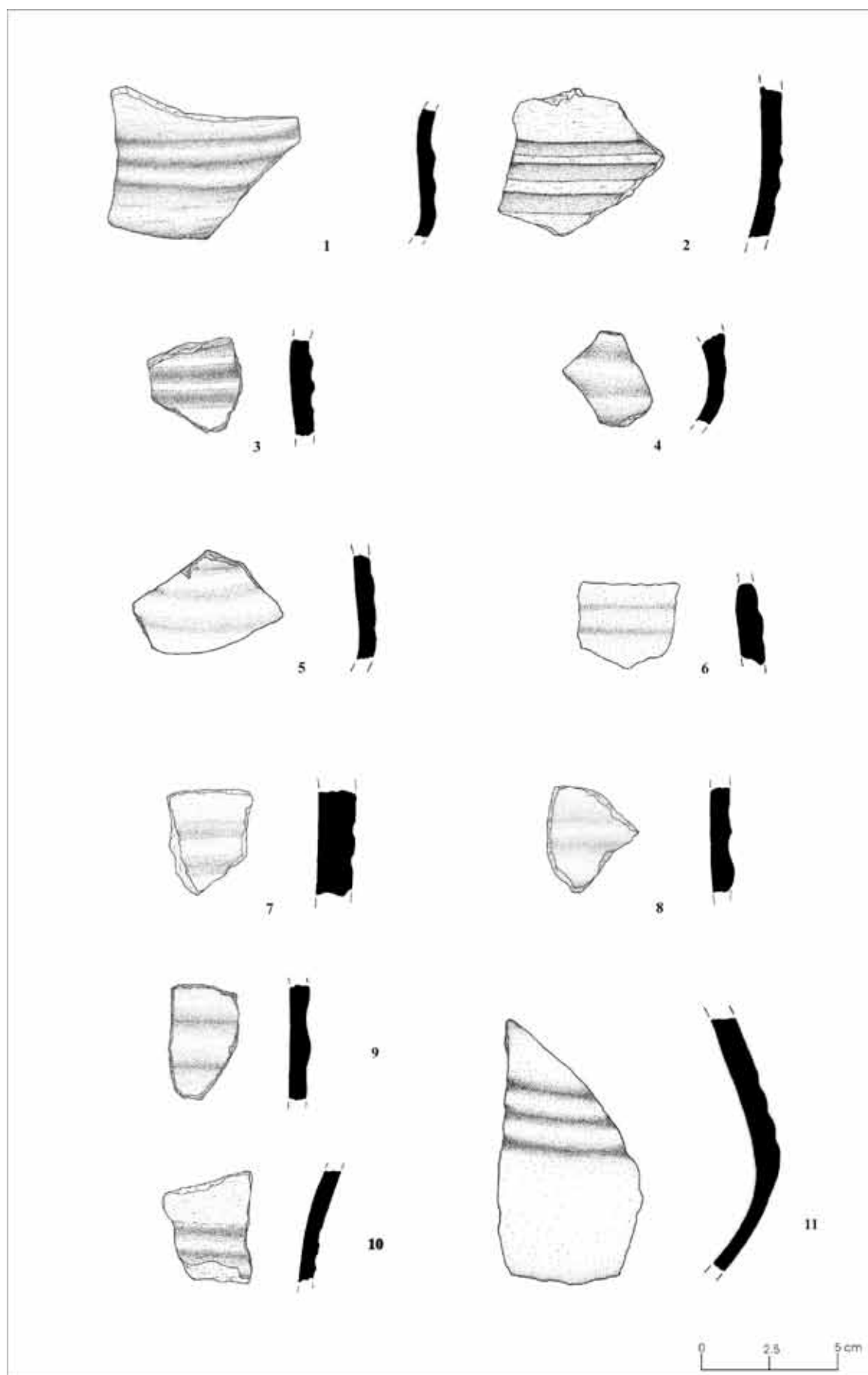
Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	B/D	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	S-11	Baskı/ Impresed	11B	Malatya-İmikuşağı	GT-ED/LB-EI	Sevin 1995: res. 14: 8.
				Erzurum-Toprakkale	ED/EI	Başgelen and Özfirat 1996: lev. 9: 4.
				Sevan-Mtnadzor	GT/LB	Tumanyan 2002: Tab. 4: 4, 5: 4.
				Elazığ-Korucutepe	ED/EI	Winn 1980: pl. 51: 1, 56: 1-4.
				Bingöl-Cankurtarantepe	ED/EI	Sevin 1987: res. 10: 1-2,12: 1-2, 22:6
				Elazığ-Norşuntepe	ED/EI	Hauptmann 1979: Abb. 17: 7.
				Diyarbakır-Gre Dimse	ED/EI	Karg 2002: şek. 3: c.
				---	ED/EI	Whallon 1979: 124-125, fig. 38: f-i, k-m.
				Ermenistan-Horom	ED/EI	Badaljan et al. 1994: fig. 12: 23.
2	S-1	Baskı/ Impresed	11B	Diyarbakır-Gre Dimse	ED/EI	Karg 2002: şek. 3: c.
3	S-1	Baskı/ Impresed	6B	Elazığ-Tepecik	D/I	Esin 1970: lev. 7: 8.
				Batman-Türbe Höyük	D/I	
				Diyarbakır-Gre Dimse	ED/EI	Karg 2002: şek. 3: a.
4	B-1	Baskı/ Impresed	3B	Elazığ- Korucutepe	ED/EI	Winn 1980: pl. 56: 40, 56: 14.
5	S-1	Baskı/ Impresed	10	Elazığ-Tepecik	D/I	Esin 1970: lev. 7: 6.
		Baskı/ Impresed		Diyarbakır-Kenan Tepe	ED/EI	Parker et al. 2004: şek. 14: O, T.
6	S-11	Baskı/ Impresed	10	Şanlıurfa-Lidar Höyük	OT/MB	Kaschau 1999: Taf. 17: 4.
				----	D/I	Whallon 1979: p. 62f.
7	A-2	Baskı/ Impresed	11B			
8	B-1	Baskı/ Impresed	11B			
9	A'-1	Baskı/ Impresed	9B	Bingöl Tesisi	ED/EI	Sevin 1987: res. 19: 3.
10	S-2	Baskı/ Impresed	9B			
11	A-1	Baskı/ Impresed	11B			



Res. - Fig. 79

**Res. – Fig. 80**

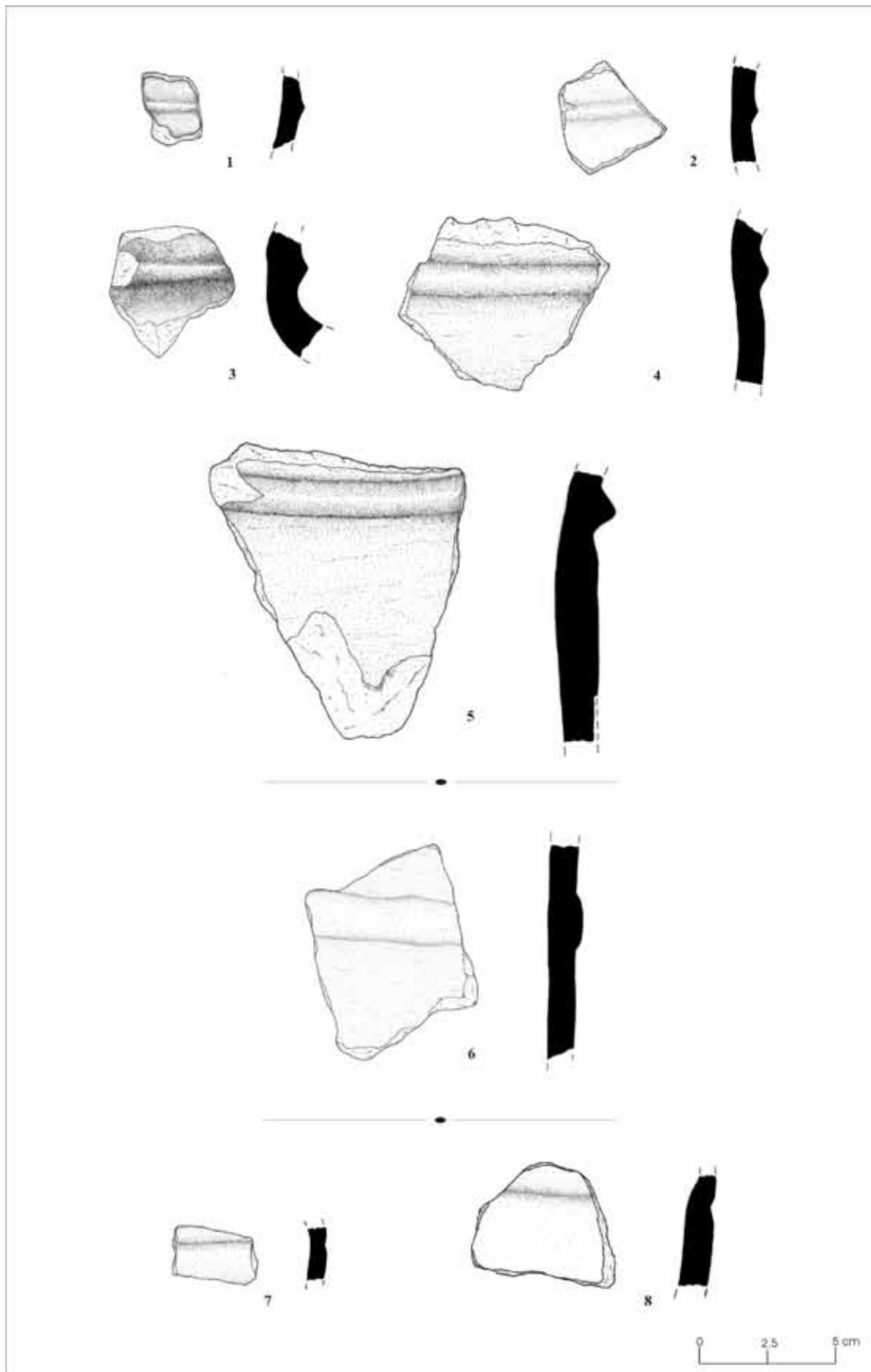
<b>Büyükardıç</b>			
<b>No.</b>	<b>K/C</b>	<b>B/D</b>	<b>M/W</b>
1	S-2	Yiv/Grooved	5A
2	S-1	Yiv/Grooved	10
3	B-1	Yiv/Grooved	11B
4	S-1	Yiv/Grooved	6A
5	S-1	Yiv/Grooved	3B
6	S-12	Yiv/Grooved	9B
7	S-1	Yiv/Grooved	3B
8	S-12	Yiv/Grooved	9B
9	S1	Yiv/Grooved	11B
10	Y-11	Yiv/Grooved	10
11	S-2	Yiv/Grooved	4A



Res. - Fig. 80

Res. – Fig. 81

Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	B/D	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	S-2	Kabartma/ Ridge	5A	Van-Evdi Tepe	ED/EI	Sevin 2004: 182, 194-195, fig. 3: 4-5.
2	S-1	Kabartma/ Ridge	10	Van-Evdi Tepe	ED/EI	Sevin 2004: 182, 194-195, fig. 3: 4-5.
3	B-1	Kabartma/ Ridge	11B	Van-Evdi Tepe	ED/EI	Sevin 2004: 182, 194-195, fig. 3: 4-5.
4	S1	Kabartma/ Ridge	6A	Van-Evdi Tepe	ED/EI	Sevin 2004: 182, 194-195, fig. 3: 4-5.
5	S-1	Kabartma/ Ridge	8A	Van-Evdi Tepe	ED/EI	Sevin 2004: 182, 194-195, fig. 3: 4-5.
6	Y-17	Kabartma/ Ridge	4C	Van-Evdi Tepe	ED/EI	Sevin 2004: 182, 194-195, fig. 3: 6.
				Bayburt-Çengiler Tepe	D/I	Sagona and Sagona 2004: 184, fig. 191: 8.
7	S-2	Yiv/ Grooved	10			
8	S-1	Yiv/ Grooved	1B			

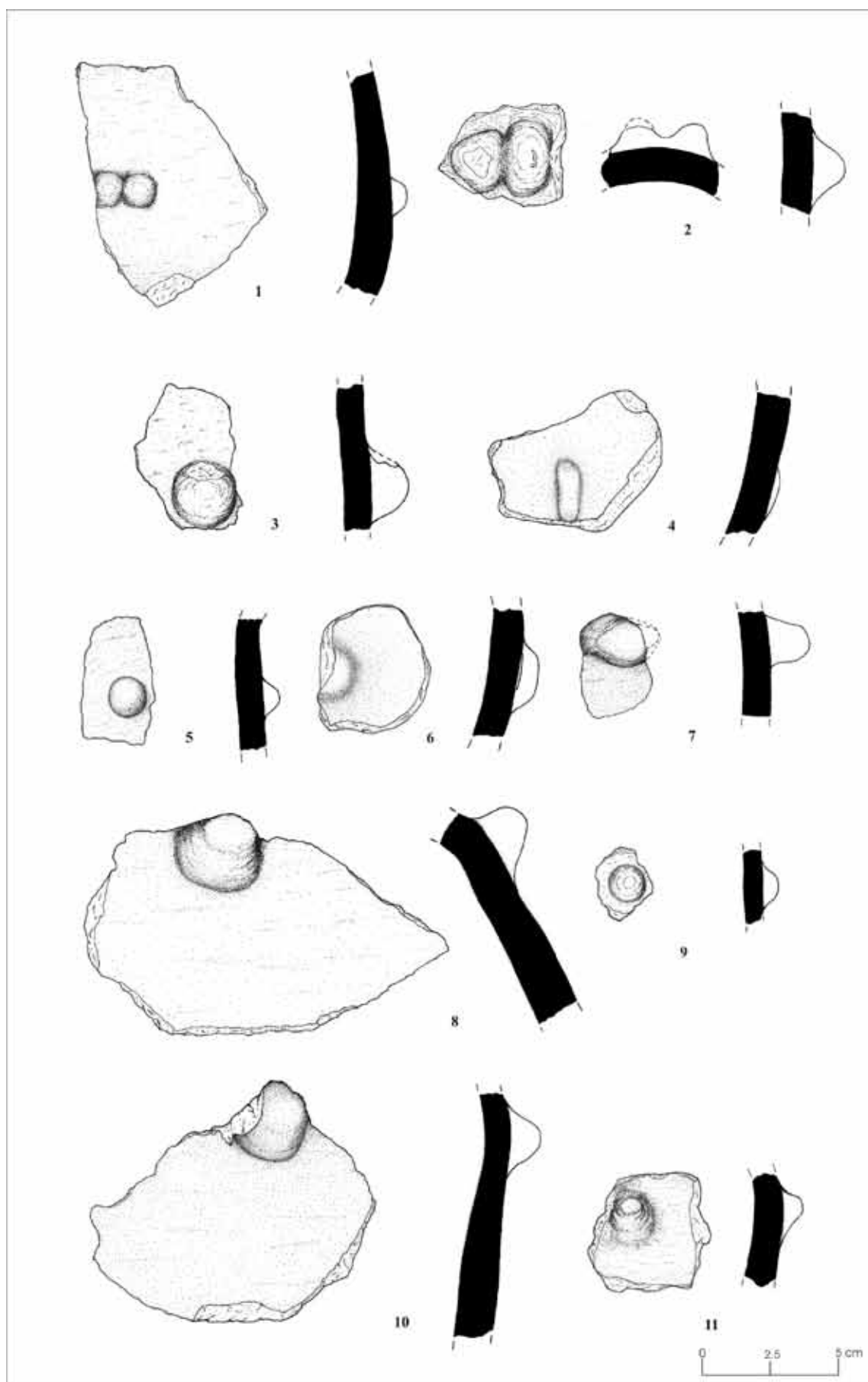


Res. - Fig. 81

**Res. – Fig. 82**

<b>B�y�kardı�</b>			
<b>No.</b>	<b>K/C</b>	<b>B/D</b>	<b>M/W</b>
1	S-1	Yumru/Knob	2B
2	B-1	Yumru/Knob	4B
3	A-1	Yumru/Knob	2A
4	Y-16	Yumru/Knob	4B
5	A'-1	Yumru/Knob	1B
6	Y-13	Yumru/Knob	4A
7	A'-1	Yumru/Knob	4A
8	S-2	Yumru/Knob	6A
9	A-1	Yumru/Knob	4C
10	S-1	Yumru/Knob	1B
11	S-7	Yumru/Knob	3B

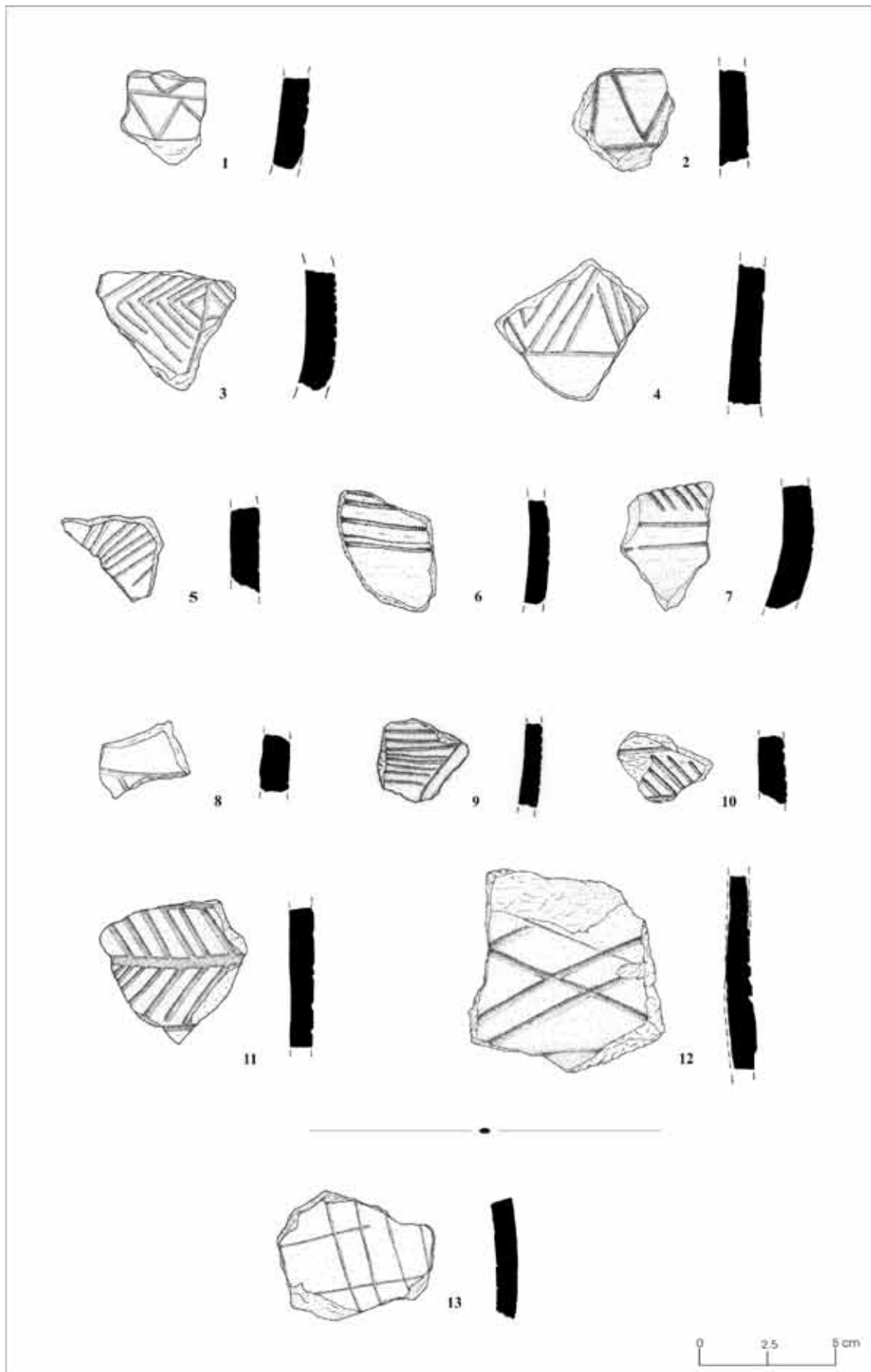




Res. - Fig. 82

Res. – Fig. 83

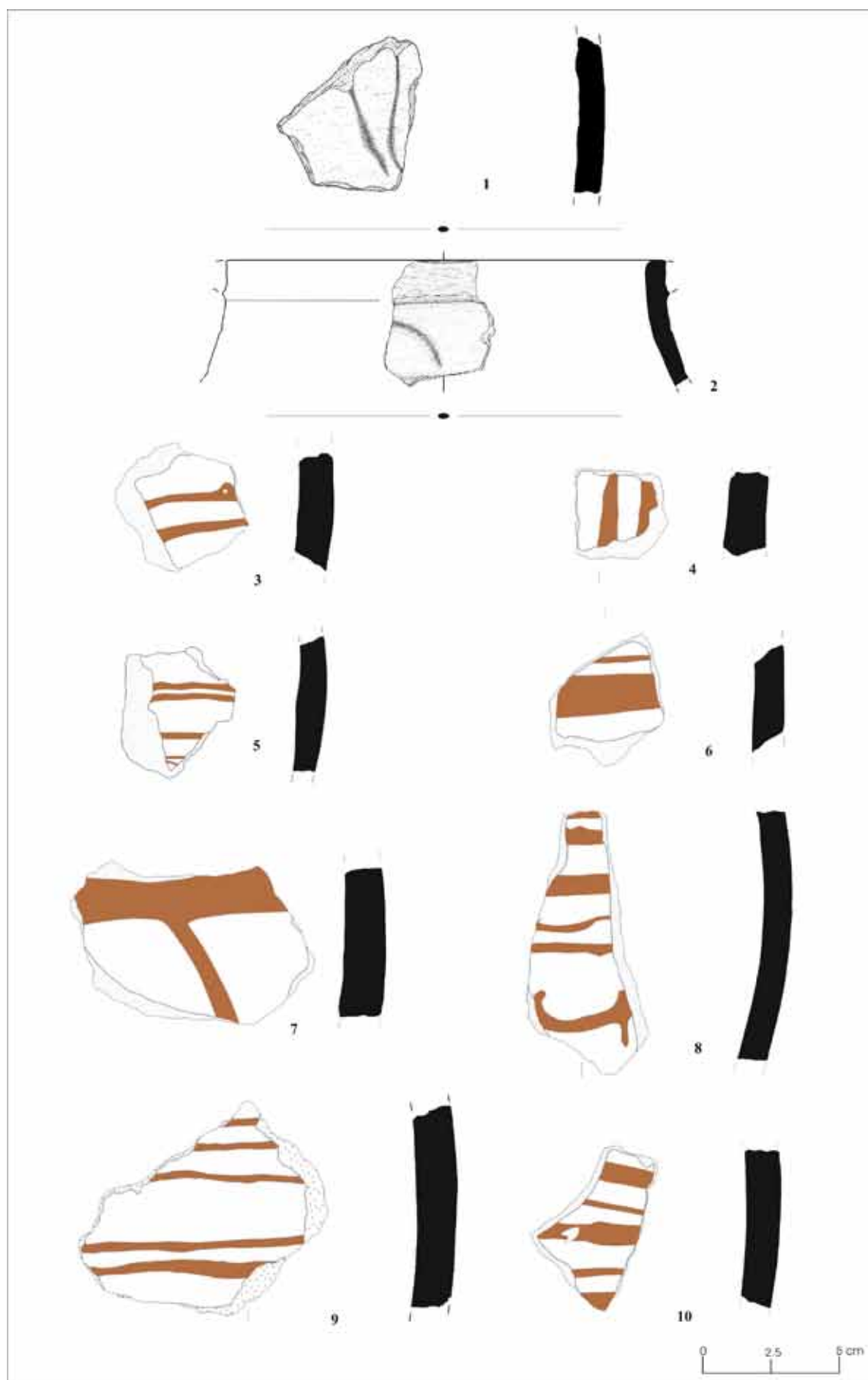
Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	B/D	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	Y-8	Çizi/ Incised	3B	Elazığ-Korucutepe	ED/EI	Winn 1980: pl. 56: 5.
2	A-1	Çizi/ Incised	4C			
3	S-2	Çizi/ Incised	4A			
4	A-1	Çizi/ Incised	11B	Erzurum-Sos	GT-ED/LB-EI	Güneri 1992: res. 8: 1.
				Elazığ-Korucutepe	ED/EI	Winn 1980: pl. 56: 5.
				Elazığ-Tepecik	D/I	Esin 1970: lev. 7: 7.
5	S-10	Çizi/ Incised	3B			
6	S-2	Çizi/ Incised	1B			
7	S-2	Çizi/ Incised	11B			
8	A-1	Çizi/ Incised	11B			
9	A-2	Çizi/ Incised	6A			
10	A'-1	Çizi/ Incised	4C			
11	S-1	Çizi/ Incised	6B			
12	A'-1	Çizi/ Incised	2A	Sevan-Metnadzor	GT/LB	Tumanyan 2002: Tab. 4: 4.
13	S-2	Çizi/ Incised	11B			



Res. - Fig. 83

Res. – Fig. 84

Büyükardıç				Karşılaştırma/Parallels		
No.	K/C	B/D	M/W	Yerleşim Merkezi/Site	Tarihleme/Dating M.Ö. / B.C.	Yayınlar/Literature
1	A'-1	Kazıma/Scraped	2A			
2	A'-1	Kazıma/Scraped	9B			
3	A-1	Boya/Painted	6	Diyarbakır-Grê Dimsê	ED/EI	Karg 1999: şek. 10: 1.
				Diyarbakır-Gre Dimse	ED/EI	Karg 2002: şek. 3: d.
				Diyarbakır-Talavaş Tepe	ED/EI	Parker and Creekmore 2002: fig. 39: X, Y, Z.
				Diyarbakır-Kenan Tepe	ED/EI	Parker et al. 2004: şek. 14: AA.
				Elazığ-Norşuntepe	ED/EI	Bartl 1994: Abb. 15.
				Malatya-Karahüyük	ED/EI	Russel 1980: 36, fig. 18: 164.63, (Grup EE)
4	S-1	Boya/Painted	6B			
5	A-1	Boya/Painted	6			
6	A-1	Boya/Painted	9B			
7	S-2	Boya/Painted	11			
8	A-2	Boya/Painted	9			
9	A'-1	Boya/Painted	11B			
10	A-1	Boya/Painted	9B			



Res. - Fig. 84

# SELECTED EXAMPLES OF POTTERY FINDS

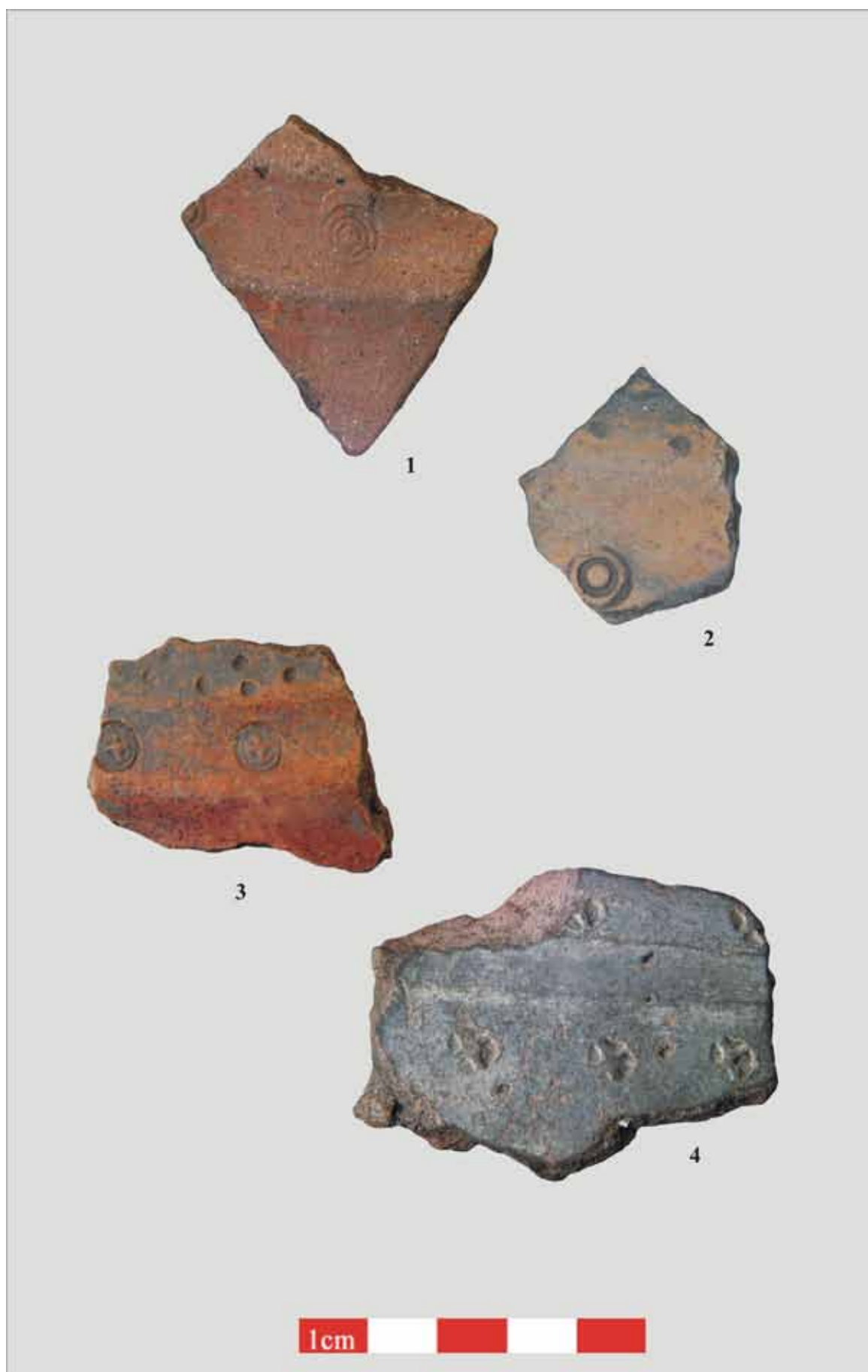
Figure 85: 1	See Figure 49: 3
Figure 85: 2	See Figure 49: 2
Figure 85: 3	See Figure 49: 1
Figure 86: 1	See Figure 76: 3
Figure 86: 2	See Figure 76: 4
Figure 86: 3	See Figure 76: 1
Figure 86: 4	See Figure 76: 11
Figure 87: 1	See Figure 77: 5
Figure 87: 2	See Figure 77: 6
Figure 87: 3	See Figure 77: 4
Figure 88: 1	See Figure 77: 3
Figure 88: 2	See Figure 77: 1
Figure 88: 3	See Figure 63: 1
Figure 88: 4	See Figure 76: 6
Figure 89: 1	See Figure 78: 10
Figure 89: 2	See Figure 79: 5
Figure 89: 3	See Figure 79: 2
Figure 89: 4	See Figure 78: 4
Figure 89: 5	See Figure 72: 1
Figure 90: 1	See Figure 55: 3
Figure 90: 2	B-1, Type: 2.2., Ware: 10
Figure 90: 3	See Figure 62: 7
Figure 90: 4	See Figure 80: 11
Figure 91: 1	See Figure 82: 11
Figure 91: 2	See Figure 46: 2
Figure 91: 3	See Figure 41: 7
Figure 91: 4	See Figure 82: 4
Figure 91: 5	See Figure 82: 1
Figure 92: 1	See Figure 53: 3
Figure 92: 2	See Figure 56: 2
Figure 92: 3	See Figure 46: 1
Figure 92: 4	See Figure 53: 6
Figure 92: 5	See Figure 60: 3
Figure 93: 1	S-2, Ware: 1A
Figure 93: 2	See Figure 83: 1

Figure 93: 3	See Figure 83: 10
Figure 93: 4	See Figure 83: 4
Figure 93: 5	See Figure 65: 3
Figure 93: 6	See Figure 83: 13
Figure 94: 1	See Figure 84: 2
Figure 94: 2	See Figure 84: 1
Figure 94: 3	S-1, Type: 20.4., Ware: 9B
Figure 95: 1	See Figure 84: 5
Figure 95: 2	See Figure 84: 10
Figure 95: 3	See Figure 84: 6
Figure 95: 4	See Figure 84: 7
Figure 95: 5	See Figure 84: 8
Figure 96: 1	See Figure 42: 3
Figure 96: 2	See Figure 63: 5
Figure 97: 1	See Figure 63: 3
Figure 97: 2	See Figure 63: 2
Figure 98: 1	Surface-37, Type: 18.12., Ware: 6A
Figure 98: 2	See Figure 73: 6
Figure 99: 1	See Figure 63: 6
Figure 99: 2	See Figure 74: 1
Figure 100: 1	A-1, Type: 8.1., Ware: 4A
Figure 100: 2	See Figure 60: 7
Figure 101: 1	See Figure 53: 5
Figure 101: 2	See Figure 41: 5
Figure 102: 1	S-2, Type: 6.6., Ware: 7
Figure 102: 2	A-3, Mal: 4A
Figure 102: 3	Surface-38, Ware: 11A
Figure 103	See Figure 75: 12



Res. - Fig. 85





*Res. - Fig. 86*



Res. - Fig. 87



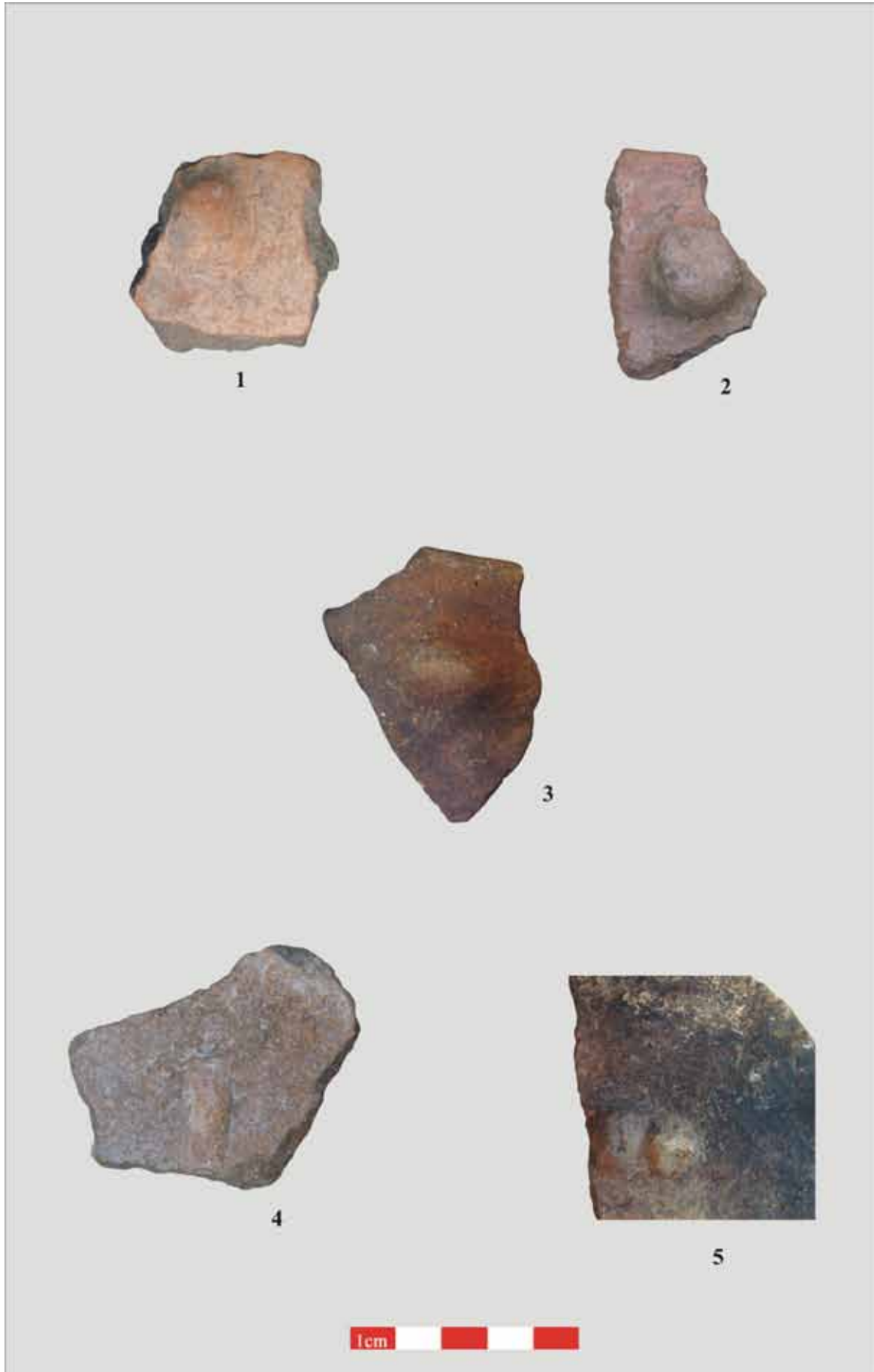
Res. - Fig. 88



*Res. - Fig. 89*



Res. - Fig. 90

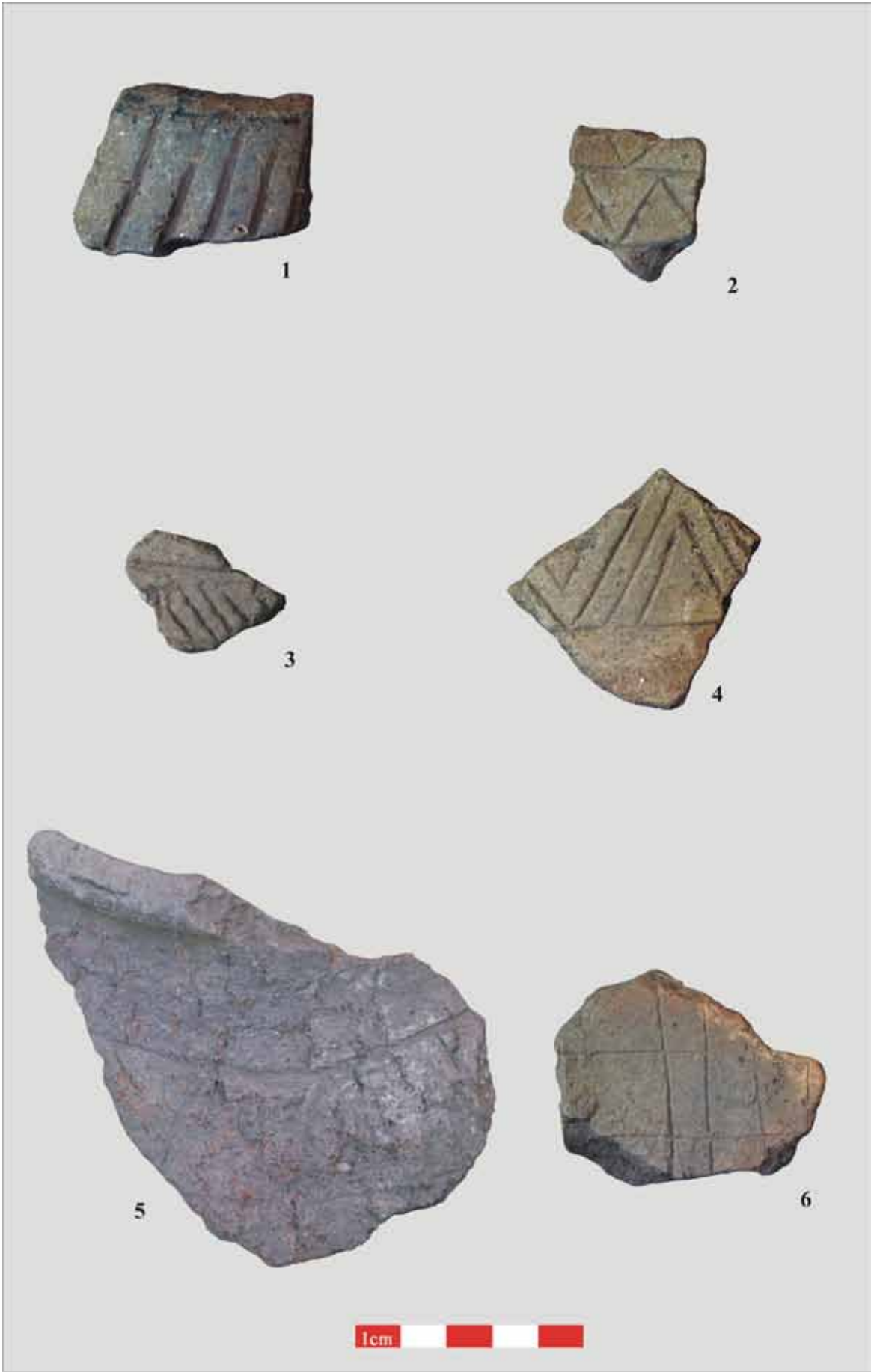


*Res. - Fig. 91*





Res. - Fig. 92

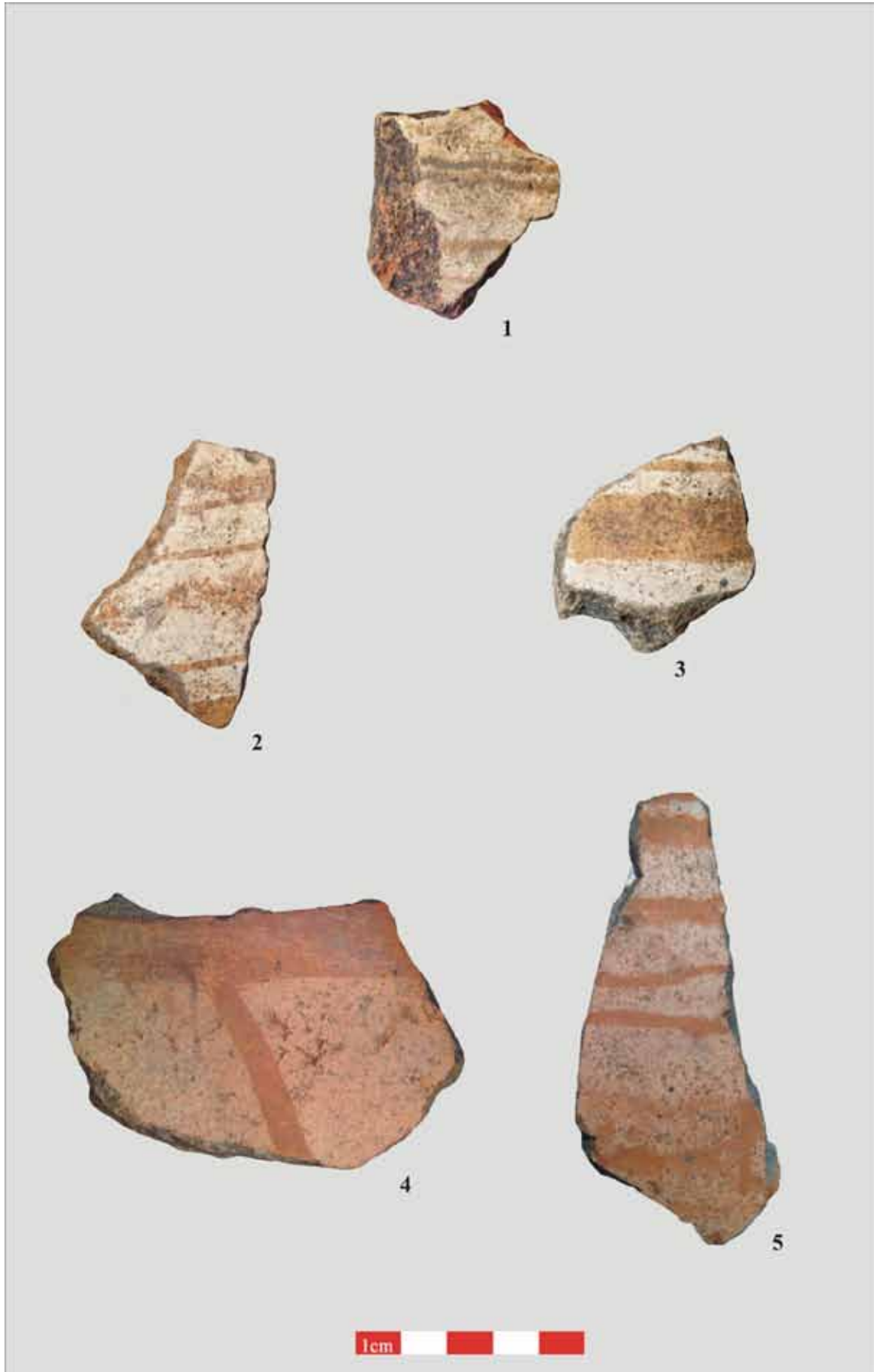


Res. - Fig. 93





Res. - Fig. 94



Res. - Fig. 95



*Res. - Fig. 96*



Res. - Fig. 97



*Res. - Fig. 98*





Res. - Fig. 99

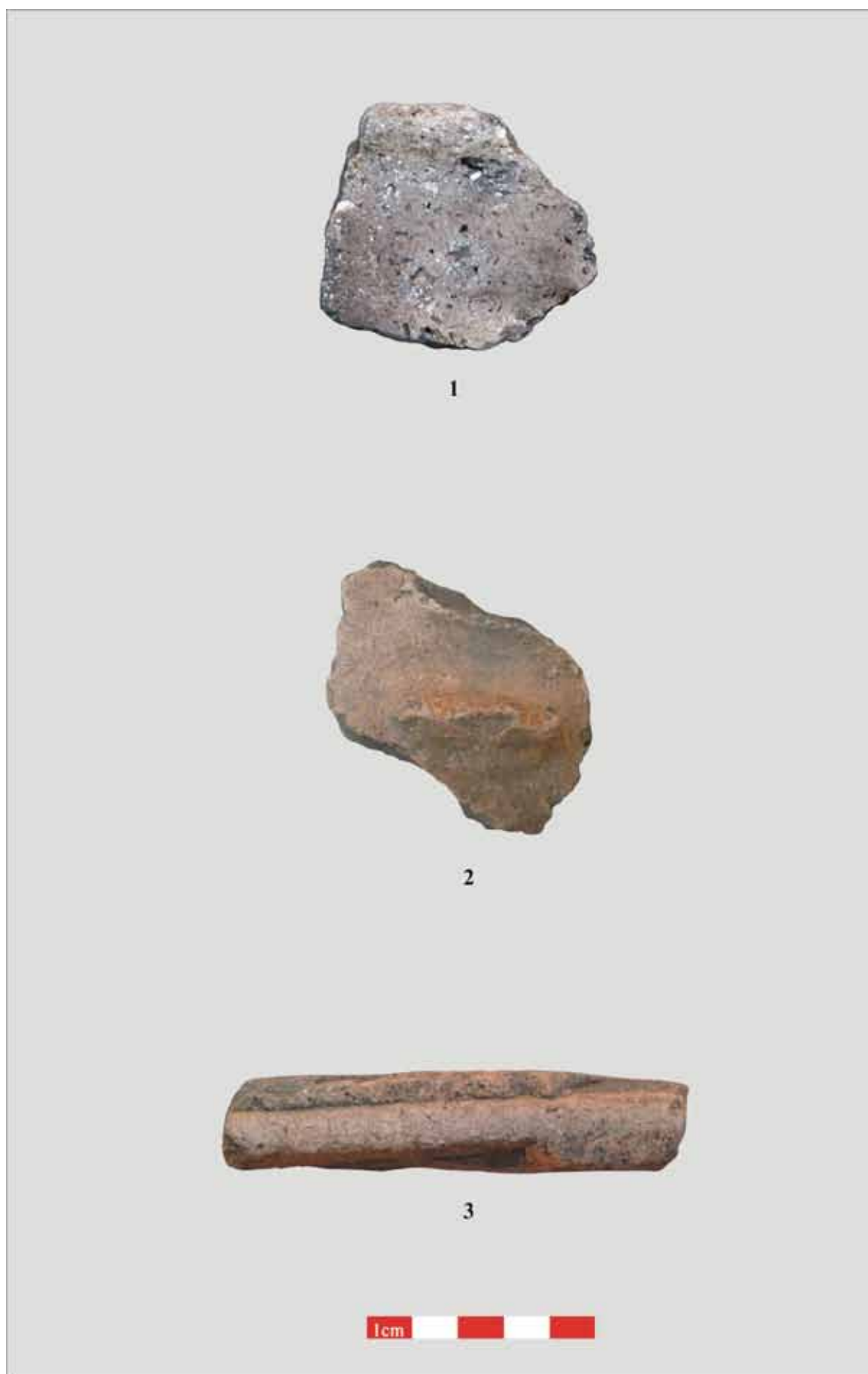


*Res. - Fig. 100*



*Res. - Fig. 101*





*Res. - Fig. 102*



*Res. - Fig. 103*

## PART VI

### CONCLUSION

The Büyükardıç Salvage Excavation, conducted in 2003 in the framework of the Baku-Tblisi-Ceyhan Crude Oil Pipeline Project Archaeological Salvage Excavations, has made major contributions with its important finds to the archaeology both of Anatolia as a whole and of Eastern Anatolia and its periphery in particular. Büyükardıç is notable above all for its geographical characteristics, which presented rather difficult conditions for settlement in prehistoric times, as mentioned above. In addition, the data obtained from Büyükardıç are all the more important given the small number of archaeological excavations in this part of Anatolia.

Both the altitude from the creek valley and the steep topography of Büyükardıç Hill, with an altitude of 2,050 from sea level, which is located in the northern part of Eastern Anatolia, within the chain of Kılıçkaya Mountains to the northeast of Tercan, Erzincan, would make one think at first sight that this is not a suitable place for settlement at all. However, thanks to the detailed surface research conducted in 2002 by the Archaeological Heritage Management and Implementation Unit of the Gazi University by means of walking within the 500 m corridor of the pipeline during the BT COPP Archaeological Surface Research stage, it was possible to identify the Büyükardıç settlement on a narrow and sloping terrace with an altitude of about 2,030, on the eastern side of the hill near its summit.

The salvage excavation conducted at Büyükardıç revealed the existence of a single-layer settlement dated to the Early Iron Age. The architectural remains, unearthed immediately below the surface soil, consist of simple structures with a rather weak construction technique, of which only a single row of stone foundation walls can be traced in places. The architecture is excessively damaged due to the highly sloped area of settlement and the dry-stone walling technique used. The architectural remains (**see Section II**) consist in a structure with a circular plan, two structures with a rectangular plan, of which almost the whole of one and a very small part of the other have been uncovered, and an outdoor kiln (workshop). Although the excavated area is relatively small, the existing remains of structures indicate that there was not any central settlement planning. These coarse and weak architectural features are common to almost all Early Iron Age settlements in Anatolia and its periphery.<sup>479</sup> Considering the

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<sup>479</sup> For Gordion, see Henrickson 1993: 111; Voigt and Henrickson 2000: 42-43, fig. 3; for Norşuntepe, see Bartl 1994: 516; for Boğazköy, see Seeher 2000: 19 ff., fig. 8-9, and Genz 2000: 40; for the Early Iron Age settlement strategy at Boğazköy, see also Seeher 1998: 71 ff.

difficult winter conditions in Eastern Anatolia as well as the material and technical characteristics of the existing architecture, there is no possibility for the settlement, with an altitude of 2,050, to have been a permanent one. Nevertheless, the house with a rectangular plan, part of which was used as a stable, the stone foundation remains of the structure with a circular plan, which was probably used as an animal shelter or a stable, and the outdoor kiln, located further down at the bottom of a rock, prove the existence at Büyükdıç of a seasonal settlement where it was possible to live from spring to autumn. However, the identified activities concerning simple pottery (see **Section IV**) and metalworking (see **Section III**) bring to the fore the character of a more complex and multi-purpose seasonal settlement at Büyükdıç, beyond the concept of an ordinary seasonal settlement based on simple nomadism. What was the purpose in establishing this unusual settlement on a hill of this altitude and on a rather unsuitable terrace is an important question that needs to be answered. Before moving on to discuss the likely answers to this question, it will be useful to make an assessment of the archaeological finds.

A limited number of small finds were made in the salvage excavations, which were conducted on a limited area. This must be due to the character of the period to which the settlement belongs as well as to the excavated area being limited. The small finds made at Büyükdıç are brought together in three groups: metal, bone and stone. Among the metal finds, two winged arrowheads (**Figure 27: 1-2**), one made of bronze and the other of iron, are quite important to shed light on the dating of Büyükdıç. Winged arrowheads with a long tang and a base are attributed to the Late Bronze Age and the Early Iron Age in Eastern Anatolia and its cultural periphery.<sup>480</sup> An example of the same type made of bone (**Figure 28: 1**) is important as it shows that the inhabitants of Büyükdıç preferred this type of arrowhead. The other bone finds consist in a pendant with a hole on its top (**Figure 28: 2**) and a relatively coarse awl (**Figure 28: 3**). Most of the stone works, recovered in a relatively greater number, are instruments of grinding (**Figures 29: 1, 3, 30: 1**) and crushing (**Figures 29: 2, 30: 2-3, 31: 2**). It is possible that such instruments may have been used in small-scale metalworking as well as in grinding of cereals. It is interesting that only two possible examples were recovered in relation to weaving while an abundance of them would have been expected. One of these examples (**Figure 32: 2**) is the round stone instrument with a hole in the middle, which looks like a coarse wheel. This instrument was probably used as a spindle-whorl or a weaving weight. The long, stone instrument with a node at the top (**Figure 32: 1**) must also have been a weaving weight used in the textile industry.

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<sup>480</sup> Koşay and Vary 1964: 49-51, pl. XCIX: sixth work from top left, CI: 241a; Yakar 1992: 512-514; Yakar 2000: 412, footnote 266.

However, it is considered that the existing finds are not of such number and character as would sufficiently explain the textile industry at Büyükardıç. The small finds made are both few in number and of limited diversity, in a way that is characteristic of the Early Iron Age.

Pottery finds (see **Section IV**) constitute the group of finds that most clearly reflects the Early Iron Age culture of Büyükardıç. A total of 6,550 potsherds were recovered with 731 of them rim and bottom fragments, while only 4 vessels with a fully identifiable form were recovered. The work on the grouping of ware and on the typology of vessel forms was completed and important results were obtained together with the statistical assessments and the comparisons made. The most important common feature of the pottery, largely hand-made, with regard to the Early Iron Age is that their paste is grit-tempered. The fact that rather coarse, hand-made vessels without any surface treatment as well as slipped and burnished examples of better quality, shaped and finished on the slow wheel, even if in a small number, were recovered in the same context indicates that in this period there was no uniformity in pottery technology. Even though the number of good-quality examples is relatively small, this diversity must be due to socio-economic status in the settlement. In addition, considering that Late Bronze Age ceramics occur, even if to a limited extent, at certain centres in Central and Eastern Anatolia at the beginning of the Early Iron Age,<sup>481</sup> as is the case with Büyükardıç, it may be concluded that the situation faced may have fully been due to the change in the environmental and socio-political balances.

Considering the surface colours of the pottery at Büyükardıç, whether slipped or non-slipped, it is noted that mainly the grey, camelhair, brown, red and beige colours in this order were preferred. Although these main colours were used, mottled grey speckles, probably due to firing, are observed in an important part of the pottery. Vessels with a grey and camelhair-coloured surface in particular represent the most widespread surface colours among the Early Iron Age ceramics of Eastern Anatolia. In addition, the group of wheel-finished, red-slipped and burnished pottery constitutes better-quality and select examples in terms of both their production technique and their forms.

It was possible to identify at Büyükardıç almost all of the previously known characteristic features of the Early Iron Age ceramics. Certain features not known before and encountered for the first time at Büyükardıç have made important contributions to the

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<sup>481</sup> On this subject, for Boğazköy, see Genz 2000: 36-40; for Korucutepe, see Winn 1980: 155; for Norşuntepe, see Bartl 1994: 480; for Kahramanmaraş survey see Dodd 2005, 49-52.

ceramic repertory of this period. Grooved vessels, which are perhaps the most extensively studied pottery group of the Early Iron Age, were found at Büyükdıç with specific examples, even if not in every type. However, these examples are far from shedding light on the origin of grooved vessels or their area of extension. The Büyükdıç examples prove once more that the groove decoration was one of the popular types of decoration in the region. Types of decoration such as knobbed, impressed or notched and incised decoration, which are other characteristic features of the Early Iron Age pottery, are also represented at Büyükdıç. Among the decorated pieces, the examples impressed with concentric circles and rosette stamps (**Figures 76: 1-4, 11, 86: 1-4**) are considered important innovations for the Early Iron Age ceramics of Eastern Anatolia. Paint-decorated parallels to such motifs occur in a later period, in Middle Iron Age contexts in Central Anatolia. It is interesting that the characteristic paint-decorated pottery of the Early Iron Age was not encountered at Büyükdıç. Instead, one observes a paint decoration applied with rather coarse and irregular bands in red and brownish shades on a light yellowish and pinkish camelhair-coloured surface, represented by only 8 examples (**Figures 84: 3-10, 95: 1-5**).

In addition to the local features of the Büyükdıç Early Iron Age ceramics, it has been determined that they have important similarities and interactions, with regard to vessel forms and decoration characteristics in particular, over a wide area extending to Urmiya in Northwestern Iran and to Georgia and Armenia in the Caucasus, on the one hand, and to Gordion in Central Anatolia and to Eastern Thrace, on the other.

Another finding of interest concerning the Early Iron Age pottery of Büyükdıç is that some of the vessels were used in metallurgy. This is proven by potsherds deformed due to high temperature (**Figures 65: 3, 93: 5**) and sherds with remains of slag preserved on them (**Figure 103**). A rather dense iron content has been identified in XRF analyses made on one of the vessels with slag (**Figure 103**) and other examples of slag that were recovered.<sup>482</sup> This suggests the existence of an activity, even if on a small scale, involving iron metallurgy at Büyükdıç. It is quite important that instruments used in iron metallurgy such as furnaces, stone tables on which iron was forged, breaking stones, stone hammers, and grinding stones, were recovered in Chaisubani I and II iron workshops in Colchis, Georgia, which are dated to the tenth to eighth centuries B.C. thanks to the pottery recovered there, as they show that the iron industry became increasingly widespread in this period.<sup>483</sup>

Another find that proves the activities of metallurgy at Büyükdıç is the narrow-necked, round-bodied bottle with two adjacent holes in its shoulder and with rather hard paste, which was recovered intact (**Figures 49: 3, 85: 1**). Residuals of

<sup>482</sup> See Annex 3.

<sup>483</sup> Khakhutashvili and Tavamaishvili 2002: 37, fig. I, pl. I-III.

copper and iron corrosion in green and red colours, which leaked out of the holes in the shoulder part, were found on the bottle, which was recovered in the immediate vicinity of the outdoor kiln (workshop) in the eastern part of the settlement. The finds in question are important evidence showing that the Early Iron Age inhabitants of Büyükdardıç worked metals.<sup>484</sup>

The Büyükdardıç salvage excavation revealed a large number of bones from animals which appear to have been consumed as food (see **Annex 1**). Among the bones, most of which belong to domestic animals such as sheep, goats and cattle, bones of game animals were also found. It has been determined that the horse and other solid-hoofed animals such as the horse /the donkey/ the mule (equus sp.) existed in this fauna of the EIA. Considering that Büyükdardıç and its immediate vicinity are not suitable for agriculture, it should be viewed as natural that the food came largely from animal products. In addition to this environmental constraint, a change that took place during the Early Iron Age in Anatolia may also explain the dietary pattern in question. As a matter of fact, the discovery of an unusually large amount of animal bones in the EIA layers during the Boğazköy excavations has been interpreted as pointing to a new model connected with the climate and economy of this period.<sup>485</sup>

It appears that the settlement strategy, type and characteristics at Büyükdardıç are closely related with a major change which started in the Late Bronze Age and manifested itself in the entire Anatolia and its periphery during the twelfth century B.C. It is known that the concept of a fortified settlement, which began in the Caucasus from the Late Bronze Age, became increasingly more widespread.<sup>486</sup> This process, which can be traced also in Anatolia,<sup>487</sup> continued until the collapse of the Hittite Empire in the mid-twelfth century B.C. It is known that most centres of the Late Bronze Age as well as important cities such as Boğazköy and Gordion were ruined or abandoned during this period of collapse, which also shook the Assyrian Empire. New settlement layers of a rather weak and coarse character in some settlements, with many centres being completely abandoned, reflect a change described as the Early Iron Age, displaying a major retreat in socio-political, economic and cultural terms. In addition, it is observed that small, non-fortified settlements in the nature of production centres emerged in the Caucasus, in mountainous areas, on natural hills and elevations near river banks.<sup>488</sup> This

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<sup>484</sup> Likewise, Seeher (2000: 19) states that fire-places and implements were found in the EIA layers at Boğazköy, proving metallurgical activities there.

<sup>485</sup> Seeher 2000: 19.

<sup>486</sup> On this subject, for the Yerevan area in Armenia, see Smith and Thompson 2004: 569-572 and also see footnote 49; for the Colchis area in Georgia, see Apakidze 2001: 137-138.

<sup>487</sup> Ökse (1998: 322, 324, 329) clearly shows the change in the settlement strategy and settlement types during this period on the basis of the results he obtained from his surface research in the Sivas area.

<sup>488</sup> Apakidze 2001: 137-138.

process started in the Middle Caucasus during the Late Bronze Age in connection with intensive bronze production.<sup>489</sup> It is known that secondary centres emerged during this period in connection with bronze production in the development of economic relations between mountainous and hillside areas.<sup>490</sup>

Most of the Early Iron Age settlements in Anatolia that can be brought into light through archaeological excavations have been identified on mounds resettled after the great collapse. For this reason, the Büyükdıç settlement is important as it is a centre which proves through archaeological excavations that the strategy of a small, non-fortified settlement on a high hill was also valid in Anatolia.

It appears that, although not surrounded by walls, the settlement on Büyükdıç Hill was built largely with a defence strategy in mind. As a matter of fact, Büyükdıç had a geopolitical position where it was possible to control a significant part in this mountainous area of the important east-west route extending from Iran and the Caucasus through the valleys of the Araxes and Karasu into Central Anatolia. Overlooking also an important part of the Tercan Plain immediately to the southwest, the settlement had the character of a natural “watchtower”. The harsh winter climate of Eastern Anatolia, which is not very suitable for transit passages even today, means that migratory, military and commercial passages in prehistoric times were possible only during spring and autumn. It may therefore be thought that in the Early Iron Age it was felt necessary to control the natural transit route in question only during those seasons.

Without doubt, the Büyükdıç excavation presents archaeological evidence related to the socio-political and cultural structure of one of the isolated small communities mentioned in pre-Urartu Hittite and Assyrian sources, who could come together only at a moment of defence or attack and who lived in a mountainous region, and to the dynamics of that structure.

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<sup>489</sup> Inanishvili and Maisuradze 1999: 39.

<sup>490</sup> Inanishvili and Maisuradze (1999: 39) state that secondary centres of this type have been identified in the Kakheti area, Georgia.



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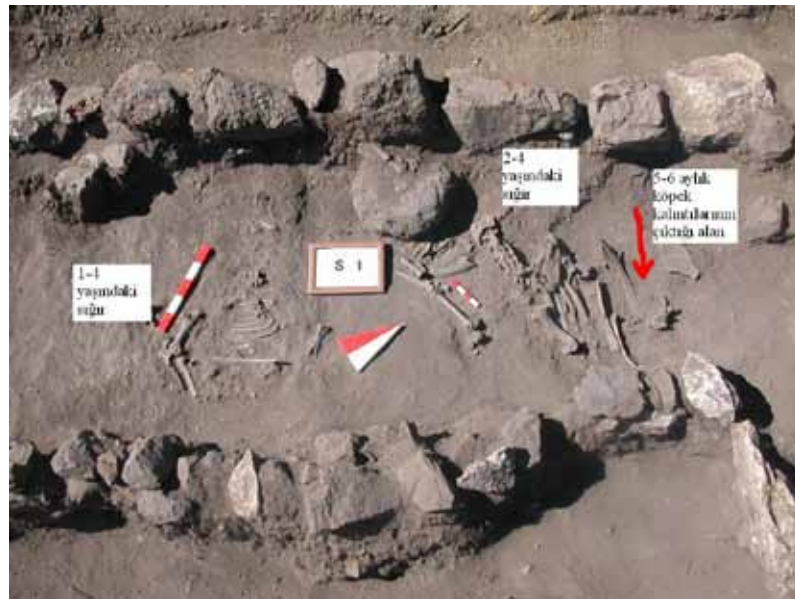


Figure 1.



Figure 1.



Figure 1.



**Figure 1.**



**Figure 1.**



Figure 1.



Figure 1.



Figure 1.



**Figure 1.**



**Figure 1.**



**Figure 1.**

## ZOO-ARCHEOLOGICAL ANALYSIS OF BÜYÜKARDIÇ FAUNA

Ayşen Açıkkol - Hakan Yılmaz\*

### INTRODUCTION

This study deals with the animal bones revealed from Büyük Ardiç archeological site. Büyük Ardiç is located between Erzurum - Erzincan border, 2060 meters from the sea level, on a mountainous area. Its environment its surrounded with high hills and valleys. This geography provides suitable conditions for grazing of animals and hunting of wild animals. Even today, we see some group of nomads migrating to the skirts of Büyük Ardiç hill during summer months for grazing their animals. Though there is not forestry region at the moment in the vicinity, the deer remains that we found to be present in the fauna indicate that, though there was not a big forests, there were at least local wooded placed.

### METHOD

In this study, initially all animal bones are defined and classified. (Stiner, 2002; Davis, 1987; Klein and Cruz-Urbe, 1984; Schmid, 1972; Pales and Lambert, 1971). For the comparison material, the collection held in the laboratory of Enver Bostancı and Refakat Çiner fro the Paleantropology Unit of Antropology Department of AU DTCTF, and the data base created by Prof. Dr. M. C Stiner, and instructor from Arizona University, Department of Antropology. For the discrimination of goats and sheep, the most commonly used criteria are preferred. (Boessneck, 1969; Halstead, Collins, and Isaakidou, 2002; Pales and Lambert, 1971). For aging, the epiphytial agitation and tooth tracing methods are used. (Schmid, 1972; Grigson, 1982; Hillson, 1986). Metric dimensions of bones and teeth were taken in accordance with the techniques recommended by Von den Driesch (Von den Driesch, 1976). Lastly, all data obtained were transferred to the computer using Microsoft Excel and Statistica programs and relevant statistical analysis are performed (Grayson, 1984; Klein and Cruz-Urbe, 1984; Davis, 1987).

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\* Ankara University, Faculty of Language and History – Geography, Department of Antropology, 06100, Sıhhiye, Ankara

## FINDS

1180 bones were evaluated under the scope of the study. Among these, species and race designation of 556 could be made. According to the finds obtained, Büyük Ardiç fauna is mainly composed of domestic cattle and sheep and goats. Living things constituting the fauna are indicated under Table 1. Bones of ungulates which could not be classified in terms of race and species are classified according to their dimensions. “BB” as seen under Table 2 designates the living things with the length of cattle or horse; “OB” designates living things with the shape of goat or dog; and “KB” designates those with have sizes longer than rat but smaller than dog.

**Table 1: Büyük Ardiç Fauna**

### Herbivora

#### A-Domesticated Ungulates

<i>Bos taurus</i> (cattle)	Cattle
<i>Equus caballus</i> (horse)	Horse
<i>Equus sp.</i> (horse/ass/mule)	Horse / Ass /Mule
<i>Ovis aries</i> (sheep)	Sheep
<i>Capra hircus</i> (goat)	Goat
Ovis/Capra (sheep/goat)	Sheep / Goat

#### B-Wild Ungulates

<i>Cervus elaphus</i> (red deer)	Red Deer
<i>Dama sp.</i> (fallow deer)	Fallow Deer
<i>Capra aegagrus</i> (bezoar goat)	Bezoar deer

### Carnivora

<i>Canis familiaris</i> (dog)	Domestic Dog
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### Rodentia

<i>Rattus rattus</i> (rat)	Rat
Rodent indet.	

Each of the animal bones has been evaluated in terms of the species and race of the living thing they belong to, its length, direction, status of burning, slaughtering marks, age group and metrical dimensions. Table 2 gives the distributions of all bones according to species, whether defined or undefined. When long bones pieces are

excepted, the most common bones in the fauna are costae (costae: 10,51 %), mandibula pieces and teeth belonging to the mandibula (9,75 %) and vertebrae: 8,81 %.

**Table 2:** Distribution of Bones and Teeth According to Species

	<i>B.taurus</i>	<i>E.caballus</i>	<i>Equus sp.</i>	<i>C.elaphus</i>	<i>Dama sp.</i>	<i>C.hircus</i>	<i>Capra</i>	<i>O.aries</i>	<i>Ovis/</i>	<i>C.familiaris</i>	<i>R.rattus</i>	Rodent indet	BB	OB	KB	Non-ident	TOTAL
Horn	7					3	1	9	1							7	28
Cranium Fragment	28							3	7			2	12	4		10	66
Maxilla and Teeth	22	3		2				9		2			1				39
Mandibula and Teeth	25	1	2	3		16		19	35	2	1	5	4	1		1	115
Atlas	3								3				1				7
Axis	4			1				1	1				1	1			9
Vertebrae	28		1						7	2		14	24	10	1	17	104
Costae	29		1						2	2		2	52	22	4	10	124
Scapula	5			2	1			1	7				1			1	18
Sternum	7																7
Coxae	2								2			4	4				12
Humerus	7							10	7			1	4	1		1	31
Radius	9							1	11	1		2	1	3	1		29
Ulna	6							3		1		2	1				13
Femur	2								5			2	5	1		1	16
Tibia	4							4	3	1		2				3	17
Fibula												1					1
Patella	1																1
Astragalus	5	1				2			3						1		12
Calcaneus	3												3				6
Carpal/Tarsal	12								2				1				15
Metacarpal	11								10								21
Matatarsal	7		1						3	1			2	1			15
Metapodium	3								6			5	5	6		6	31
Phalanx	21	1	2			2		5	8				1	2		1	43
Long Bones Fragment	10												72	182	1	52	317
Non-ident teeth									5			1		2		3	11
Non-ident bones													8	2		62	72
TOTAL	261	6	7	8	1	23	1	65	128	12	1	43	203	238	8	175	1180

Number of bones pertaining to species and races that could be defined under Table 3 (NISP) and the minimum number of individuals (MNI) of these living things are given. Graphic 1 compares NISP and MNI values. Though the cattle and sheep seem to be equal in terms of the minimum number of individuals, when sheep and goats are evaluated together, number of domestic sheep and goats are more than that of cattle. Despite this, cattle have the highest rate in terms of identifiable number of bones. Deer and horses have the lowest figures in terms of both NISP and MNI. 1.6 % of bones

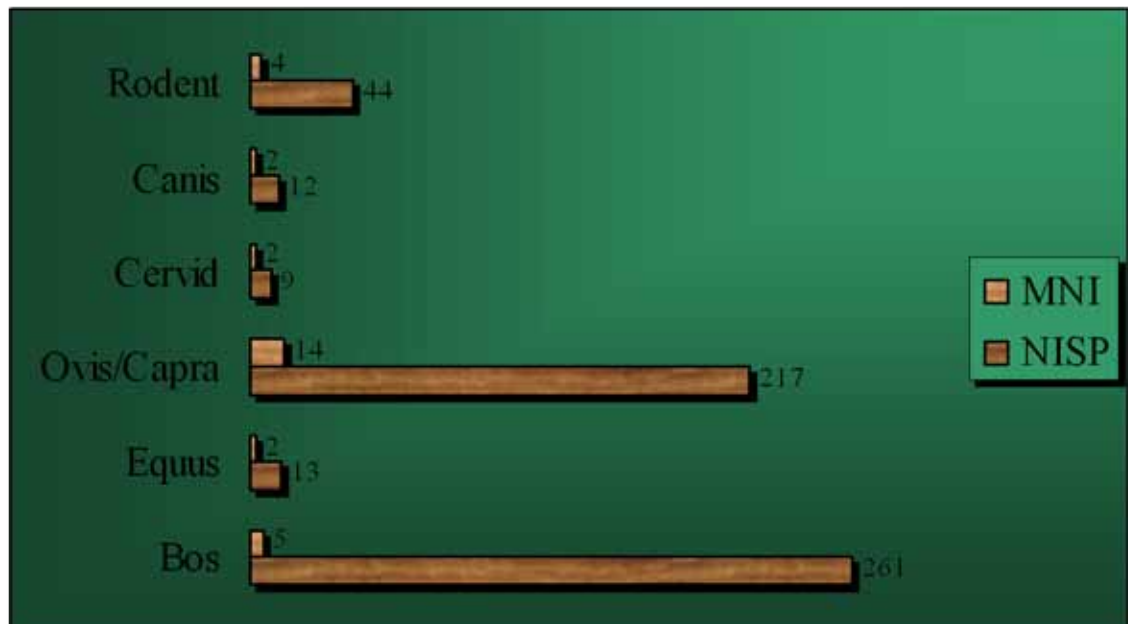


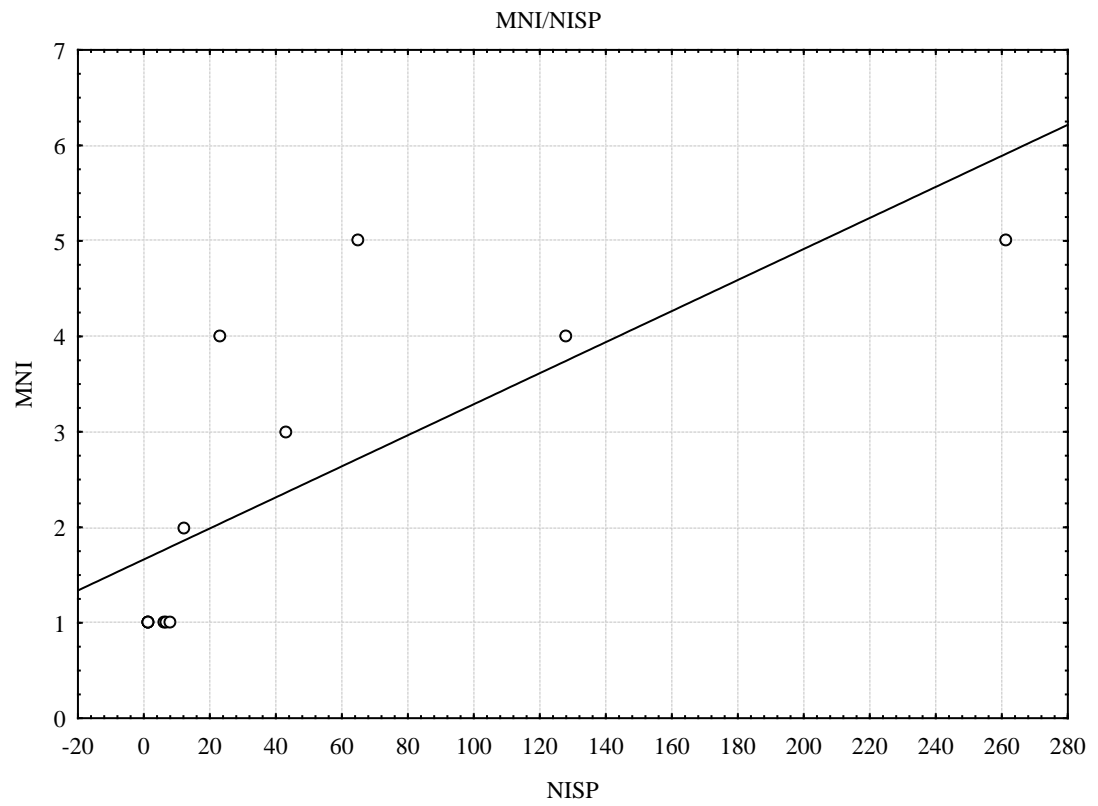
pertaining to identifiable species comprise of red and fallow deer remains, and 2,4 % comprise of remains of asses and their possible relatives (ass or mule), which values are quite low compared to cattle and sheep-goat remains. As can be seen from Graphic 3, while the NISP value is quite low in domestic sheep and goats, MNI is considerably high. In the case of cattle, as opposed to this, while the NISP is higher than all animals, MNI remains at a relatively low level. To the extent it is understood, small amount of cattle are used more economically than a higher number of sheep – goat.

**Table 3:** NISP and MNI Values of Büyük Ardıç Fauna

	NISP		MNI	
	n	%	n	%
<i>Bos taurus</i>	261	46,9	5	17,2
<i>Equus caballus</i>	6	1,1	1	3,4
<i>Equus sp.</i>	7	1,3	1	3,4
<i>Cervus elaphus</i>	8	1,4	1	3,4
<i>Dama sp.</i>	1	0,2	1	3,4
<i>Capra hircus</i>	23	4,1	4	13,8
<i>Capra aegagrus</i>	1	0,2	1	3,4
<i>Ovis aries</i>	65	11,7	5	17,2
Ovis/Capra	128	23,0	4	14,0
<i>Canis familiaris</i>	12	2,2	2	6,9
<i>Rattus rattus</i>	1	0,2	1	3,4
Rodent indet	43	7,7	3	10,3
Toplam	556	100,0	29	100,0

**Graphic 1:** Comparison of NISP and MNI Values of Büyük Ardıç Fauna



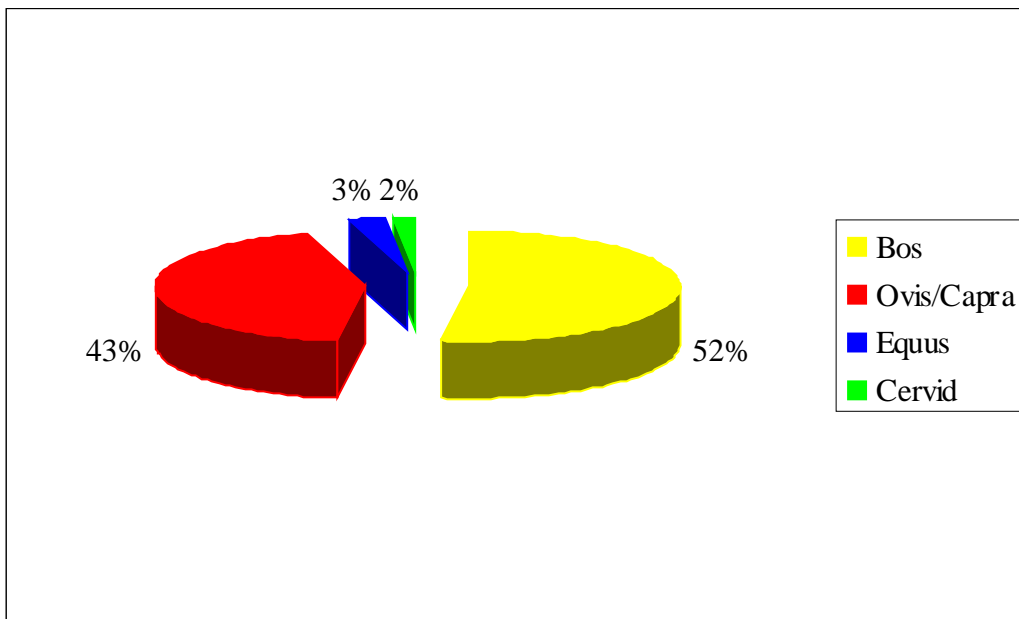
**Graphic 2: MNI/NISP Rates**

In Büyük Ardiç fauna, 500 of 556 bones species and races of which could be identified, belongs to herbivora. Distributions of Bos, Equus, Cervid and Ovis/Capra are given in Graphic. As can be apparently seen from the graphic, more than half of herbivora remains comprise of bones belonging to cattle. The fact that Equus remains are quite occasional suggest that these animals were not used for nutritional purposes, rather for transportation or in any other work. Red and fallow deer, which are hunting animals, do not hold a significant status in nutrition. Existence of these living things is important in terms of demonstrating that the men in Büyük Ardiç used to hunt from time to time.

### S1 plans-square

The architectural structure revealed in S 1 plan-square of Büyük Ardiç site has a special status. On the north of the architecture, between two stone foundations, skeletons of articulated animals were found inside the burnt ash earth. One of these belongs to 2 cattle, one aged between 2 -4 and the other between 1 – 4, and the other belongs to a pup (figure 1). In addition to these, numerous sheep and goat bones in a mixed status were obtained from the same area. As opposed to the animal bones in other plan-squares, no marks of burning or slaughtering were found on the bones revealed here.

**Graphic 3: Distribution of Bones of Herbivora**

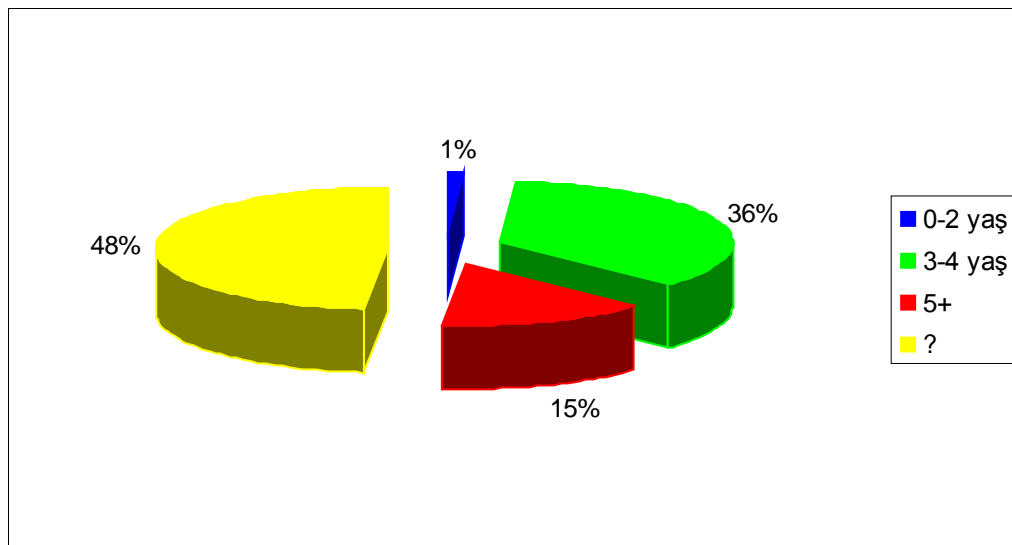


The facts that the animals are found in a completely burnt sediment with their joints and they bear nor mark of any butchering work on them give the idea that the mush have died because of failing to escape from a fire. Probably the fire extinguished or was extinguished prior to reaching the bones. Besides, marks of this possible fire were seen on some bones revealed in other plan-squares. Burning marks on these bones are due to cooking. These are the traces of fires having low heat that only locally affect the bone surface.

### Age Distribution

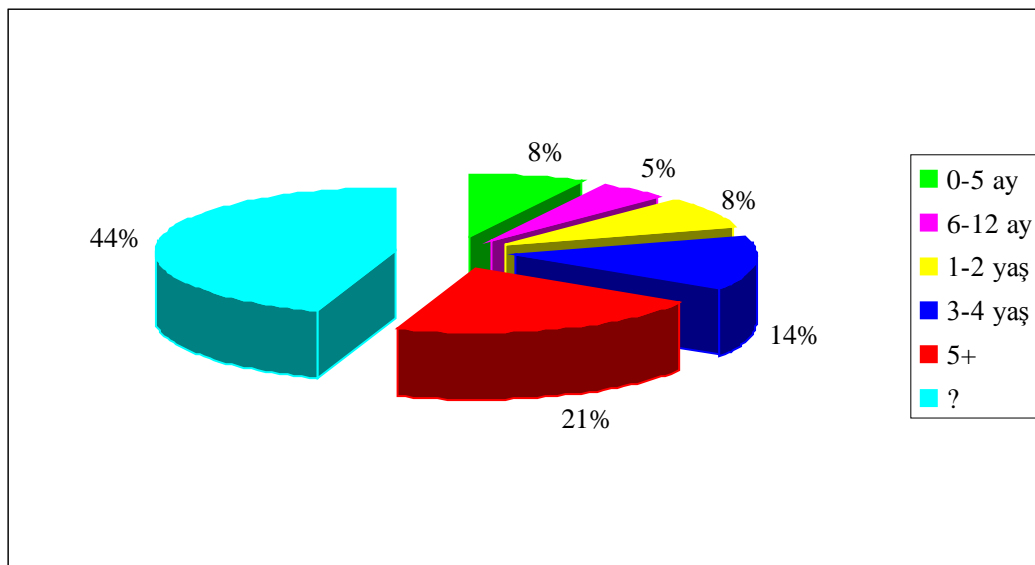
Another issue considered in this study is the age distributions of animals. At the initial observations, a significant portion of remains constituting the fauna was determined to belong to individuals that have not reached to the adult stage or to young adult individuals. Age estimation of 135 bone and teeth remains pertaining to *Bos Taurus* was made. Graphic 4 demonstrates the age distribution of cattle. Cattle remains whose ages could not be identified cover the biggest percentage. This is followed by remains pertaining to individuals aged between 3 – 4 with a percentage of 36 %. Remains pertaining to newborns constitute only 1 % of all remains. Then, people of Büyük Ardıç must have preferred for feeding purposes the young animals that approached their adult ages, rather than nestling or adult cattle.

**Graphic 4:** Age Distribution of Cattle

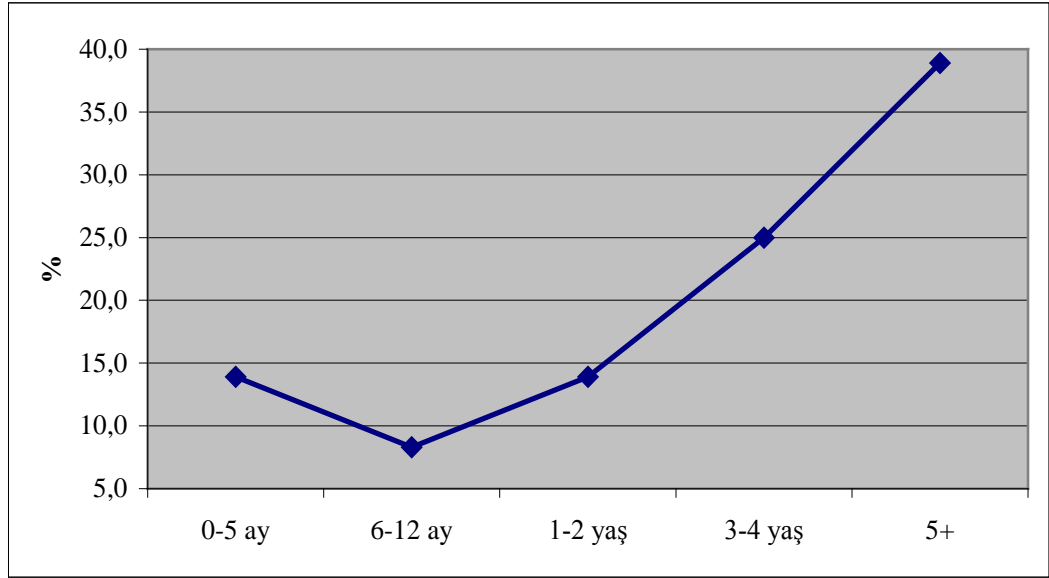


Age of 36 among 65 bones pertaining to sheep could be determined. When the age distributions of sheep are evaluated, it is seen that the bones whose ages could not be estimated have the highest percentage. (Graphic 5). This is followed by the remains belonging to adult individuals with a rate of 21 %. When considered in general, remains pertaining to nestling and young individuals constitute 35 % of the whole sheep remains. Similar to the cattle, it can be thought that nestling and young individuals were also selected in sheep. Death curve of sheep can be seen in Graphic 6.

**Graphic 5: Age Distribution of Sheep**

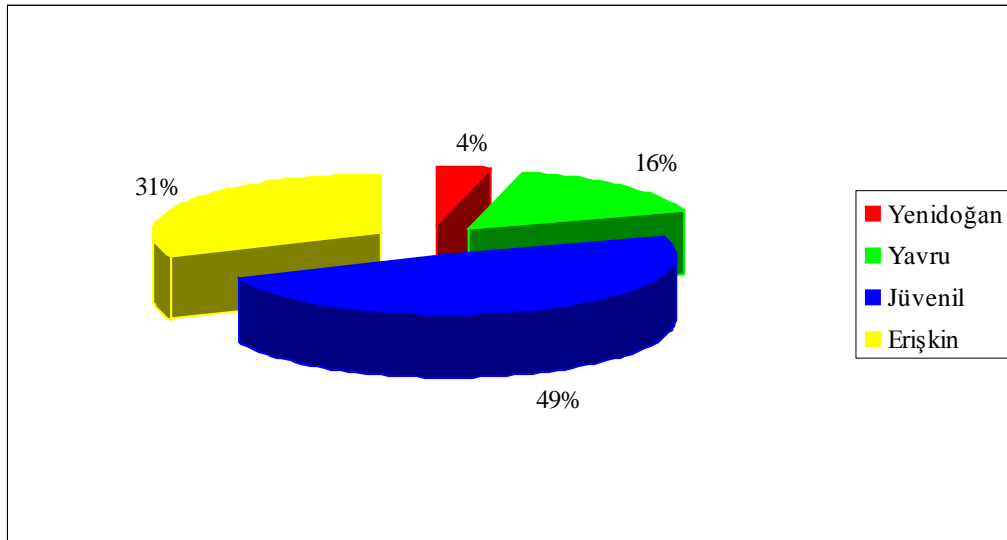


**Graphic 6: Death Curve of Sheep**

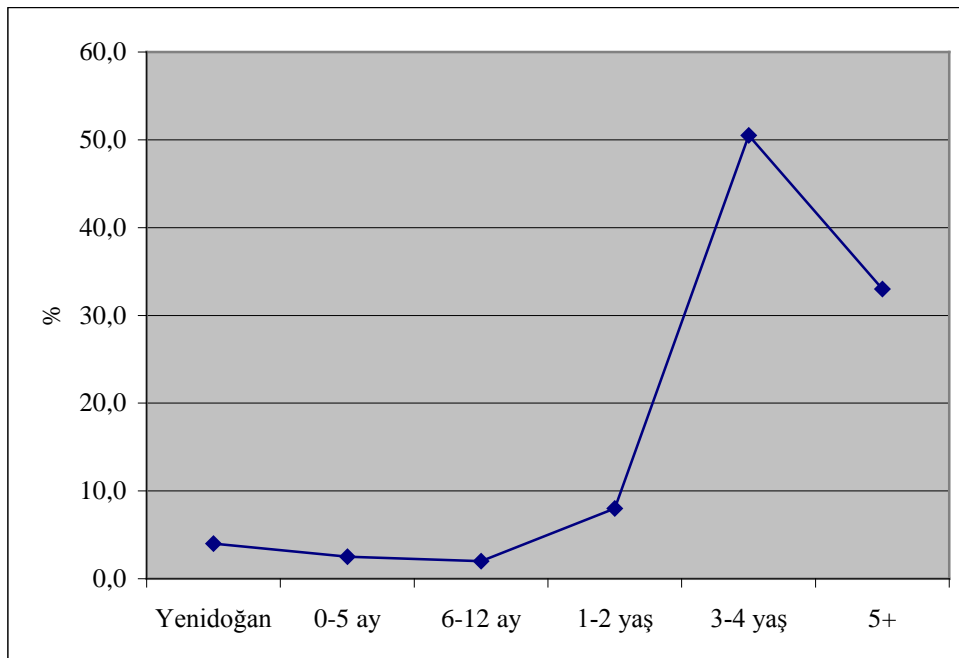


When the ungulates constituting Büyük Ardıç fauna are evaluated together, the tendency to select the younger animals in cattle and sheep is also visible in other species. When the total 210 bones covering cattle and sheep bones are evaluated together, it was determined that almost half of the faunal remains whose ages could not be identified belonged to animals which could not yet reach to adult ages. (Graphic 7). Remains pertaining to young adults are followed by remains belonging to adults and nestlings in the same order. After the derivation of this result, 200 bones, ages of which could be determined, were assessed in order to create the death curve of ungulates with the aim to determine the age in which most of the ungulates died. It is seen that, in the death curve (Graphic 8) the highest death rate takes place between ages 3 - 4.

**Graphic 7:** Distribution of Ungulates by Age Groups



**Graphic 8: Death Curve of Ungulates**



### Remains Belonging to Bezoar Deer and Deer

Whilst Büyük Ardiç fauna heavily comprise of domestic animals, some bones and teeth pertaining to wild animals could be identified amongst the remains. One of these is the horn of a young goat. This long and flat horn belonging to *Capra* race lies back without creating any curve. (Figure 2). Diverting from the domestic goat with this morphology, this horn is thought to be belonging to *Capra aegagrus*.

*Cervus elaphus* remains in the fauna are represented with P<sub>2</sub>, P<sub>3</sub>, 2 P<sub>4</sub>, one lower jaw piece, 2 glenoid and 1 second horn vertebrae, which makes a total of 8 bones (Figure 3). Existence of fallow deer in Büyük Ardıç is suspicious. A distal scapula and glenoid pertaining to right side demonstrates high difference from Ovis / Capra in terms of both the length and morphology. It has the typical circular structure that we see in Glenoid region deer. This bone has a smaller texture compared to scapula remains referred to Cervus. Based on these reasons, it was thought that this bone could belong to Dama. However, it is almost impossible to make such an estimation from only one single bone, and we can not reach to a final judgement whether the Büyük Ardıç fallow deer was *Dama dama* or *Dama mesopotamica*.

## DISCUSSION AND CONCLUSION

According to the archeological evaluation, the animal bones found in Büyük Ardıç, which is considered as a temporary settlement site, demonstrated that the livelihood of the people lived here depended on stockbreeding, both cattle and sheep/goat. Büyük Ardıç people, who probably sustained a migrant / semi-migrant living style, used to relocate in summer months together with their herds in order to make use of the meadows at high mountainous areas. Newborn Ovis / Capra bones obtained in the fauna demonstrate that the remains site was used by men during spring. As known, sheep and goats breed late summer / early autumn and they give birth during spring months (Macdonald, 1984).

Deer and bezoar deer remains provided important clues relating to the geographical characteristics of the site during that period. Bezoar deer commonly lives in rocky habitats with high altitude, where there are abundant forestry, but also meadows that will let it feed itself. Deer also sustain their lives in places with high altitude and / or forestry. Today, though there are not any forestry regions in the vicinity of Büyük Ardıç, it is known that the number of trees increases as one moves towards north. We do not know whether these forests reached down to the vicinity of Büyük Ardıç in the past. However, even if did not, one can think that people used to hunt after traveling long distances. Hunting animals constitute a high portion of Büyük Ardıç fauna. This suggests that animal protein was not taken from hunting animals, but from domestic animals.





## ACKNOWLEDGEMENTS

This study could be realized by numerous contributions from various valuable science men. I first of all thank to Assist. Prof. Yucel Senyur, who invited us to Büyük Ardıç excavation and provided us with study materials, and then to all excavation team, and to Prof.Dr. Ayla Sevim, Res. Assist. Zehra Satar and MA student, Serkan Şahin, for their esteemed contributions.

## METRICAL MEASUREMENTS

### 1- MEASUREMENTS OF BOS TAURUS

Upper Teeth		MD	BL	TY
	M3	26,61	21,06	
		24,6	20,29	45,77
		26,46	24,4	
	M2	20,43	21,78	6,37
		21,68	25,14	14,3
		21,66		
	M1	19,63	22,51	5,97
		20,54	23,04	19,78
	P4	14,26	18,72	13,83
		13,93	19,28	15,02
		15,47		20,76
	P3	15,27	15,06	23,97
Lower Teeth		MD	BL	TY
	M3			51,01

Lower Jaw	7	8	9	11	12	13	15a	15b	15c	
						153,47				
	120,59	74,69	45,98	105,57			60,24	40,03	37,49	
	121,3	74,09	45,71	100,81			61,03	40,08	38,05	
				82,45	135,38	125,15	64,15	44,71	29,99	
Radius	GL	PL	LI	GLI	Bp	BFp	SD	Bd	BFd	
					72,22	66,02	33,57	66,61	63,94	
					68,36					
					81,55					
	241,00	233,00	230,00				36,42			
	282,00	271,00	266,00	280,00	80,43	73,16				
Humerus	GL	GLI	GLC	SD	Bd	BT				
					65,67					
		281,00	260,00	34,29	77,29	74,41				
	291,00	286,00	260,00	33,77	77,85	73,74				
Scapula	SLC	GLP	LG	BG	Tibia	Bp	SD	Bd		
	30,66		39,09	31,50		80,93	27,95	53,38		
		62,43	55,79	44,76				59,08		
	46,83	63,27	54,70	42,46	MC	GL	Bp	SD	DD	Bd
Ulna	LO	DPA	SDO	BPC			52,27			
	80,28	53,59	44,66	40,46			57,6	32,21	20,16	58,5
		66,24	51,47	45,14					22,04	51,9
MT	Bp	SD	DD	Bd		185	60,45	33,09	20,31	56,2
	39,1	21,43	20,41				58,44			
	39,58	21,99	20,84				70,72			

				47,12		176	60,11	33,4	20,24	56,1
<b>Astragalus</b>	<b>GLI</b>	<b>GLm</b>	<b>DI</b>	<b>Bd</b>			54,12			
	60,36	54,35	34,12	37,56			50,26			
	62,24	57,25	33,11	42,97	<b>Calcaneus</b>	<b>GB</b>				
	58,15	52,55	35,68	34,76		44,03				
<b>Ph 1</b>	<b>Glpe</b>	<b>Bp</b>	<b>SD</b>	<b>Bd</b>		44,75				
	55,80	30,50	24,30	26,66	<b>Naviculo cuboid</b>	<b>GB</b>				
	54,81	30,44	26,20	27,02		44,83				
	48,54	24,88	19,88	21,81		50,47				
	52,02	30,30	22,92	28,38	<b>Ph 2</b>	<b>GL</b>	<b>Bp</b>	<b>SD</b>	<b>Bd</b>	
	54,83	31,44	26,64	29,11		37,14	29,75	24,92	25,5	
	52,67	32,20	28,08	30,26		34,14	30,02	25,08	24,47	
	35,58	28,77	22,53	24,08		35,29	31,53	25,91	28,57	
	40,38	24,59	20,07	21,44		30,78	25,49	19,61	20,82	
	49,28	27,25	21,02	25,37		38,3	32,59	26,23	27,69	
		32,87	27,48							
<b>Ph 3</b>	<b>DLS</b>	<b>Ld</b>	<b>MBS</b>							
	71,94	52,75	25,61							
	71,39	48,03	23,05							

## 2- MEASUREMENTS OF CAPRA HIRCUS

<b>Lower Teeth</b>		<b>MD</b>	<b>BL</b>	<b>TY</b>		
	<b>P2</b>	8,17	6,01			
	<b>M1</b>	10,49	6,76	27,45		
	<b>M1</b>		7,47			
<b>Horncore</b>	<b>41</b>	<b>42</b>				
	14,24	20,93				
<b>Lower Jaw</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>15a</b>	<b>15b</b>	<b>15c</b>
			27,48		33,27	24,94
			26,48		23,54	
				37,9		
	77,83	51,04	23,73		23,74	18,92
<b>Astragalus</b>	<b>GLI</b>	<b>GLm</b>	<b>DI</b>	<b>Bd</b>		
	29,38	27,66	16,11	18,41		
	20,13	25,45	14,4	18,09		
<b>Ph 2</b>	<b>GL</b>	<b>Bp</b>	<b>SD</b>	<b>Bd</b>		
	24,26	12,99	10,51	9,09		

### 3- MEASUREMENTS OF OVIS ARIES

Upper Teeth		<b>MD</b>	<b>BL</b>	<b>TY</b>
	<b>dp2</b>	7,45	5,63	
		8,27	6,13	
	<b>P3</b>	7,92	9,79	22,53
	<b>P4</b>	7,92	10,53	
	<b>M2</b>	13,95	12,66	30,37
		13,4	11,83	27,88
	<b>M3</b>		11,08	
		16,25	10,19	35,81
		21,36	14,18	37,91
Lower Teeth		<b>MD</b>	<b>BL</b>	<b>TY</b>
	<b>M1</b>	12,18	8,5	14,61
		10,22	7,39	22,46
	<b>M2</b>	13,56	8,12	37,33
	<b>M3</b>	21,69	8,35	
		22,39	7,78	23,91
		22,02	8,32	23,92

Scapula	<b>SLC</b>	<b>GLP</b>	<b>LG</b>	<b>BG</b>
	17,84	30,07	24,35	20,05
Humerus	<b>Bd</b>	<b>BT</b>		
	25,90			
	25,75			
		34,20		
	33,02	32,09		
		29,50		
		33,00		
Ulna	<b>BPC</b>			
	16,85			
Radius	<b>Bp</b>	<b>SD</b>		
	26,56	13,81		
Tibia	<b>SD</b>	<b>Bd</b>		
	13,59	24,14		
		25,84		
		23,49		
Ph 1		24,40		
Ph 1	<b>Glpe</b>	<b>Bp</b>	<b>SD</b>	<b>Bd</b>
	42,49	16,21	13,87	16,22

**4- MEASUREMENTS OF OVIS/CAPRA**

<b>Scapula</b>	<b>SLC</b>	<b>GLP</b>	<b>LG</b>	<b>BG</b>
	18,51	30,40	25,49	20,09
<b>Radius</b>	<b>Bp</b>	<b>BFp</b>		
	37,04	33,85		
<b>MC</b>	<b>Bp</b>			
	28,25			
	24,06			
	20,12			
<b>MT</b>	<b>Bp</b>			
	18,5			

**5- MEASUREMENTS OF EQUUS CABALLUS**

<b>Upper Teeth</b>		<b>MD</b>	<b>BL</b>	<b>TY</b>
	<b>P4</b>	28,64	27,87	74,88
<b>Astragalus</b>	<b>GH</b>	<b>GB</b>	<b>BFd</b>	<b>Lmt</b>
	55,32	64,12	53,16	55,5
<b>Ph 3</b>	<b>Ld</b>	<b>LF</b>	<b>BF</b>	<b>HP</b>
	50,5	34,27	47,44	30,71

**6- MEASUREMENTS OF EQUUS SP.**

<b>MT 3</b>	<b>Bp</b>	<b>SD</b>	<b>Dp</b>
	36,2	25,49	30,17

**7- MEASUREMENTS OF CERVUS ELAPHUS R**

<b>Upper Teeth</b>		<b>MD</b>	<b>BL</b>	<b>TY</b>
	<b>P4</b>	15,93	9,53	10,94
		17,29	13,07	14,93
<b>Lower Teeth</b>		<b>MD</b>	<b>BL</b>	<b>TY</b>
	<b>P2</b>	8,4	6,21	8,21
	<b>P3</b>	14,93	9,42	11,85

## 8- MEASUREMENTS OF DAMA SP.

Scapula	LG	BG
	27,60	25,61

**Figure 1:** Cattle Skeleton Found With Joints In Burnt Sediment in S1 Plan-square

**Figure 2:** Comparison of Domestic and Wild Goat Horns

**Figure 3:** Lower 4. Small Molar Tooth of Red Deer

**Figure 4:** Upper Molar Tooth of Domestic Horse

**Figure 5:** Anklebone of Domestic Horse

**Figure 6:** Lower Jaw and Long Bones of Pup

**Figure 7:** Lower Jaw of Cattle

**Figure 8:** 3. Metatarsal of Equus sp.

**Figure 9:** Scapula of Sheep / Goat

**Figure 10:** Lower Jaw of Domestic Goat

**Figure 11:** Lower Jaw of Domestic Sheep

## ATTACHMENT. 2:

### EXAMINATION OF METALLURGY-RELATED ARCHEOLOGICAL FINDS OBTAINED IN BÜYÜKARDIÇ EXCAVATION WITH X-RAY FLUORESCENCE TECHNIQUE

*Pervin Arıkan, Abdullah Zararsız, S. Yücel Şenyurt\**

#### Introduction

Subject of this study covers the examination using “X – ray fluorescence” technique of metal slag and metal processed pot samples obtained in Büyükardıç settlement dated Early Iron Age under the scope of BTC HPBH Archeological Salvage Excavations Project in the vicinity of Gokdere Village of Erzincan- Tercan District.

As known, in the evaluation of archeological finds, the practice of archeometrical methods containing the use of modern nuclear analytical techniques have become quite widespread. The most widely known and used of these techniques include X-ray Fluorescence analysis (XRF), micro-analysis with scanned electron microscope (SEM/EDX), neutron activation analysis (NAA) and proton stimulated X-ray analysis (PIXE).

The analysis performed with energy dispersed X-ray Fluorescence spectrometer that we used among thee methods specifically for our study has many advantages such as not leading to any damage, being fast and reliable. Since the archeological samples are special and very valuable, results of studies conducted using this methods reveals significant information pertaining to the past cultures. There are recent studies where this method is used.<sup>1</sup>

The XRF technique which relies on the principle of interaction of radiation substance is applied by evaluating characteristic X-rays between the emitted 1 keV - 100 keV in electronic transmission of atoms. The Moseley law is used in the application. Another advantage of this technique is that the samples at milligram level

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\* - Prof. Dr. Pervin ARIKAN, Instructor, Gazi University, Faculty of Science and Literature, Department of Physics, Ankara.

- Dr. Abdullah ZARARSIZ, Sarayköy Nuclear Research and Training Center, Ankara.

- Y. Doç. Dr. S. Yücel ŞENYURT, Instructor, Gazi University Faculty of Science and Literature, Department of Archeology, Ankara.

<sup>1</sup> Janssens et al. 2000; Pillay et al. 2000; Mantler 2000; Leung 2000; LaBrecque 1998; Roldan 2004.



can be examined. In our study, the metal slag and p.t. pot samples obtained from Büyükdıç excavation are examined with X-ray Fluorescence spectrometers in Ankara Nuclear Research and Training Center.

The main purpose of the study comprise of identifying the metallurgical activities in Büyükdıç, and determining which type of metals are particularly processed.

## Material and Method

p.t bottle, metal slag obtained in Büyükdıç are the main finds that demonstrate that metal processing activities were performed here.

1. P.t. Bottle: It was obtained in B-1 trench, immediately near an open air hearth<sup>2</sup> which has rectangular planned base as its is understood from the protection part and which does not demonstrate any association with any architectural remain other than some irregular stones in its vicinity, in the form broken from the neck. This position of the said hearth and its base which become hardened due to high heat demonstrate that this was a workshop. Over the shoulder of the bottle which is fired to resist high heat and almost acquired the form of a grayish stone<sup>3</sup> are two little holes, that are close to one another. Samples taken from the metal flows colored red and green that left trace after flowing from the two holes over the shoulder of this small bottle having a height of 8.2 cm were examined using X-ray Fluorescence technique.
2. P.t. Pot: Base piece pertaining to the ring based jar<sup>4</sup> obtained in the culture earth pertaining to the round planned structure in S-2 trench<sup>5</sup>. Samples taken from the metal remains adhered inside the pot which is well fired probably for metallurgical activities are examined using X-ray Fluorescence technique
3. Metal Slag: Two of the metal slag samples taken immediately near the hearth which is mentioned as either an open ait hearth or a workshop hearth mentioned in the foregoing B-1 trench, (**Figure 1**) are examined using X-ray Fluorescence technique .

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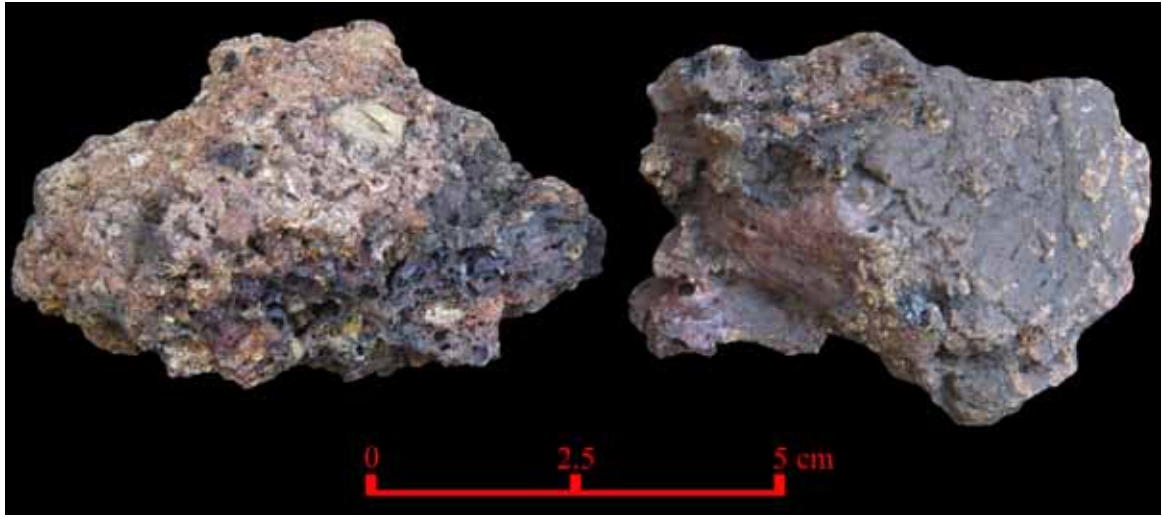
<sup>2</sup> Şenyurt 2005: Res. 25-26.

<sup>3</sup> Şenyurt 2005: Res. 85: 1.

<sup>4</sup> Şenyurt 2005: Res. 103.

<sup>5</sup> Şenyurt 2005: Res. 14-16.

Analysis of the archeological samples on which studies are conducted was made as they are taken, without any distortion. Sample preparation and chemical transactions were not applied. Qualitative evaluations of the samples were made with Radioisotope stimulated and X-ray stimulated spectrometers in Ankara Nuclear Research and Training Center. 1. system; in Radioisotope stimulated spectrometer, containing Cd-109 ring type source as stimulation source, Si (Li) semi-conductor detector, MCA with 4096 channels, suitable electronic unit (front amplifier, amplifier, power supply) and IBM-PS1 computer. AXIL program was used in analysis.



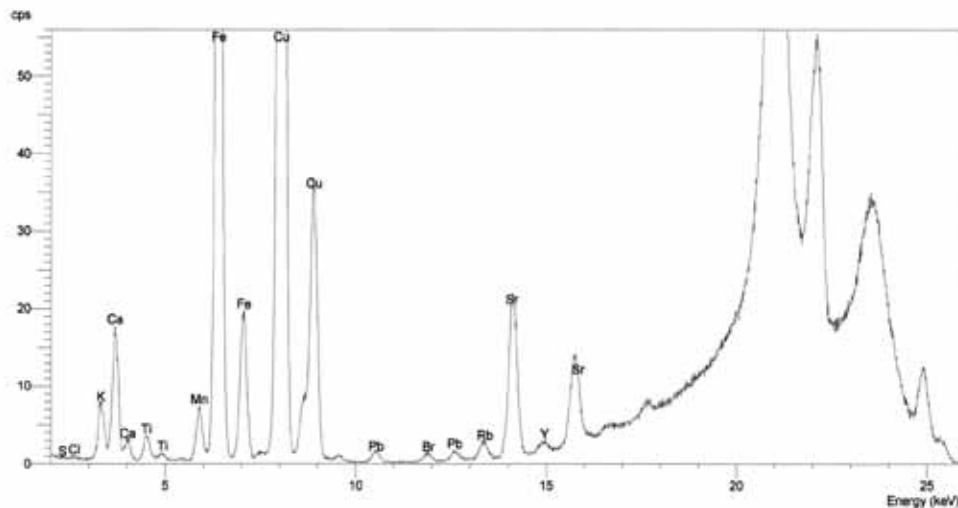
**Figure 1:** Metal slag.

2. system; in tube stimulated spectrometer, with radium target as X-ray source, Si (Li) semi-conductor detector and computer controlled multi-channel analyzer. Its power is 50 W and its maximum current is 1000 mA. Oxfor XpertEase program is used in the Analysis.

In the examinations performed in the 1. system, the Ag K-X rays emitted from Cd-109 are used for the stimulation of archeological samples and emission of characteristic X-rays. In the preliminary examinations performed with this system on the metal slag, iron (Fe) was seen as the element with significant amount. In addition to iron, calcium (Ca) and some earth elements (strontium, yttrium) were also seen. In order to detail the results of this preliminary examination in a more sensitive way, the sample was examined with 2. system. In the examinations, excitations of mild, medium and heavy element regions were used. The sample was measures with an average counting time of 150 sec.

### *P.t. Bottle*

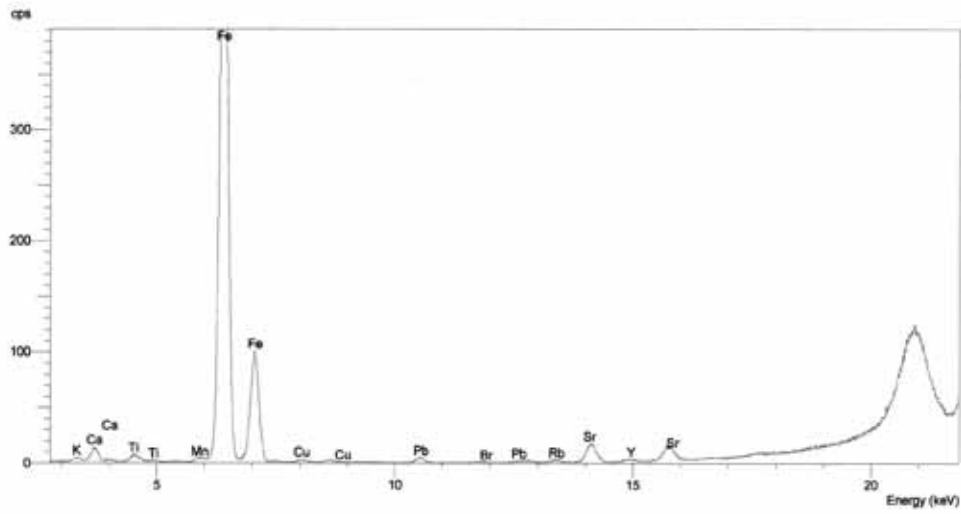
Sub-samples colored red and green taken from the part of P.t. bottle that is exposed to corrosion are separately examined in the form of fine film, it was seen that the major elements in the spectrums were copper (Cu) and iron (Fe). Other elements, though at small amounts, include aluminum (Al), silicon (Si), potassium (K), calcium (Ca), manganese (Mn), titanium (Ti), lead (Pb), strontium (Sr), yttrium (Y) and rubidium (Rb). L X-rays of the lead were included in the K X-ray spectrum of other elements. Same elements are observed in spectrums pertaining to the red and green sample, it was seen that the heights of Fluorescence peaks were equal.



**Graphic 1:** Fluorescence X-ray spectrum of P.t. bottle between 3-25 keV

*P.t. Pot*

For the aim of examining only the part of P.t. ceramic pot with slag, that part is collimated and excised. Processes performed lead to no damage. In qualitative evaluation made with three different methods, the spectrums obtained contained iron as the major element (Fa), and other elements included aluminum (Al), silicon (Si), potassium (K), calcium (Ca), manganese (Mn), copper (Cu), titanium (Ti), lead (Pb), strontium (Sr), yttrium (Y) and rubidium (Rb). L X-rays of the lead were included in the K X-ray spectrum of other elements.

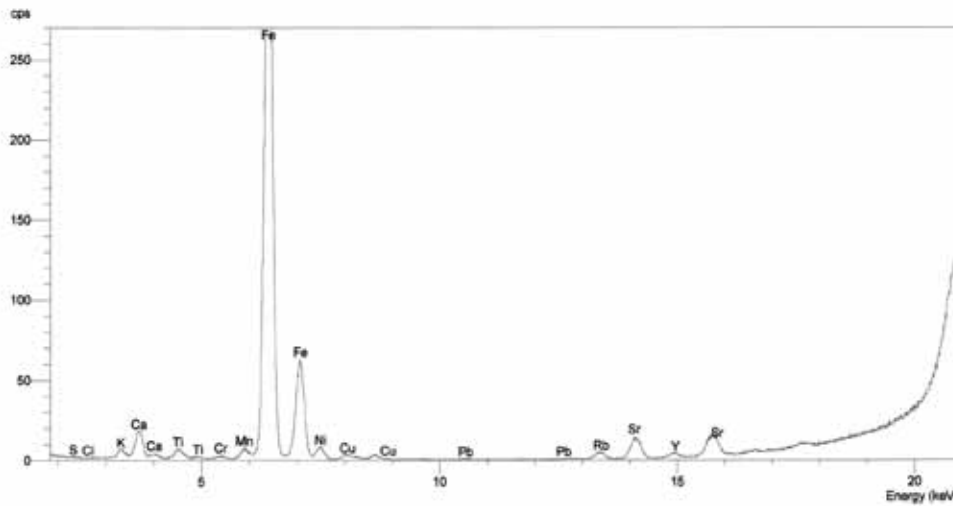


**Figure 2:** Fluorescence X-ray spectrum of P.t. bottle between 3-20 keV .

### ***Metal Slag***

*(Slag 1-2 graphic. Turkish of CPS will be written, counting time and counting method will be given. Sulfur, chlorine and nickel to be deleted )*

Two samples taken from the metal slag in the environment of the open hearth (workshop) revealed in Büyükdıç are examined separately. Three different excitation methods were applied in both. In the results, it was seen that the spectrums were same with one another. According to the results, the major element was found as iron (Fe), and other elements included aluminum (Al), silicon (Si), potassium (K), calcium (Ca), manganese (Mn), chromium (Ch), copper (Cu), titanium (Ti), lead (Pb), strontium (Sr), yttrium (Y) and rubidium (Rb). L X-rays of the lead were included in the K X-ray spectrum of other elements.



**Figure 3:** X-ray spectrum of metal slag between 3-20 keV

### **Conclusion**

Samples examined above as archeological find evidence sufficiently the metallurgical activities towards the processing of mine in Büyükdıç. More detailed information could not be achieved about the dimensions of the activities due to the small size of the excavated field. However, p.t. bottle on which metal corrosion was determined, p.t. jar base piece which was understood to be used as pot from the metal remains, and metal slag that are encountered in the vicinity of the open hearth which we think is a workshop and as spread from the bottom part of the hearth to the side

evidence the presence of a mine processing industry here, though might be at a smaller size. Results of X-ray Fluorescence analysis performed on the samples obtained, demonstrate that the said industry is used for the purposes of processing iron and cooper. There is not doubt that, under the existing data, it can not be said that the process of ore fusing was performed in Büyükardıç. It can be thought that the slag and the metal debris in p.t pot has been revealed as a by-product of the iron which is determined as the major element. Despite the fact that iron industry has become widespread towards the ends of Early Iron Age, we can speak of the existence of a small scaled industry in Büyükardıç which relied mainly on bronze tool construction. Remains flowed out from the two holes over the shoulder of P.t. bottle which pertain to copper and iron corrosion demonstrate that, despite its small size, this pot was used in metal processing industry. In addition to the nearby presence of the isolated complex which is evaluated as an open air hearth or workshop, the bronze and iron arrow heads found also in the same context <sup>6</sup> suggests the use of this pot ins small sized metal industry.

These archeological finds concerning metallurgy obtained in Büyükardıç provide significant clues about the settlement strategy here. In the case of this settlement which in its essence has unsuitable conditions in terms of daily living conditions, located on an extraordinarily high terrace, it can be understood that, in addition to defense and inspection concerns, the issue of metal processing was also a prior concern. As a matter of fact, the continued and strong winds impacting the settlement terrace and the coal formation on the bedrock<sup>7</sup> are essential advantages serving this aim. With its small sized metal industry where iron is processed most probably in addition to bronze, Büyükardıç settlement contributed to our knowledge concerning Early Iron Age.

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<sup>6</sup> Şenyurt 2005: Res. 27: 1-2.

<sup>7</sup> Şenyurt 2005: Res. 8.

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