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► **To cite this version:**

Iryna Teslenko, Oleksandr Dzhanov. Production of glazed ceramics in south-eastern Crimea. Historical background and archaeological context. *Cercetări arheologice*, 2024, 31 (2), pp.575-636. 10.46535/ca.31.2 . halshs-04807489

HAL Id: halshs-04807489

<https://shs.hal.science/halshs-04807489v1>

Submitted on 27 Nov 2024

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PRODUCTION OF GLAZED CERAMICS IN SOUTH-EASTERN CRIMEA. HISTORICAL BACKGROUND AND ARCHAEOLOGICAL CONTEXT¹

IRYNA TESLENKO
OLEKSANDR DZHANOV

ABSTRACT:

During the second half of the 13th and throughout the 14th centuries, Crimea was at the epicenter of multi-ethnic and multi-cultural interactions between East and West that contributed to its economic recovery. The production of glazed ceramics became one of the new and intensively developing industries in Crimea and was one of the markers of its economic growth. It is commonly believed that it was local glazed pottery that flooded the markets of Eastern Europe and the Black Sea region for almost two centuries from the late 13th century until the Ottoman conquest of the Black Sea region in the last quarter of the 15th century. These ceramics have usually been joined in the ‘South-Eastern Crimea’ or SEK group, which, as generally considered, combined the products of the big pottery centers in Solkhat, Sougdaia, Caffa, and their vicinity. However, the attempts to identify subgroups associated with each of them are still hypothetical, largely because they are not based on material from the workshops themselves. So, we focused on the study of local glazed pottery manufacturing in Southeastern Crimea by analyzing the historical background of the emergence and development of this industry and by supplementing, clarifying, and detailing the topography, the pottery repertoires, and the chronology for each of the pottery workshops through archaeological materials.

RÉSUMÉ: PRODUCTION DE CÉRAMIQUES VERNISSÉES DANS LE SUD-EST DE LA CRIMÉE. CONTEXTE HISTORIQUE ET ARCHÉOLOGIQUE

Au cours de la seconde moitié du XIII^e siècle et tout au long du XIV^e siècle, la Crimée était l'épicentre des interactions multiethniques et multiculturelles entre l'Est et l'Ouest qui ont contribué à son reprise économique. La production de céramiques glaçurées est devenue l'une des nouvelles industries à développement intensif en Crimée et a été l'un des marqueurs de sa croissance économique. On pense généralement que c'était la poterie glaçurée locale qui a rempli les marchés d'Europe de l'Est et de la région de la mer Noire pendant près de deux siècles, de la fin du XIII^e siècle jusqu'à la conquête ottomane de la région de la mer Noire dans le dernier quart du XV^e siècle. Elle a été généralement regroupée sous le nom de “Groupe de céramiques du sud-est de la Crimée” ou groupe SEC. On suppose qu'il s'agit d'un ensemble de productions provenant des grands centres de poterie tels que Solkhat, Sougdaia, Caffa et leurs alentours. Cependant, les tentatives d'identification de sous-groupes associés à chacun de ces centres restent, pour l'instant, hypothétiques, principalement parce qu'elles ne s'appuient pas sur des données issues directement des ateliers. Nous nous sommes donc concentrés sur l'étude de la fabrication locale de céramiques glaçurées dans le sud-est de la Crimée en analysant le contexte historique de l'émergence et du développement de cette industrie et en complétant, clarifiant et détaillant la topographie, les répertoires et la chronologie de chacun des ateliers de poterie à travers des matériaux archéologiques.

KEYWORDS: Northern Black Sea Region, Crimea, late 13th–15th century, glazed ceramics manufacturing, pottery workshops, history, archaeology.

MOTS CLEFS: Région du nord de la mer Noire, Crimée, fin du XIII^e–XV^e siècle, fabrication de céramiques glaçurées, ateliers de poterie, histoire, archéologie.

Introduction

The beginning of glazed pottery production in Crimea is usually dated within the last third or late 13th century², and is associated with the economic growth of the region against the backdrop of the great challenges of the epoch.

¹ This paper linked to the FIAS-FP project of Iryna Teslenko and was supported by the European Commission, Marie-Skłodowska-Curie Actions – COFUND Programme.

² There are some assumptions about it starting in an earlier period, but they have not yet been well confirmed.

The decentralization and collapse of Byzantium and its loss of control over the Black Sea straits, the subsequent Mongol conquests of Eastern Europe including Crimea, the increasing role of the Italian maritime republics in the economic life of the region were the most important ones. They led to significant changes in the geopolitical and economic balance in the Black Sea area. Thanks to its strategically advantageous location, Crimea became the center of the geopolitical metamorphosis that impacted its historical destiny in the next two centuries. During the 13th century, from the northern province of Byzantium, which was an important strategic and transshipment point for Byzantine maritime trade with Eastern Europe, as well as a source of a limited list of resources and food, Crimea turned into the main intermediary in the Levantine and Eurasian trade. It became the area of intensive political, economic, and cultural interaction between the Eastern and Western worlds that was accompanied by the infiltration of new populations, religious traditions, technologies, arts, and consequently craft, including glazed pottery manufacturing³. New geopolitical realities have contributed to the significant economic boom of Crimea and facilitated both the revival of old and the growth of new urban sites on the trade routes. Solkhat (modern Staryi Krym), Caffa (modern Feodosiya), Sougdaia (modern Sudak) located in the south-eastern Crimea should be mentioned among them (Fig. 1). They became the main centers of international trade, crafts and cultural interaction at that time. Glazed ceramics manufacturing had been a new booming industry there as well. By the end of the 13th and until about the mid-14th centuries the glazed wares associated with the Southeastern Crimea workshops had filled the markets of Eastern Europe (Fig. 2), being a remarkable component of local economy and trade from the Danube to the Volga and, as believed, greatly impacted pottery craft in the wide area⁴. They have usually been combined under the name of “Ceramics of the Southeastern Crimea Group” or SEC group. This group is not homogeneous. Although the shards look similar to the naked eye, the differences can be seen in the quality of its primary processing, the presence or absence of certain inclusion, the technique of making the feet, and the styles of decoration, which are generally believed to be due to the origin of ceramics from different

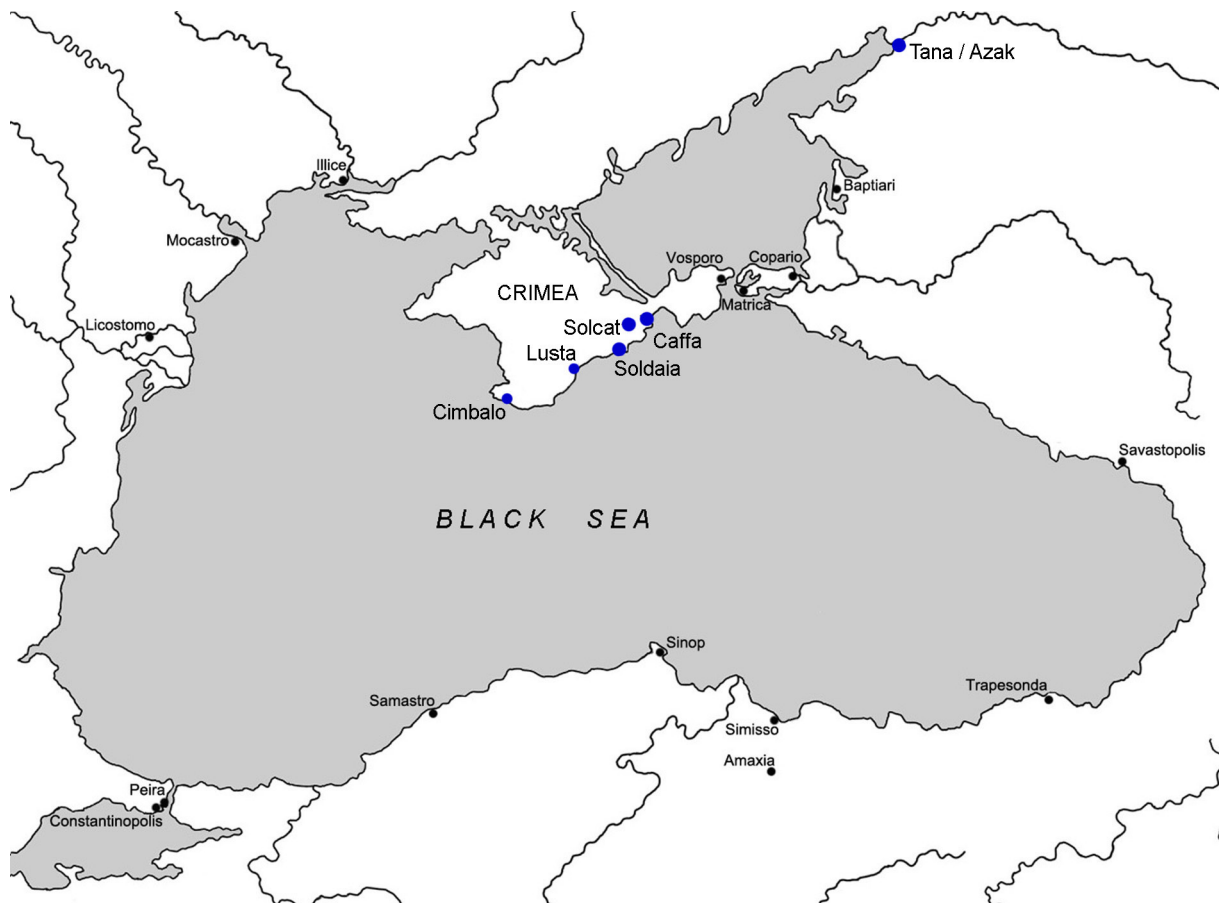


Fig. 1. Map of the Black Sea basin with the names of settlements according to Genoese and Venetian sources of the middle of the 15th century and the sites mentioned in the text.

³ Balard 1978; Karpov 1990; 1994; 2000; 2011; Ponomariov 2000; Jackson 2005; Kramarovskiy 2016a; Dzhanov 2017; Khvalkov 2018; Emanov 2021.

⁴ Maslovskiy 2017; Maslovskiy 2019, 222-226, etc.



Fig. 2. Map of sites where glazed ceramics commonly related to workshops in south-eastern Crimea have been found.

workshops and various traditional skills of the artisans⁵. Meanwhile, the attempts to identify subgroups associated with a particular Solkhat, Sougdaia, or Caffa workshops are still hypothetical, largely because they are not based on material from the workshops themselves. Despite a large amount of accumulated data and recent advances in the study of these ceramics, the information about the real glazed pottery workshops of Southeastern Crimea remains rather scattered. That is why among the questions we will seek answers to in this study are the following.

⁵ see more in: Maslovskiy 2017, 456; Teslenko 2018a, 32-33; 2020b.

Where exactly were the workshops located, what do their remains look like? When did their activities begin? Are there the remarkable features of the ceramics produced by each of them? So, the study is expected to extend our knowledge of local glazed pottery manufacturing in Southeastern Crimea by supplementing, clarifying, and detailing the topography, the pottery repertoires, and the chronology for each of the currently known pottery workshops. First, we will focus on analyzing the historical background of the emergence and development of this industry in Crimea. Then, we will examine the evidence of the local output of glazed ceramics, summarizing the information accumulated since the early 20th century involving new data from the Scientific Archive of the Institute of Archaeology of the National Academy of Science of Ukraine and Museum collections, and the available results of archaeometric studies.

Historical background

The beginning of the 13th century in the history of Crimea is marked by the keen economic interest of the Seljuk Sultanate of Konya in the peninsula and its military expedition there around the 1220s. Then Crimea was integrated into the structure of Ulus Jochi in 1239–1260s⁶ and a new seat of power was established on its south-eastern part. By the mid-13th century, this site had already turned into a large urban center known as Solkhat and Qırım/Krym⁷. Muslim merchants were widely involved in trade throughout the Mongol Empire, particularly in supplying the Mongol aristocracy with luxury goods, etc. They had many benefits and monetary incentives. As a result of their activity, the Muslim cultural tradition spread throughout the empire as far as northern China in a short time. The incorporation of their trading communities into the economic life of the empire led to a crisis, which the central government managed to resolve through a series of reforms and the deprivation of privileges during the reign of the Great Khan Möngke (1251–1259)⁸. But the foundations of the cultural background in most of the empire had already been laid. This perfectly illustrates the fact that the Mongolian authorities, still indifferent to religious issues, did not mind minting coins with Arabic legends and Islamic religious formulas⁹. Berke Khan (1257–1266) was the first ruler of the Jochi Ulus to convert to Islam, although his successors did not decide on a religion for several decades. Islam began to influence the political priorities of the rulers and the cultural preferences of the aristocracy and urban residents in the central regions of the Jochi Ulus. Close relations with Mamluk Egypt, with whom they even competed for leadership in the Islamic world, played a substantive role in this process¹⁰. A wealthy Muslim community was formed in the South-Eastern Crimea, in Solkhat, as early as the 1260s, which was testified by the construction of the first mosques in Solkhat in 1262/1263 and 1280¹¹. The economic stability and aesthetic preferences of the new Jochid elite stimulated the infrastructure development of the region. The Muslim traders were followed by new settlers of various ethnic groups: Central Asian and Middle Eastern Muslims, Armenians, Jews, Latins, and others, primarily skilled craftsmen and scholars. Solkhat acquires the features of a typical eastern city where at the beginning the Muslim community peacefully coexisted with representatives of other religions – the Orthodox, Catholic, and Armenian Apostolic churches Christians, as well as adherents of Judaism¹². Later the influence of the Muslim tradition began to prevail.

One of the well-known historical events in the context of this process was the resettlement in 1265 to Crimea of the Iconian Seljuk Sultan Izz ad-din Keykavus II (1246–1262 with breaks), who lost power in Konya and then with some family members spent some time on the territory of Byzantium “as a guest” of Michael VIII Palaeologus (1259–1282)¹³. However, after conspiring against the Emperor, he fled to Crimea with the help of Jochid Nogai and Bulgarians¹⁴. Some supporters of the ex-Sultan followed him to Crimea. Among them, sources mention the nomadic Turks from Dobruja led by their religious leader Sarı Saltıq. Mengü-Timur Khan (1266–1282) gave Keykavus II in iqta lands in the Crimea (around Solkhat and Sougdaia), at the expense of which he lived for fifteen years until he died in 1279/80. Then these possessions passed to his eldest son Ghiyath al-Din Masud (1285–1298),

⁶ Ulus Jochi, Jochid Horde or Golden Horde (as it was called in later Russian sources) is the eastern part of Pax Mongolica, which formally seceded from the Mongol Empire under Berke Khan (the grandson of Genghis Khan, ruled in 1257–1266) and was finally established as an independent state during the reign of Mengü Timur (1267–1282). More on the history of Ulus Jochi, see, for example: (Khakimov et al. 2016).

⁷ Egorov 2009; Kramarovskiy 1989; 1997; 2003, etc.

⁸ Allsen 1989.

⁹ Fedorov-Davydov 2003; Khromov 2006; Kramarovskiy 2016b, etc.

¹⁰ Favereau 2019; Zaitsev 2015, 105.

¹¹ Kramarovskiy 2009; Kirilko 2013; 2016; 2019, 696-697. The existence of an earlier mosque in Sudak fortress, associated with the consequences of the Seljuk campaign to the site in the time of Ala ad-Din Kayqubad (1220–1237), has not yet been confirmed (Aibabina et al. 2021, 190).

¹² Kramarovskiy, 2004; 2009; Kirilko, 2008; 2019; Baybyrtsky 2024.

¹³ Shukurov 2016, 99-105.

¹⁴ Shukurov 2016, 113.

who, however, did not stay in the Crimea for long. Due to the will of his father, he soon went to Anatolia in order to gain the sultanate's throne¹⁵. Despite Masud's leaving, Crimea's interaction with Asia Minor remained quite close. Nonetheless, the Seljuks made a significant contribution to the development of the artistic ideas of Asia Minor in Crimea, which was reflected in architecture, tombstones, and arts and crafts, including ceramics¹⁶.

The presence of a regional Mongolian seat of power in Solkhat contributed to the transformation of South-eastern Crimea into one of the economic and cultural centers of the Northern Black Sea region. The blooming of urban construction occurred under Berke Khan's successor, Mengü-Timur, reaching its peak by the 1340s under Uzbek (1313–1341) and Janibek's (1342–1357) reigns¹⁷. Three urban dominants with surrounding rural districts have been developed in the South-Eastern Crimea: the already mentioned Solkhat/Qırım (Eski Qırım); the former Byzantine Sougdaia (in Oriental sources – Soğdaq ~ Soudaq) and new Genoese trading post Caffa (less common spelling variants in West-European sources – Capha, Gafa) (Fig. 1).

Solkhat was situated in the foothills about 30 kilometres away from the Black Sea coast, so it needed a port for maritime communications. Sougdaia, which is located on the coast a day's march away from Solkhat, became such one. It was an important and initially the only port in this part of the peninsula that had long-standing close relations with Anatolia, Constantinople, and the Middle East. The agreement between the Egyptian Sultan Qalawun (*Malik al-Mansur Sayf al-Din Qalawun*) (1279–1290) and the Byzantine Emperor Michael VIII Palaeologus of 1281, in which only this site is mentioned as a partner of Egyptian traders out of all the harbours of the Black Sea is very revealing in this regard¹⁸. After likely voluntarily entering the Mongol Empire, Sougdaia had the autonomous administration till 1320s. It served the needs of the Mongolian authorities for almost 100 years, being the final landing point for diplomatic missions traveling to the headquarters of the Mongol khans and a point of attraction for merchants of different nationalities. In addition to Muslim and local Greek traders, Italians were also interested in Sougdaia's market. The Venetians had the priority in the first half of the 13th century. However, it is difficult to say how successfully they used it, because very few documents have survived from that period. Information from the written sources about the Venetians' stay in Crimea in the 13th century for trade purposes is limited to a few episodes. Two deeds survive from 1206 for a single trade contract, the endpoint of which was to be Sougdaia (in West-European sources – Soldaia, less frequently – Soldadia)¹⁹. In addition, we know a decree of the Venetian government of 1288 on the amount of pay for the duties of consul in Sougdaia²⁰. However, whether Venetian consuls were appointed in Sougdaia is unclear. Finally, it is worth adding one more known fact related to the residence of Marco Polo's family members in Sougdaia after 1250²¹.

After 1261, Venetians were joined by the Genoese, whose attention to Sougdaia was probably sparked by their commercial interest in the slave trade between the Jochi Ulus and Egypt²². But they were most likely not satisfied with the presence of their fierce rivals in Sougdaia which prompted them to look for options for an autonomous trading emporium in Crimea. Between 1268 and 1275, the Genoese were probably able to obtain the consent of the Mongol authorities and got a protective charter (*yarlıq*) from Mengü-Timur for a stretch of land on the southeastern coast of Crimea where they set up their trading post around or shortly after 1275²³. This is how Caffa (ancient – Theodosia, modern – Feodosiya) appeared. The new Genoese trade point was founded 50 km east of Sougdaia and the same distance from Solkhat. Very soon it became one of the largest trade centers in the Black Sea basin. In 1365 the strengthened Genoese captured Sougdaia. It was already a typical eastern town. According to written source, most of the Christian population gradually left the site and was replaced by Muslims²⁴. Even after being rebuilt into a full-fledged fortress over the following years, Sougdaia could no longer compete economically with Caffa. Despite numerous military conflicts with both the central authorities of Ulus Jochi and regional rulers, Caffa remained the main trading partner of the "Tatar Empire" for almost 200 years. Diplomatic talent and tactical tricks allowed the Genoese to put out competitors from almost the entire sea coast of Crimea, seize the southern coast of the peninsula, as well as to interfere in the internal political struggles of their neighbors for their benefit. Caffa became the largest and most populous city in the Black Sea basin. The commercial activities of the Genoese attracted people from different parts of the region, including Anatolia. The majority of the city's population was represented by Armenians and Greeks. However, there were also small but wealthy communities of Jews, Tatars,

¹⁵ Wittek 1952; Kramarovskiy 2016; Shukurov 2016, 115-116; 122-123.

¹⁶ Aibabina 2001; Kramarovskiy 2016; Teslenko 2020b.

¹⁷ Egorov 2009; Botcharov, Maslovskiy 2022.

¹⁸ Holt 1995, 123.

¹⁹ Lombardo, Morozzo della Rocca 1940, 18-20, № 478-479.

²⁰ Archivio di Stato ..., f 41v.

²¹ Thiriet 1959, 100.

²² Kedar 1977, 75-91; Amitai 2008, 349-368; Baker 2014.

²³ Balard 1978, 118; Dzhhanov 2019.

²⁴ Νυσταζοπούλου 1965, 45-44.

and even Syrians²⁵. The European cultural tradition in Caffa was significantly influenced by Oriental art. This was evident in architecture, social and daily life²⁶.

Thus, it seems natural that these developing multicultural urban sites became the center of attraction for industrial and cultural innovations including glazed pottery manufacturing, which has long been an integral part of the urban culture of medieval Eastern and Western civilizations.

Glazed ceramic workshops in South-Eastern Crimea

The first attempts to identify local glazed ceramics in the pottery assemblages from Crimea were made more than a century ago²⁷. The most thorough at that time and still relevant is the article by E. von Stern “Theodosia and its ceramics” published in 1905. The study was carried out on the materials obtained by A. Bertie-Delagard during the construction of the Feodosiya (medieval Caffa) harbor. Among other things, E. von Stern presumably identifies a group of local ceramics, which, in his opinion, was produced in Caffa according to Byzantine models, and dates it back to the time of no earlier than the beginning of the Genoese colonization of Crimea. As evidence of local manufacturing, he mentioned the finds of tripod stilts at Caffa and Cherson (Chersonesos)²⁸.

Research in the second half of the 20th and current centuries has shed much more light on these issues. A rather large corpus of archaeological information on this pottery has already been accumulated and published in Russian and Ukrainian languages²⁹ and shortly presented in the conference proceeding in English³⁰.

Having generalized the published materials and expanded them with archival information from reports on archaeological excavations, we can currently map at least 10 glazed pottery workshops in Crimea, which were active in different periods from the late 13th to the second half of the 15th century (Fig. 3). Furthermore, there are 8 sites with single finds of tripod stilts used in the firing process of glazed pottery and/or some artifacts that look like wastes: Chersonesos and Berman’s Gully (modern Sevastopol), the territory of the former village of Kady-Koy (now the Kadykovka – district of Balaklava), the ancient sites of Mangup and Chufut-Kale near the

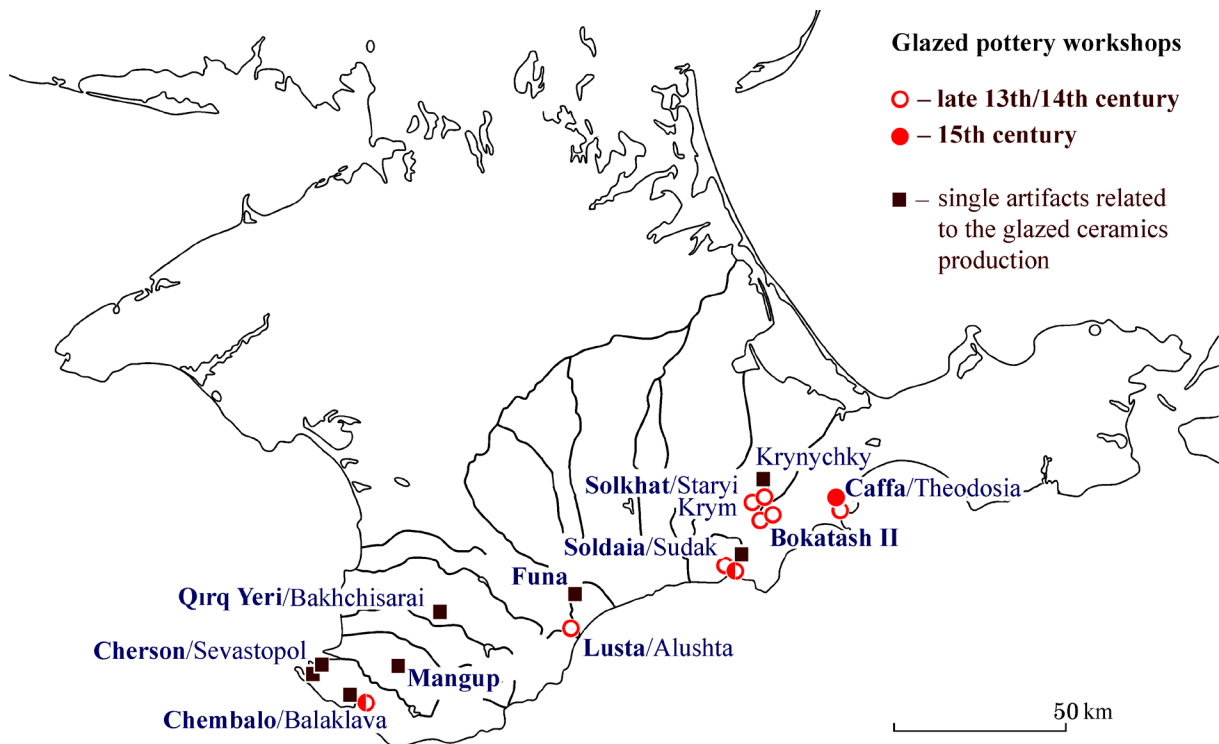


Fig. 3. Crimea, the location of glazed ceramics workshops, and evidence related to this production.

²⁵ Dzhanov 2019.

²⁶ Quirini-Poplowski 2023, 130–152, 194–230.

²⁷ Bock 1897, 12-53; Stern 1906.

²⁸ Stern 1906, 54-64, 79.

²⁹ Belinskiy, Maslovskiy 1998; Maslovskiy 2006; 2012; 2017; Teslenko 2018a; Teslenko 2021, 85-91, etc.

³⁰ Botcharov, Maslovskiy 2015c; Botcharov, Maslovskiy, Sitdikov 2015; Botcharov, Maslovskiy, Iudin 2018; Teslenko 2015; 2018; Teslenko, Waksman 2016; Waksman, Ginkut 2015

Bakhchisarai, the Funa settlement in the vicinity of the village of Luchistoe near Alushta in southern Crimea³¹, and the Krynychky settlement 3 km north of Solkhat/Staryi Krym³² (Fig. 3). In addition, four more points with single finds of kiln furniture and waste were recorded in the dwelling area of medieval Sougdaia/Sudak (Fig. 21/3-6), but it is difficult to say whether they could come from still unidentified workshops or come from ones which are already known.

Eight out of ten workshops are located in Southeastern Crimea. The earliest reliable evidence of glazed ceramic manufacturing has been archaeologically recorded in and around Solkhat.

Bokatash II

Workshops on the Bokatash II settlement in the Solkhat vicinity is one of the largest and best studied for now. This archaeological site is located in the foothills of the Karasan-Oba Ridge, 1.4 km southeast of modern Staryi Krym (Fig. 4: 5). Excavations were carried out in 2001–2007 on two areas, a total of over 1000 m². Preliminary information on the results of the first five field seasons was published by the authors of the excavations M. Kramarovskiy, and V. Gukin in a series of reports³³. The outcomes of subsequent field seasons are briefly covered in a few papers³⁴.

The site with the modern name Bokatash II was a settlement of potters of various specializations. More than a dozen of workshops with more than three dozen pottery kilns were excavated there. Pottery kilns have a two-tier structure with a vertical flow of hot gases. They consist of combustion and firing blocks separated by a perforated floor, and a stoking chamber. The lower part of the structures was deepened into the ground or rock. The perforated floor was supported by clay beams or arches made from bricks resting on the walls of the combustion chamber (Fig. 5)³⁵. Columnar supports were not mentioned. Often two or more pottery kilns shared a common pre-entrance pit, which served for loading fuel to the stoking chamber and cleaning it after firing³⁶.

Minimum two of the workshops produced glazed potteries. One of them specialized in the manufacturing of moulded and sgraffito wares. Thus, mould, tripod stilts with rests of green glaze, and one jug with floral and geometric decoration in the sgraffito and champleve technique without glaze covering, i.e., biscuit-fired wares, were found in the pottery kiln No. 17 and the associated pit No. 22 at area XXII (Fig. 6; 7/1-4)³⁷. Open-form vessels with sgraffito decoration in the form of concentric circles and waves under green glaze together with overfired wastes, are also among the finds (Fig. 8/9-11). Nine coins came from the context of pit No. 22. One of them is poorly preserved, so was not identified. Three are anonymous Jochid pools 1291/1292, minted in the Crimea during the reign of Tokta Khan (1291–1312). One Byzantine coin is from the second reign of Emperor Andronicus II Palaeologus (1320–1325). One coin belongs to the Seljuks of Rum, with the name of Sultan Giyas-ad-din Mas'ud II (III?), 1282–1307. Thus, pit No. 22 could be dated within the late 13th – 1330s³⁸. It is also consistent with a circulation of ceramics decorated sgraffito with concentric circles (so-called SCC) in the Eastern Mediterranean and Black Sea region³⁹.

Another workshop at area XXIII produced sgraffito pottery only. Two pottery kilns united by one service pit were studied there (Fig. 5/kilns 1 and 2, pit 2)⁴⁰. Based on the presence or absence of glaze marks in the kilns, the authors of excavations assumed they had different specializations. According to the authors of digging, one was probably used for firing ceramics before glazing, and the other – after glazing⁴¹. A large number of tripod stilts of two types (with or without spike feet), biscuits and finished wares decorated in sgraffito techniques came from the excavated area (Fig. 7-9)⁴². The ceramic wares are represented by closed and open forms vessels of several types: flasks, small narrow-necked jugs, plates, bowls and goblets on ring feet (Fig. 7/6-7; 8/1-8; 9). The feet are low, made by sticking a clay ring onto the flat bottom and then working it on a wheel. Most of them have a two-sided extension of the base (Fig. 8/8-11). The main visual characteristics of these ceramics are the following: the shard is a bit gritty; uniform oxidizing firing that produced the rich yellow-red shard; the clay raw material contains a lot of natural limestone

³¹ Teslenko 2018a, 8.

³² Seidalieva 2024, 321, Fig. 8/1-4.

³³ Kramarovskiy, Gukin 2004; Kramarovskiy, Gukin 2006; Kramarovskiy, Gukin 2007.

³⁴ Kramarovskiy 2009, 301-302; Lomakin 2016, 17-18.

³⁵ There were three variants of pottery kiln construction. More details see: Teslenko 2018a, 17-25.

³⁶ Teslenko 2018a, 17-25.

³⁷ Kramarovskiy, Gukin 2004, Tab. 110; 111; 2006, Tab. 86; 90; 109.

³⁸ Kramarovskiy, Gukin 2006, 15-16, Tab. 87-88; Kramarovskiy 2012, 325.

³⁹ Waksman, Teslenko 2010; Waksman et al. 2014, 415; Teslenko 2020a, 399.

⁴⁰ Kramarovskiy, Gukin 2006, 22-24, Fig. 3.

⁴¹ Kramarovskiy, Gukin 2006, 22-24.

⁴² Kramarovskiy, Gukin 2006, 22-24, Tab. 118; 125; 130-139; 141; 143; 145; 148; 150; 151; 153; 154; 156; 157; 160-163; 2007, 12-16, Tab. 109; 110; 117; 126; 133; 136.

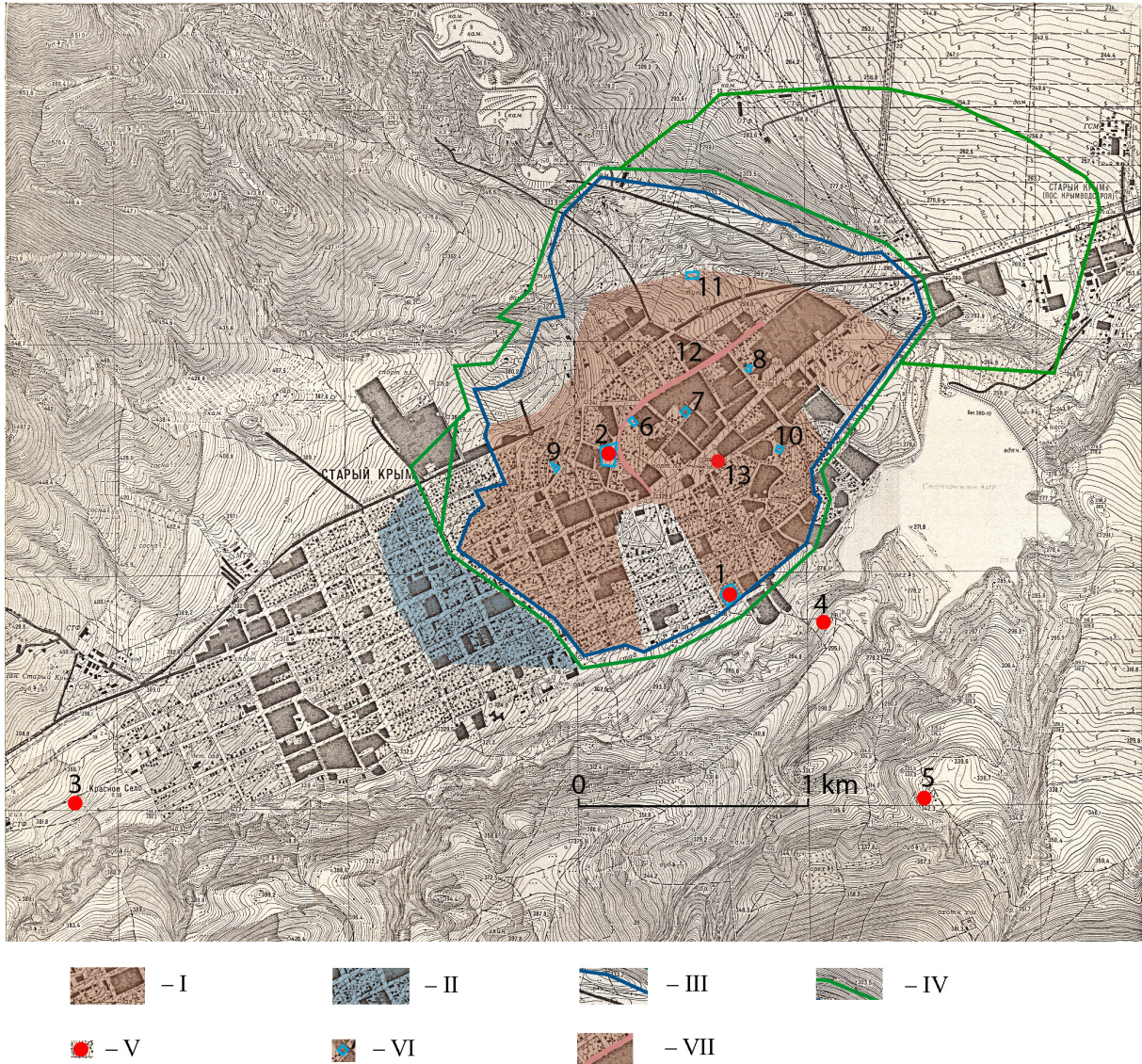


Fig. 4. Saryi Krym / Solkhat, map of medieval archaeological and architectural objects.

I – regular urban development within the fortress walls; II – suburbs outside the fortress walls; III – fortress walls and gates, 1370–1380s; IV – moats, 1370–1380s; V – pottery workshops or evidence of pottery production; VI – medieval architectural dominants; VII – Chervonoarmiyska street, presumed location of a glazed pottery workshop discovered in 1940. 1 – glazed pottery workshops in the Karavan Saray area; 2 – remains of the workshop activity in the area of the so-called mosque and madrassah of Uzbek Khan; 3 – pottery workshop at 23, Mustafayeva street, late 14th century; 4 – a pottery kiln on the right bank of the Churuk-Su River; 5 – Bokataş II potter's settlement; 6 – the so-called Beibars Mosque, 1380–1390s; 7 – the so-called Musk Mosque, the first half of the 14th century; 8 – so-called Lead Mosque, rebuilt from tekiye in the 1390s; 9 – Armenian church (Polina Osipenko street), the second half of the 14th century; 10 – kenassa, the early 14th century; 11 – the bath of the 14th century; 12 – Chervonoarmiyska street, where remains of the pottery workshop were recorder in 1940; 13 – pottery kiln in the area of Grecheskaya and Krestyanskaya streets, found during excavation works for the road construction in 1926.

inclusion and chamotte or dry clay crumbs (?) admixture; the sgraffito is made with a single thin line; the transparent lead glaze is mostly dark green, less often, yellowish-green, or yellowish-brown (Fig. 9/5, 6). The decoration includes geometric compositions, images of birds, four-legged animals (probably ungulates), and people (Fig. 8)⁴³. It is interesting to note that repeated images of birds are quite similar to each other. Even though the drawings of these birds are rather schematic, the artisan accurately depicted some outlines that can be used to identify their species. According to a doctor of biology G. Gavris, the birds on the Bokataş's ceramics most resemble a Vulturine guineafowl, *Acryllium vulturinum*. What is more fascinating, they even do not live in Crimea, and no analogies of

⁴³ Kramarovskiy, Gukin 2006, 22-24, Tab. 118; 125; 130-139; 141; 143; 145; 148; 150; 151; 153; 154; 156; 157; 160-163; Tersenko, Gavris 2021.

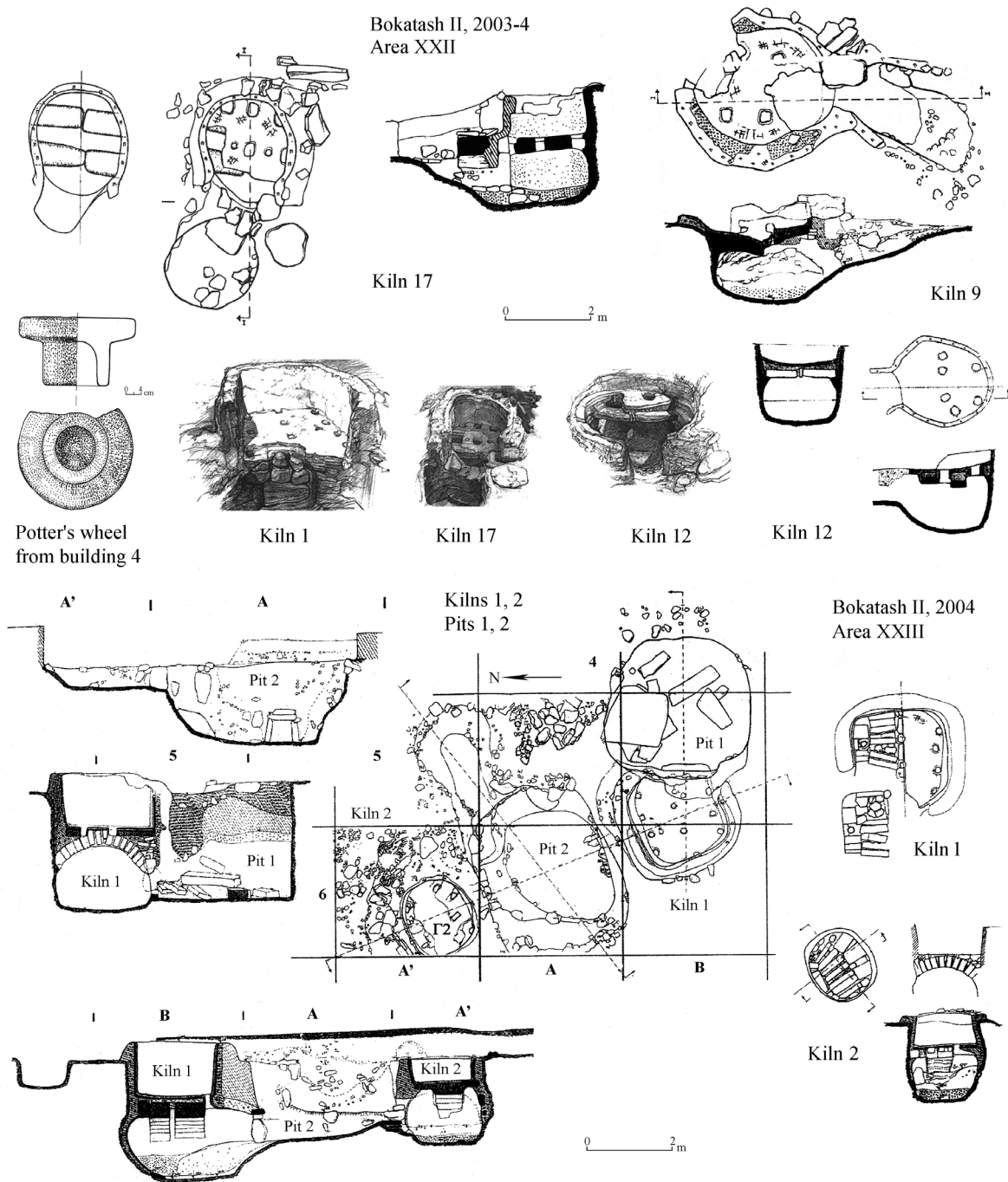


Fig. 5. Staryi Krym / Solkhat district, Bokataash II settlement: main types of pottery kilns and a stone potter's wheel; plans and sections. After (Kramarovskiy, Gukin 2004, 116, Tabl. 34; area XXII, Fig. 10; 2006, area XXII, Fig. 10; area XXIII, Fig. 5; Kramarovskiy 2012, Fig. 78).

these images in the ceramic decor of adjacent areas have been found yet. The nearest habitats of the species are located in North Africa, the Middle East and Arabia. Artisans have definitely depicted the birds, which they had seen in nature or on pictures. However, we have not found yet an analogy for these drawings in other ateliers of Crimea, the Golden Horde area (the Don, Volga, Dnipro, and Transnistria regions), and the Byzantine world. There are some approximate associations among late medieval ceramics from Central Asia, the territory of present Southern Turkmenistan, where the manner of filing various figures with rings and dots was also known⁴⁴. Thus, in Bokataash II, we can observe the example of the imitation of fashion trends (ceramics with concentric circles, moulded wares) in the first workshop along with the individual and original creativity of artisans in the second one.

⁴⁴ Byashimova 1989, 42-43, 47, 52.

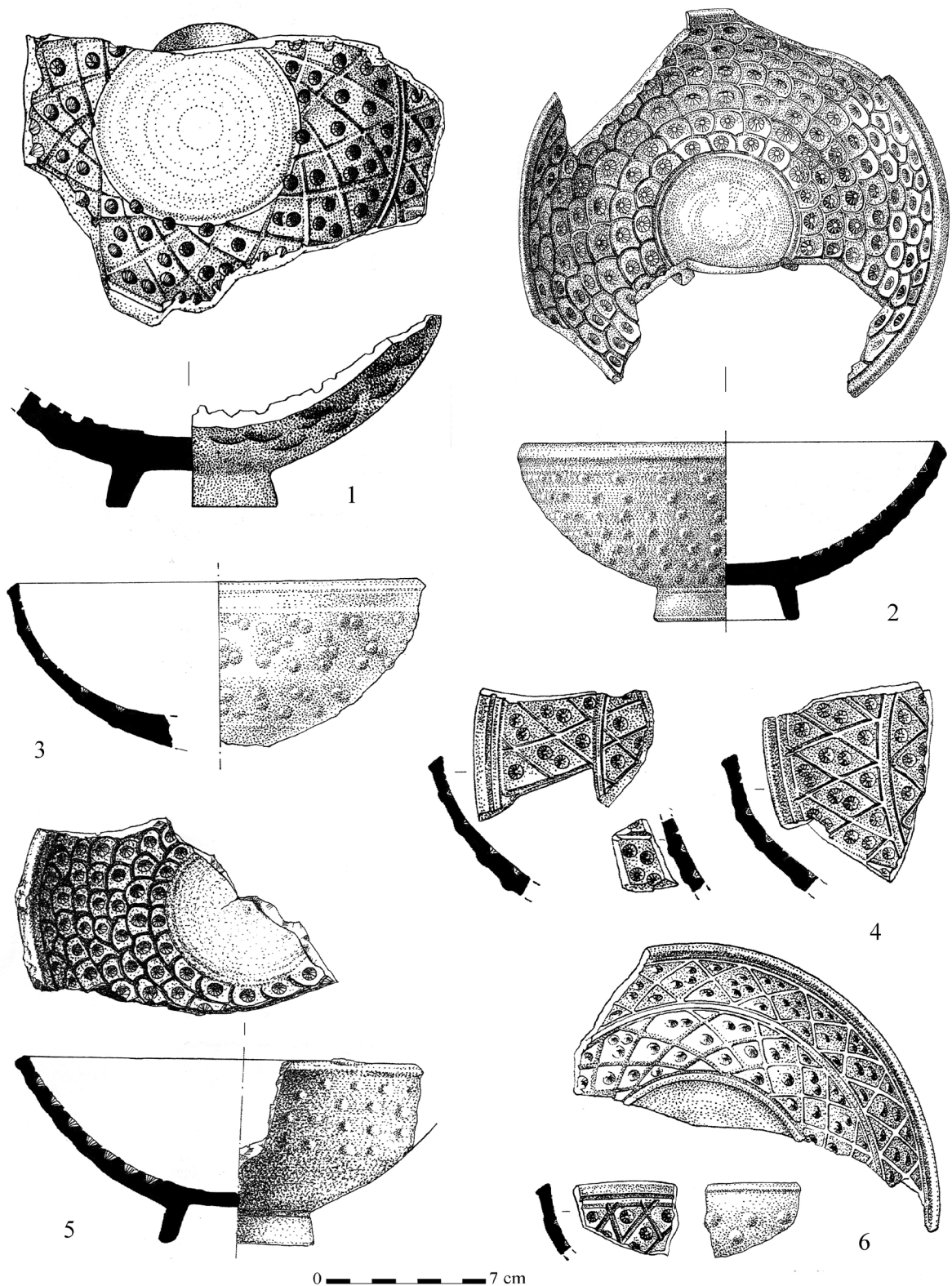


Fig. 6. Staryi Krym (Solkhat) district, Bokataş II settlement: ceramics mould for moulded ware manufacturing; 1, 2 – 2003 excavations; 3-6 – 2004 excavations; after (Kramarovskiy, Gukin 2004, 116, Tab. 34; 2006, 304).

The life of glazed pottery workshops was short. According to the coins, it dates back from the 1270–1280s until around the mid-14th century. More than two and a half hundred coins came from the 2001–2005 excavation. Jochid coins minted by Krym/Solkhat make up the majority. There are also coins from Byzantium, Bulgaria, Iran and

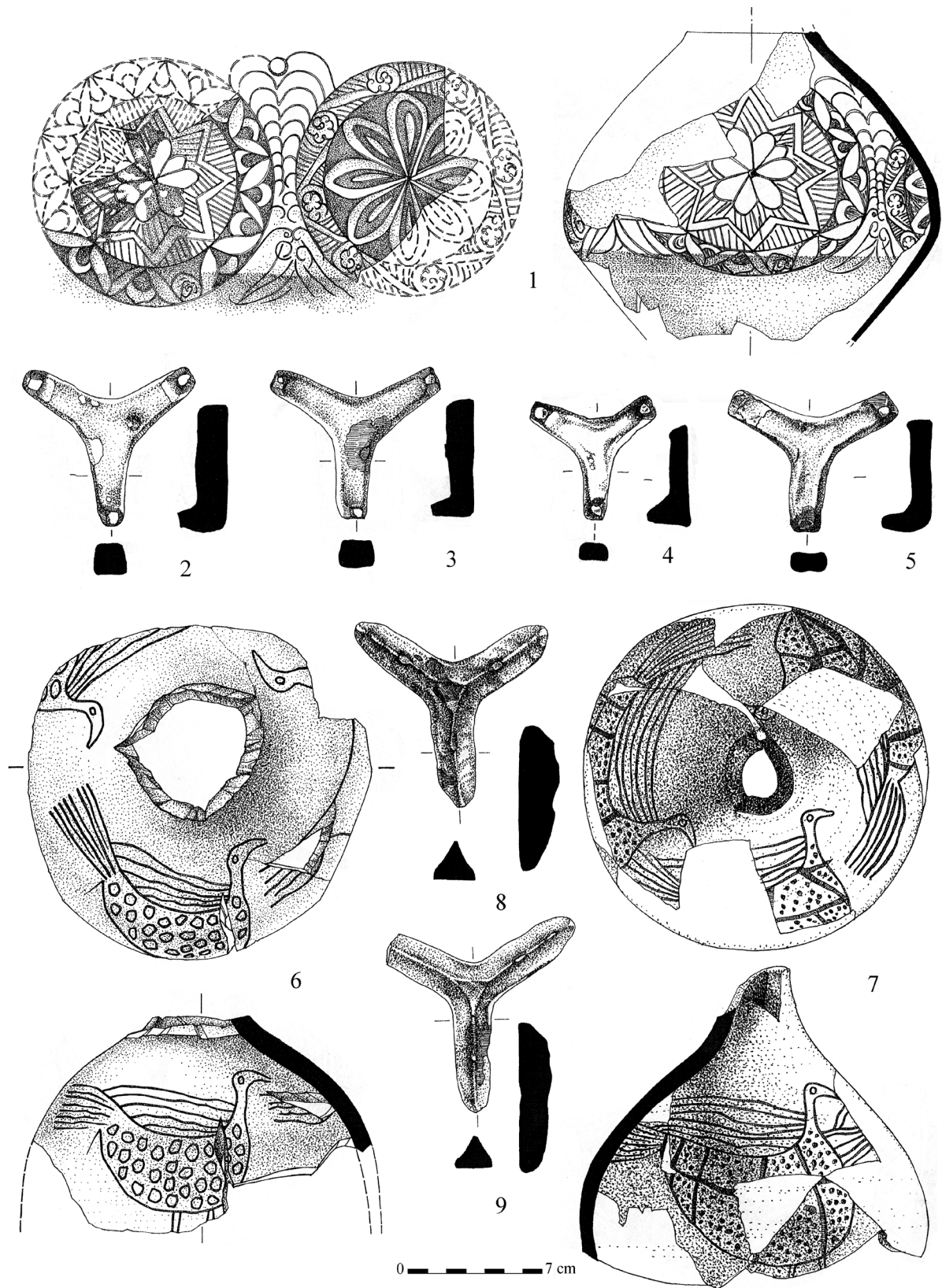


Fig. 7. Saryi Krym / Solkhat district, Bokatash II settlement: 1, 6, 7 – semi-finished jugs with sgraffito decoration (biscuit); 2-5, 8, 9 – tripod stilts (2004 excavations: 1-4 – area XXII; 5-9 – area XXIII), 2005 excavations; after (Kramarovskiy, Gukin 2006, Tabl. 45, 87, 88, 90, 109, 160-163).

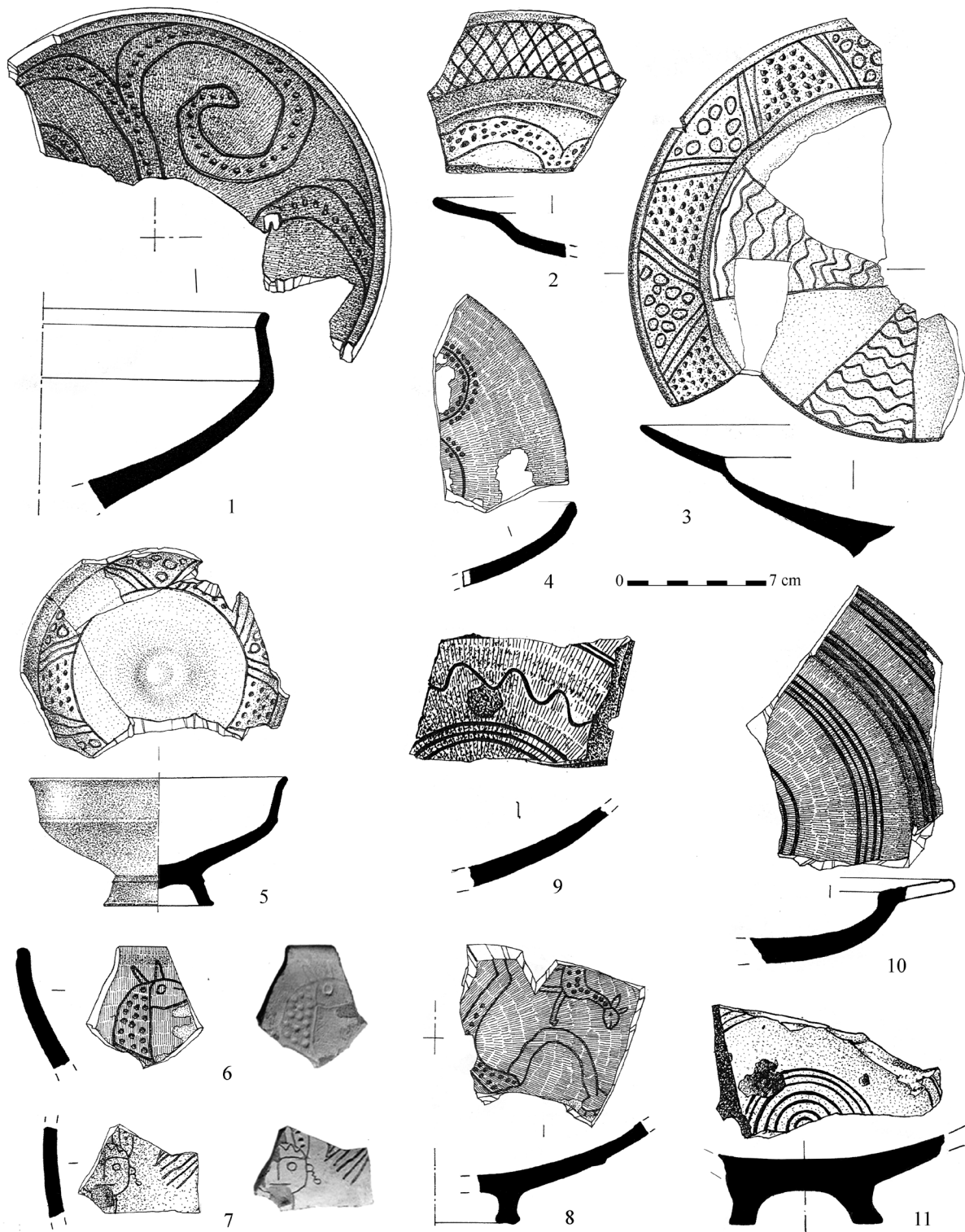


Fig. 8. Staryi Krym / Solkhat district, Bokataş II settlement. Biscuits (2-5; 6-8) and glazed wares (1; 9-11) from pottery workshops; area XXII (9-11) and XXIII (1-8), 2004–2005 excavations. After (Kramarovskiy, Gukin 2004; 2006).

Asia Minor⁴⁵. The earliest belong to the last quarter – the end of the 13th century (over fifty). Anonymous copper coins of the 1270–1280s; silver coins of Tuda-Mengu Khan, 1280–1287; Tula-Buga Khan, 1287–1290, etc. are among them. The most recent belong to the 1360–1380s (?), for example, a copper coin of the Trebizond Emperor

⁴⁵ Kramarovskiy, Gukin 2004, 299-300; Kramarovskiy, Gukin 2007, 210-214.



Fig. 9. *Saryi Krym / Solkhat district, Bokatash II settlement: 1-3 – biscuits; 4 – tripod stilt; 5-6 – finished wares with sgraffito decoration; area XXIII, 2004-2005 excavations. After (Teslenko, Seidalieva 2016).*

Alexius III, 1349–1390; anonymous pool of Sarai coinage, 1380s; pool of Abdallah Khan (minted in Azaq?), 1362/63–1363/64⁴⁶.

The authors of the excavations proposed three periods in the history of the Bokatash II settlement and two periods of pottery workshop activity. The first dates back to the 1270–1280s – 1330s. This was the time of blooming of coarse and glazed wares manufacturing. The second period covers the end of Janibek reign (1343–1357) – the time of Tokhtamysh reign (1375–1395), when the glazed pottery manufacturing ceased, and the diversity of other wares was reduced mostly to kitchen variations⁴⁷.

A plague pandemic and economic factors, the strong competition with urban workshops could be mentioned among the possible causes of their decline⁴⁸. Archaeometric studies of Bokatash wares have not yet been carried

⁴⁶ Kramarovskiy, Gukin 2007, 209-214.

⁴⁷ Kramarovskiy, Gukin 2007, 23.

⁴⁸ For more details see: Teslenko 2018a, 18-19, 25.

out. However, the peculiar style of sgraffito decoration and the specific configuration of the foot inherent in Bokataş pottery make it noticeable in ceramic assemblages of other sites. Based on these features, it can be said that Bokataş sgraffito wares did not form a significant part of them. Some finds are known in the contexts of the late 13th – early 14th centuries at the Tepsen settlement in Southeastern Crimea⁴⁹, and in Sudak fortress⁵⁰. Analogies to Bokataş glazed wares with concentric circles also come from the contexts of the late 13th – early 14th centuries of the Golden Horde Tana/Azak (modern Azov at the mouth of the Don, Russian Federation) but they are not numerous as well⁵¹. Bokataş's moulded wares cannot be confidently distinguished from those of other Crimean workshops, as they have no visually remarkable features.

Solkhat

Several pottery workshops are mentioned on the territory of medieval Solkhat (Eski-Qırım). Remains of the glazed pottery production were first discovered in the early years of large-scale archaeological excavations of the site in 1925–1926, 1928. The work was led by orientalist I. Borozdin, archaeologist and Byzantinologist Alexei Bashkirov, as well as Crimean archaeologists and orientalists O. Akchokrakly and U. Bodanskyi⁵². Their main priority was the study of significant architectural objects, like architectural complexes of the Karavan Saray and so-called madrasah and mosque of Uzbek Khan, and epigraphic evidences. The ordinary archaeological material did not attract a lot of attention. Nevertheless, among the briefly published materials of these works, the remains of pottery manufacturing are mentioned twice.

1. In the area of Karavan Saray (Fig. 4/1). Clay tripod stilts and many fragments of glazed pottery, as well as many coins from the 13th and 14th centuries were noted among the finds of 1925⁵³.
2. In the area of Grecheskaya and Krestyanskaya streets (Fig. 4/13). The ruins of a kiln for firing red-clay pottery were found during excavation works for the road construction in 1926⁵⁴.

However, further details about the workshops and full archaeological reports have not survived. Part of the ceramics collection that presumably came from the excavations of 1925 and 1926 was recently published⁵⁵. The materials include two tripod stilts, thus confirming the mention of the glazed pottery manufacturing remains⁵⁶.

In 1940, O. Yakobson recorded a “pottery workshop” with numerous fragments of glazed slip-painted ceramics during excavations on Chervonoarmiyska street in the eastern part of the town (Fig. 4: 12). However, he only briefly mentioned this in one of his publications⁵⁷. Ceramic finds were transferred to the local museum but were lost during the Second World War.

Various evidence of glazed ceramics production are also often found on the territory of Staryi Krym during industrial earthworks. Some of these items have been deposited in private collections and at the Local history museum of Staryi Krym⁵⁸. Mould for the manufacturing of ceramics with relief decoration, biscuit-fired wares, fragments of bowl with white engobe painting (unfinished, blanks for glazing), tripod stilts, and wasters are among them (Fig. 10; 11).

More pottery workshops were discovered by the Staryi Krym archaeological expedition of M. Kramarovskiy who has been digging up the site after a fifty-year hiatus, from 1978 until now. These materials are still very poorly published⁵⁹. In two short preliminary reports on the archaeological sessions M. Kramarovskiy talked about three pottery workshops in different areas of the site⁶⁰. The authors did not give more details on the ceramic kilns or their products. Some more information was recently published by D. Seidalieva. She added a description of the kiln in

⁴⁹ Maiko 2008, 469, Fig. 4/1; Bocharov 2017, 434, Fig. 26/6.

⁵⁰ Baranov 1983, 7, Fig. 11/4; 13.

⁵¹ Maslovskiy 2017, 463-463, Fig. 1/8.

⁵² Botcharov, Sitdikov 2016, 29-53

⁵³ Borozdin 1926, 290-292; Celivanova 2016, 67; Seidaliev, Seidalieva 2021, 284-285.

⁵⁴ Botcharov, Sitdikov 2016 40.

⁵⁵ Seidaliev, Seidalieva 2021.

⁵⁶ Seidaliev, Seidalieva 2021, 289, Fig. 7/6-7. The collection is stored in the Local history museum of Crimea (Simferopol, Crimea).

⁵⁷ Yacobson 1950, 194.

⁵⁸ We sincerely thank Akim Giyasov, the creator of the Amatory Museum of History and Archaeology of Staryi Krym, and Eugen Panin, a collector of local antiquities, for the opportunity to see their collections and for their kind permission to publish the materials.

⁵⁹ For more details see: Teslenko 2021, 24-25. The archaeological collections from the Solkhat excavations were divided between the Local history museums of Staryi Krym and Simferopol. A significant part of the most attractive artefacts were taken to the State Hermitage Museum in St. Petersburg, Russian Federation.

⁶⁰ Kramarovskiy 1991; Zilmanovych, Kramarovskiy 1992, 7-8; Kramarovskiy, Zilmanovych 1993, 21-22.



Fig. 10. Saryi Krym / Solkhat. Ceramic moulds found in the area of the medieval city during industrial earthworks. Collection of the Amatory Museum of A. Giyasov in Saryi Krym.

the Karavan Saray area from Kramarovskiy's reports and mentioned pottery manufacturing evidence in the area of the so-called Uzbek Khan mosque and madrasah from the 2013-2018 excavations⁶¹.

Summarizing the data from these publications and M. Kramarovskiy's reports from 1987 to 1992, stored in the archives of the IA NAS of Ukraine, as well as other information from Crimean archaeologists who work at the site⁶², we can add some data about four pottery workshops on the territory of modern Saryi Krym (Fig. 4/1-4).

⁶¹ Seydalieva 2021.

⁶² Sporadic archaeological excavations and observations at the site by the staff of the Crimean branch of the Institute of



Fig. 11. Staryi Krym / Solkhat. 1 – biscuit sgraffito ware; 2 – fragments of bowl with white engobe painting; 3 – waste; 4-7 – tripod stilts. Collection of the Amatory Museum of A. Giyasov (1-6) and private collection of E. Panin (7).

One of them is situated outside the medieval city, southwest of it, on the southwestern outskirts of the modern Staryi Krym, in the 23, Mustafayeva street, 150–200 m south of the Simferopol-Feodosiya highway (Fig. 4/3). Three pottery kilns were excavated there in 1990⁶³. They were used for firing unglazed ceramics, including pots and jugs with lines of engraved or stamped decorations. Kilns are two-tiered, rounded in plan, dug into the mainland, equipped with combustion and firing chambers, perforated floors, and stokehole (Fig. 12). According to coins from

Archaeology of the NAS of Ukraine until 2014 are summarized by O. Gavrilov and V. Maiko (Gavrilov, Maiko 2014).

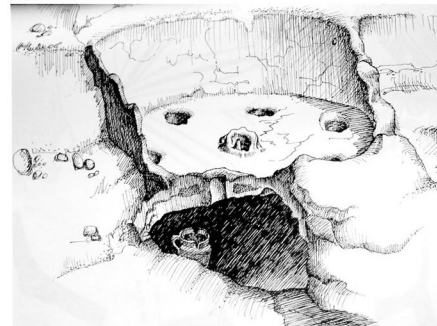
⁶³ Kramarovskiy 1990.



1



2



3



4

Fig. 12. Staryi Krym / Solkhat, pottery workshop at Mustafayeva street, late 14th century. 1–kilns No. 1 and 1a; 2-3 – kiln No. 2; 4 – pot from the furnace chamber of pottery kiln No. 2, without scale. After (Kramarovskiy 1990, Fig. 52; 55; 76).

the destroyed combustion chamber (four Jochid copper pools, one of which is from the 1350–1360s, the other from 1383, with the name of Tokhtamysh, the two are not defined) the final stage of the workshop activity may be dated back to the late 14th century⁶⁴.

The second one was discovered on the right bank of the Churuk-Su River also outside the urban dwellings (Fig. 4/4). The remains of a pottery kiln were visible in the coastal cliff. It has not been excavated yet, so its construction and specialization are unclear⁶⁵.

⁶⁴ Kramarovskiy 1990, 21-22.

⁶⁵ We are sincerely grateful to Dr. O. Gavrilov for this information, as well as other materials provided for our research.

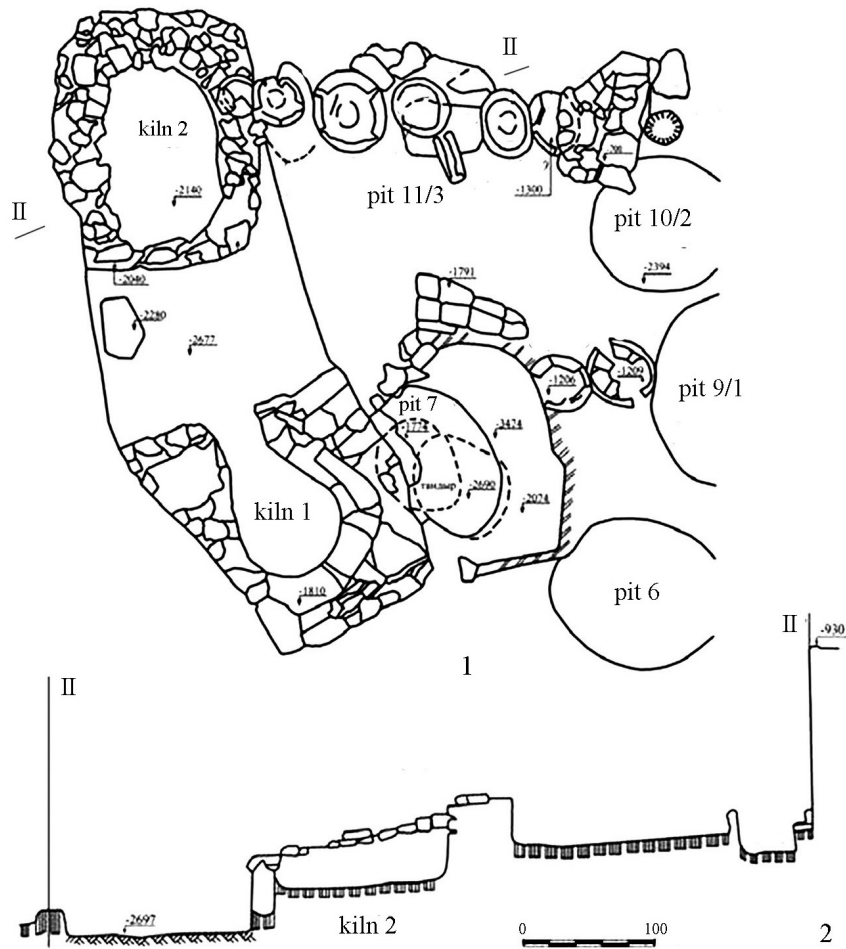


Fig. 13. Saryi Krym / Solkhat. Karavan Saray area, remains of pottery workshop. Plan (1), section (2), photos (3).
 After (Seidalieva 2021, fig. 3; 4).

Two other workshops were located within the medieval residential area, at a distance of approximately 800 m from each other (Fig. 4/1, 2). Both produced glazed ceramics. The first one, with at least one pottery kiln, was studied at the Karavan Saray site (Fig. 4/1) excavated in 1980 and 1987–1994⁶⁶. Decorated ceramic moulds, tripod stilts,

⁶⁶ Seidaliev 2024, 271-275.

unglazed moulded wares, defective glazed jugs with a tubular spout (so called jug-kuman), money boxes and wastes of glazed sgraffito ceramics with concentric circles were found in contexts related to the workshop (Fig. 14)⁶⁷. Thus, it seems to have had a rather wide specialization, quite similar to one of the workshops at Bokataş II.

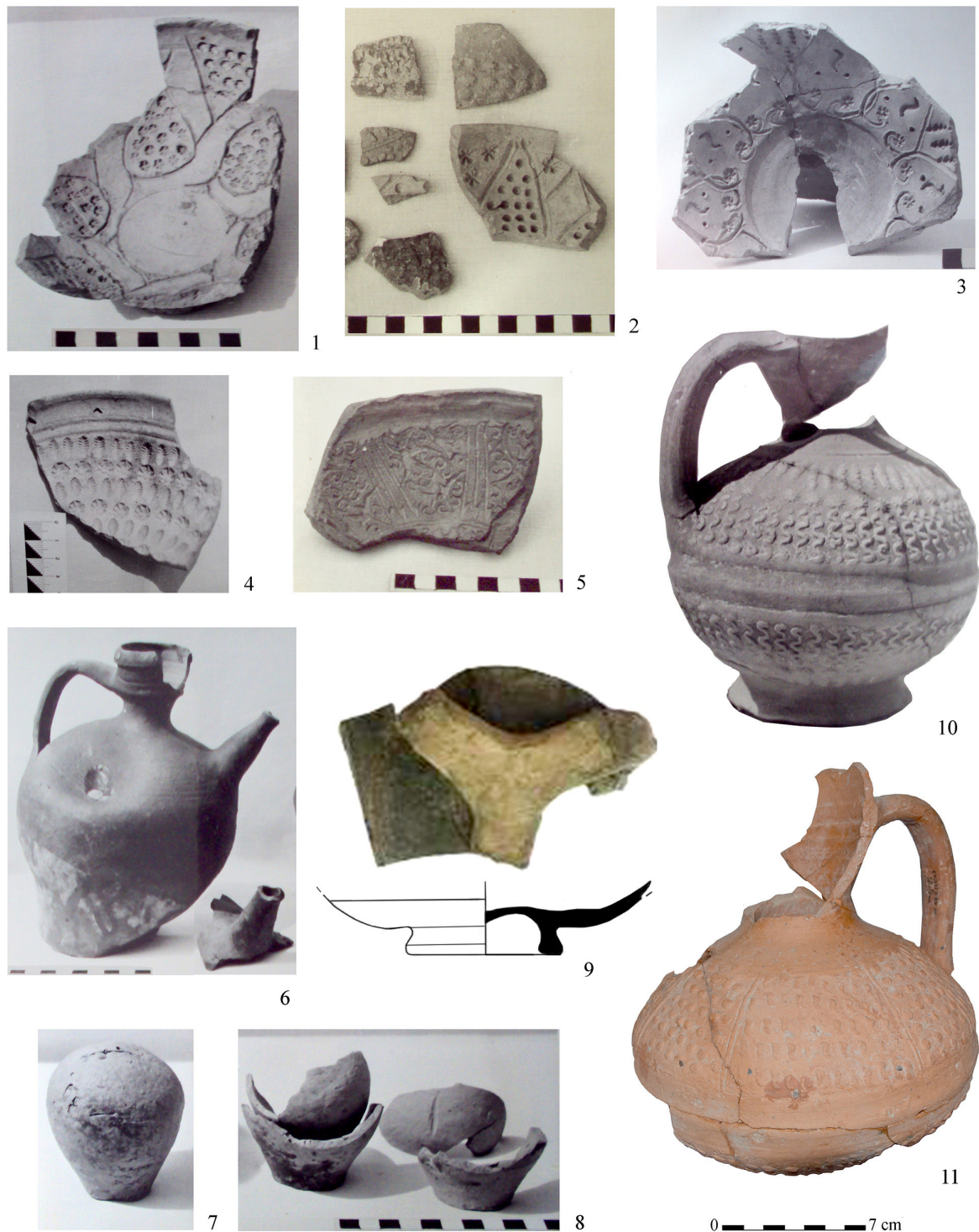


Fig. 14. Staryi Krym / Solkhat. Ceramic finds from contexts associated with the workshop. 1-5 – ceramics moulds; 6 – defective glazed jug with a tubular spout, so called jug-kuman; 7, 8 – moneyboxes; 9 – overburnt waste with concentric circles sgraffito decorations and stuck tripod stilt; 10, 11 – moulded unglazed jugs. 3 – pit No. 5/1989; 6-9 – pit No. 1/1991. M. Kramarovskiy excavations 1989–1991. After (Kramarovskiy 1989a, Tabl. 25, 26a; 1990, Tabl. 80; 1991, Tabl. 20; 22b; 24; Seidaliev 2024, 272, Fig. 7/1).

⁶⁷ Kramarovskiy 1989; 1990; 1991; Seidaliev 2024, 271-273.

The chronology of the workshop can be clarified thanks to stratigraphic data, coins and ceramic finds. Three layers of anthropogenic activity were studied at the Karavan Saray area⁶⁸. The first and earliest one is associated with the workshop. It includes at least two pits related to the start of its activity (No. 1, 5, diggings 1989) and one pit is probably from the last phase of the workshop's life (No. 1, diggings 1991)⁶⁹. Coins of Crimean coinage from the 1280s or late thirteenth century are the earliest numismatic finds there. The most recent is a coin of Uzbek Khan of the 1320s found in the destruction layer of a pottery kiln⁷⁰. In addition, the Günsenin IV⁷¹ amphorae and an imported plate of the so-called "Sgraffito with Concentric Circle" or SCC family⁷² comes from a pits No. 1/1989 and 5/1989, filled with wasters, moulds and finished wares of different types (Fig. 14; 15). The SCC plate could date from the last third of the 13th to the beginning of the 14th century⁷³ and, together with the amphorae and numismatic data, is a good argument for the relevant chronology of the workshop. It also fits well with the chronology of a similar atelier at Bokataş II. Moreover, there are direct analogies to Solkhat/Bokataş glazed wares with concentric circles in the late 13th – early 14th centuries ceramic assemblages of the Golden Horde Azak mentioned above⁷⁴.

The most recent find in the contexts of the first horizon, at least among the materials mentioned in the field reports, is a local bowl with impressed decoration from pit No. 1/1991 that preceded the construction of the dwelling with tandoor (Fig. 15: 6)⁷⁵. As it is considered, this type becomes widespread not earlier than the middle of the 15th century⁷⁶. However, it is important to note that two pits, one of which (No. 1a) is dug into the other (No. 1) were studied in this area⁷⁷. The first one (No. 1a) is associated with later dwellings. This pit partially destroyed the second one (No. 1) synchronous with the pottery manufacturing complex. Therefore, it is possible that the context of the bowl could not be determined accurately. Consequently, this single finding cannot be a strong argument for the chronology of pit No. 1. A detailed analysis of the ceramic assemblages from both contexts is still necessary for more precise conclusions.

The second horizon is formed by the remains of dwellings with tandoors built on the workshop ruins. Pits 4 and 6 excavated in 1989 are probably related to it as well. Nevertheless, stratigraphically they are later than the "workshops" deposits. Pit No. 6/1989 contained coins of Tokhta (1291–1312) and Janibek (1342–1357) khans⁷⁸. There are also fragments of moulds and moulded ware (Fig. 14: 2, 10), as well as a variety of glazed pottery which were all deposited together in a rubbish bin. The latest include monochrome and polychrome sgraffito (Fig. 16) which are most typical for contexts no earlier than the middle – the second half of the 14th century (Teslenko 2017; 2018a, 60-67).

The third horizon refers to the construction of the Karavan Saray complex. According to the author of the excavations this did not occur before the last third of the 14th century (Kramarovskiy 1991a, p. 11).

Thus, the period of workshop activity can be assumed within the 1280–1320s or shortly thereafter. However, it was finally abandoned no later than the middle of the 14th century when the area was built up with dwellings. Its products, in particular moulded glazed and unglazed wares, are fairly common finds in the Solkhat contexts (Fig. 17). But since the excavation materials are poorly published, clarifying their share in ceramic assemblages of the site is still difficult.

It is interesting to mention that there are two different types of moulds: red-clay ones with a rather large variety of simple decorative components (Fig. 10; 14/1-4) and dark gray moulds with more elegant, carefully scratched patterns (Fig. 14/5). The latter one replicates the style and technique of Khorezm ceramics that imitated metal utensils⁷⁹. Some researchers suggest the presence of Khorezmian-style wares among the products of Eastern Crimean workshops⁸⁰. So, this mould could be another argument toward their hypothesis.

⁶⁸ Kramarovskiy 1989; 1990; 1991.

⁶⁹ The field reports do not analyze all contexts and their ceramic assemblages, they present only some of them, numismatic materials, and most attractive ceramic finds. Therefore, archaeological information cannot be considered complete. The collections are relocated to the State Hermitage Museum (Russian Federation), or partially stored in the Local history museum in Saryi Krym, and so are not available for study now.

⁷⁰ Kramarovskiy 1989, 4-8; 1991, 8-11.

⁷¹ Classification of the late Byzantine amphorae see: Günsenin, N. 1989.

⁷² More details about SCC see: (Waksman et al., 2014, 415)

⁷³ Waksman, Teslenko 2010; Teslenko 2020a, 399.

⁷⁴ Maslovskiy 2017, 463-463, Fig. 1/8.

⁷⁵ Kramarovskiy 1991a, 8-11.

⁷⁶ Teslenko 2018a, 46.

⁷⁷ Kramarovskiy 1991a, 8-11.

⁷⁸ Kramarovskiy 1989a, 8.

⁷⁹ Vakturskaya 1959, 306-308, Fig. 22-23.

⁸⁰ Bocharov, Maslovskiy 2015b, 25.



Fig. 15. Staryi Krym / Solkhat. Karavan Saray area, ceramic finds from contexts related or simultaneous with the workshop. 1, 2 – amphorae and others vessels from pit No. 1/1989; 3–5 – pottery from pit No. 5/1989; 6 – the bowl with impressed decoration from pit No. 1/1991. After (Kramarovskiy 1989a, Tabl. 21; 24; 1991, Tabl. 28b).

Evidence of the second workshop activity was recorded in the area of the so-called mosque and madrasa of Uzbek Khan (Fig. 4/2). Large-scale excavations were carried out there in 1978–1983 and have been continued in 2013–2019⁸¹. Twenty-six tripod stilts were found in 1987⁸². Several more together with biscuits or wasters come from excavations 2013–2019 (Fig. 18)⁸³. Among the latest, these are three fragments of unfinished open-form vessels

⁸¹ Kramarovskiy, Naumenko, Seidaliev 2014; Seidalieva 2021, 151.

⁸² Kramarovskiy 1987, 28, Tabl. 20.

⁸³ Seidalieva 2021, Fig. 2.



Fig. 16. Saryi Krym / Solkhat. Karavan Saray area, horizon of dwellings with tandoors, glazed ceramics assemblage from pit No. 6/1989 accompanied with Jani Beg (1342–1357) and Tokhta (1291–1312) khans coins. After (Kramarovskiy 1989a, Tabl. 28-30; Zolotaya Orda i Prichernomorie... 2019, 444).

with white engobe painting, so-called Slip-Painted Ware, and one with sgraffito decoration in the form of a grid engraved with a wavy single thin line (Fig. 18/1-4). The painting has the form of large spirals, filling the entire surface (Fig. 18/1-3)⁸⁴. Judging by the same type of finished wares from the other contexts, a green and slightly yellowish-colored transparent glaze was commonly used for the coat (Fig. 18/5; 19/1).

⁸⁴ One more fragment of the unfinished ware with similar painting comes from the Local history Museum; the context is unknown (Fig. 11/2).

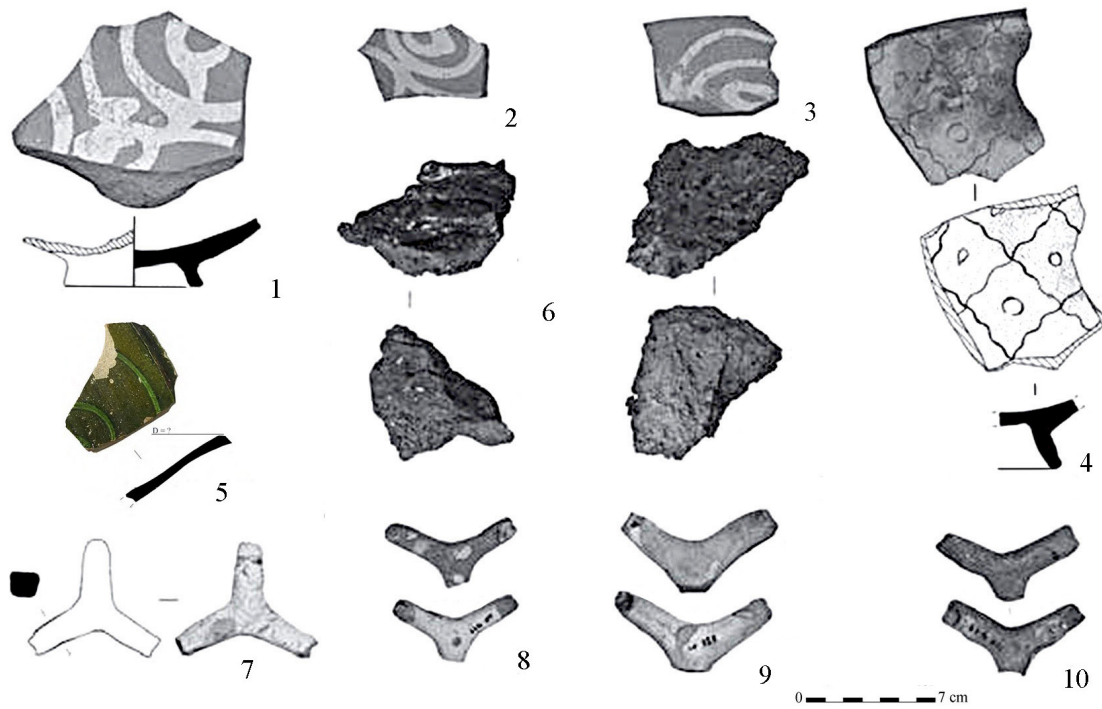


Fig. 17. Staryi Krym / Solkhat. Moulded unglazed (1-3) and glazed (4) jugs from different contexts. 1-3 – site excavations, area of so-called Beibars Mosques (2) and Uzbek Khan mosque and madrassah (3), after (Kramarovskiy 1983; 1986; Zolotaya Orda i Prichernomorie... 2019); 4 – collection of the Amatory museum of A. Giyasov.

No pottery kilns have been discovered yet in the architectural complex of the “Uzbek Khan mosque area”, so, it is difficult to localize the workshop place precisely. Possibly, A. Yakobson saw its ruins in 1940, in a trench on Chervonoarmiyska street near the mosque (Fig. 4/12), but he did not provide enough details to clarify the question. More information is available on the chronology of this manufacturing. The author of the excavations distinguished three phases in the development of this area: the dwelling and crafts area preceding the madrasah building; the construction and operation of the madrasah and the mausoleum of its founder Inji-Bey Khatun; and the erection of the mosque⁸⁵. The chronology of the madrasah and the mosque are well-defined thanks to written source, archaeological evidence, and architectural analysis. Based on a synthesis of these data, the first one was built near 1332–1333 and destroyed in the early 15th century⁸⁶. The mosque was erected near the preserved mausoleum at

⁸⁵ Kramarovskiy 1991b.

⁸⁶ V. Kirilko suggests that an earthquake in 1423 may have been the cause of the destruction (Kirilko 2015, 524).



11

Fig. 18. Saryi Krym / Solkhat. Area of the so-called mosque and madrassah of Uzbek Khan. Remains of the workshop activity. 1-3 – semi-finished ware with white engobe painting; 4 – biscuit with sgraffito decoration; 5 – finished slip-painted ware from excavation 1925–1926; 6 – overburnt glassy mass (glaze?); 7-11 – tripod stilts. After (Kramarovskiy 1987, Tabl. XX; Seidalieva 2021, Fig. 2; Seidaliev, Seidalieva 2021, Fig. 7/1).

the end of the 15th century⁸⁷. Thus, the latest date for the first stage, and hence the pottery workshop can be limited to the early 1330s. In any case, a fragment of a biscuit ware that came from the rubbish pit discovered under the foundation of the madrasah confirms this idea⁸⁸. However, there is not enough information to clarify the entire period of the workshop's life. We can only say that the earliest anthropogenic activity there, as well as at the Caravan Saray site, could be dated back to the late 13th – early 14th centuries. At least the Günsenin IV amphorae

⁸⁷ Kramarovskiy 1991c, 126-127; Kirilko 2015.

⁸⁸ Seidaliev 2024, 267.



Fig. 19. *Staryi Krym / Solkhat. Slip-painted wares from the site's excavations. 1, 4-6 – context unclear, M. Kramarovskiy excavations, after (Zolotaya Orda i Prichernomorie... 2019, 450-453); 2, 3, 7, 8 – Medieval bathhouse in Georgievskaya Beam, ceramic assemblage from the context near the third quarter of the 14th century, V. Maiko excavations 2011, after (Seidalieva, Maiko, Seidaliev 2022, Fig. 3).*

and Byzantine wares of the SCC family are also mentioned in the ceramic assemblages of the earliest dwellings⁸⁹. More precise conclusions would be possible after a comprehensive publication of excavated materials.

⁸⁹ Seidaliev 2024, 267-269.

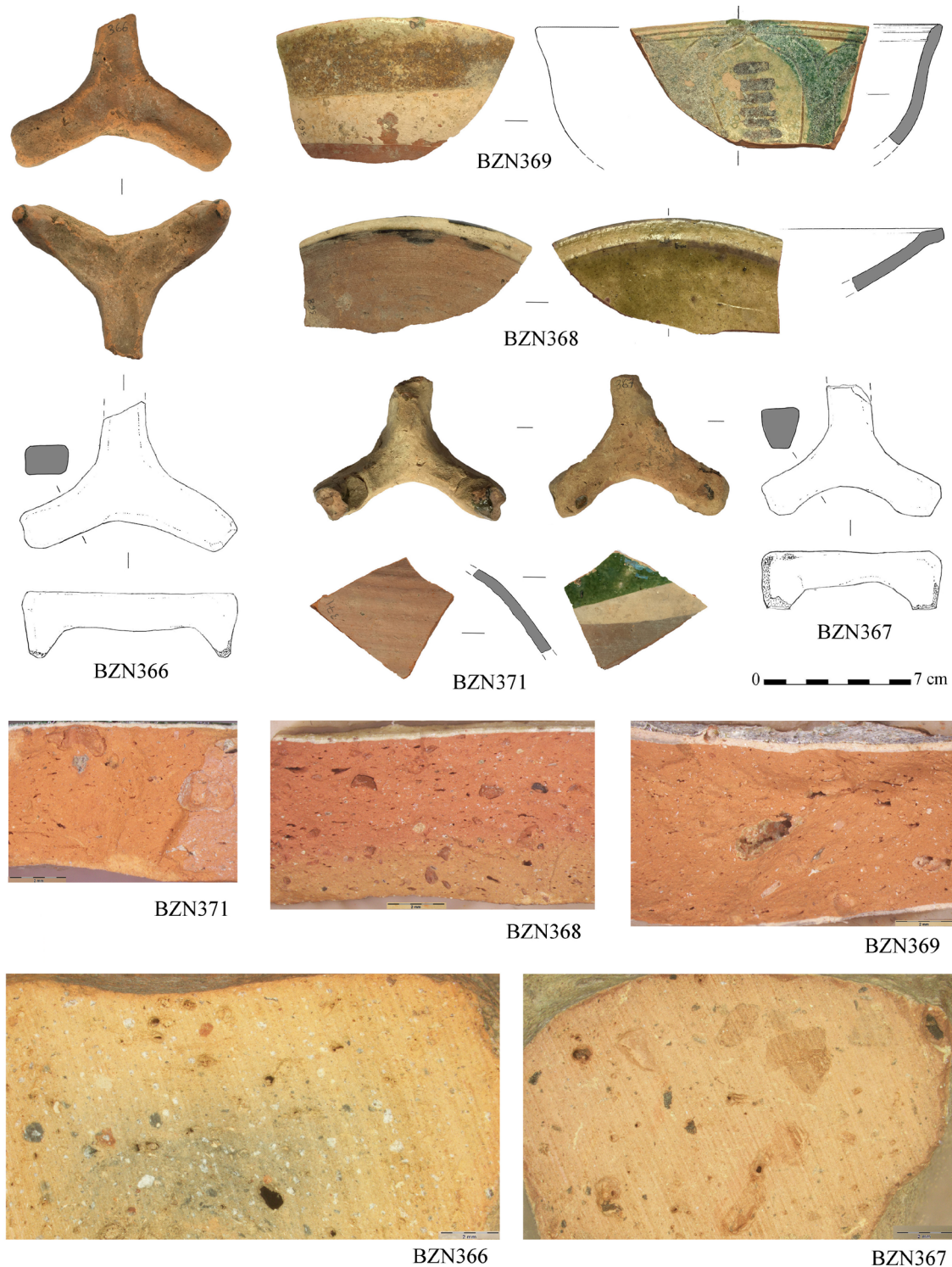


Fig. 20. Staryi Krym / Solkhat. The samples from the site selected for archaeometric study. The samples are indicated by their Lyon laboratory id.

It is worth noting that the local glazed vessels decorated with big spiral patterns (Fig. 19/1) are much less common than another type of slip-painted wares with a set of small decorative motifs both in Solkhat and beyond (Fig. 19/2-8)⁹⁰. The latter becomes prevalent near the middle and up to the second half of the 14th century⁹¹. The former was most likely produced in smaller quantities and, as we can see above, earlier.

⁹⁰ Seidalieva, Maiko, Seidaliev 2022, Fig. 3. For more information see, e.g.: Teslenko 2018a, 44-46, Fig. 22.

⁹¹ In the 15th century, the underglaze white engobe painting was no longer used in local pottery craft (Teslenko 2018a, 44-46).

Thus, we can say that the workshop in the “Uzbek Khan mosque area” produced glazed pottery before the 1330-s – mid-14th century, and in two decorative techniques: white engobe painting in spiral style and sgraffito decoration. Meanwhile, the range of items and precise chronology of the workshop needs further research.

Consequently, both glazed pottery workshops discussed above can be attributed to the early period of Solkhat’s history, that is, from the end of the 13th century (1280s?) to the first third of the 14th century inclusively. Probably, later ceramics manufacturing was relocated to another area of the site and is still not localized.

In the meantime, the materials available for study give a clearer idea of some features of Solkhat ceramics, primarily technological ones. In addition, we examined two tripod stilts and three fragments of wares that look like local ones in more detail using binoculars (Fig. 20)⁹². Four of them also have close chemical characteristics of the raw materials (Fig. 20/BZN367-371)⁹³. So, we can conclude that Solkhat glazed ceramics of various decorative types (plain, moulded, painted, sgraffito, etc.) were made from raw materials similar in visual characteristics. They have a dense, predominantly brick-red colored shard with slight shade variation. The clay is soft, sandless, well worked with few natural limestone inclusions, much less than in Bokatah ceramics. It contains varying concentrations of chamotte or dry clay crumbs(?) admixture. Small pores, possibly from organic fibers, are also visible in the shards (Fig. 20/BZN368-371). Crater-shaped chips are formed around the lime grains at the surface (Fig. 20/BZN369). The glaze is transparent lead, yellow, brown, and green, predominantly saturated colors, with variations in shades.

There are two options to make a ring foot: sticking a clay ring onto the flat bottom of a bowl or other ware and then working it on a wheel (Fig. 11/2); cutting out a ring foot from a monolithic blank using a knife. In this case, the walls outside the foot were thicker than the bottom in the centre (Fig. 11/1, 3; 18/4). The second one has been predominant. In general, our observations confirm the characteristics of this subgroup made a priori based on materials from other sites⁹⁴.

The ranges of ceramics with such technological features are quite wide both in Solkhat and beyond. They include many decorative series of moulded, slip-painted, monochrome and polychrome sgraffito, champlévé wares, etc. But there is still no classification of Solkhat-origin pottery. It is generally regarded as an integral part of the SEC group together with the products of other Crimean workshops⁹⁵.

E. Seidalieva has recently attempted to classify glazed ceramics from Solkhat and its suburbs excavations, which she considers local⁹⁶. However, she does not take into account the precise archaeological context of finds and the diversity of decorative series, paying attention only to the shape of vessels. The classification criteria she proposed do not seem clear enough, since she groups Bokatah and Solkhat wares into the same classification cells. It seems improper because the ceramics from the Bokatah have their own technical, morphological, and decorative features that differ from the Solkhat wares. The paper gives a general idea of the variety of pottery forms from the excavations at both sites. However, the specifics of each workshop production remain unclear. So, the publications of ceramic assemblages from the workshops and other well-dated Solkhat contexts, chronology and typology of ceramics, as well as their archaeometric study are still relevant.

Sougdaia

Archaeological study of the site has been conducted from the 1926 till 2017 with some interruption⁹⁷. The literary historian A. Fomin, the archivist Yu. Gautier, the Latinist E. Skrzhinskaya, and the Byzantinist N. Protasov were the first to provide the diagnostic investigation in 1926⁹⁸. In 1929–1930, N. Protasov and E. Veimarn began excavations of medieval residential quarters in the harbor area. The archaeological collection from these excavations is kept in the State Historical Museum in Moscow. 34 years later, preventive excavations near the Sudak fortress were resumed by M. Frondzulo. From 1964–1976, he managed to survey the suburbs and studied dwelling areas in the medieval harbor and in the fortress⁹⁹. In 1977–2000 excavations were carried out by I. Baranov mainly

⁹² They come from archaeological explorations by O. Gavrillov, the senior researcher of the Crimean branch of the Institute of Archaeology of the National Academy of Sciences of Ukraine, on the site in 2013.

⁹³ Analyzes were carried out in the ArAr Laboratory (CNRS, UMR-5138) in Lyon, France. Preliminary results were provided by S. Y. Waksman, but they were not published yet.

⁹⁴ Maslovskiy 2017, 456.

⁹⁵ Maslovskiy 2017; Teslenko 2018a.

⁹⁶ Seidalieva, 2021.

⁹⁷ Dzhano 2006; Maiko, Dzhano 2015, 13-22.

⁹⁸ Skrzhinskaya 2006, 138-157; Gotie 1928, 501-502; Protasov 1938, 162-169.

⁹⁹ Frondzulo 1974.

on the territory of the fortress¹⁰⁰. In 2002–2014 the research was continued by the expedition of the National Conservation Area “St. Sophia of Kyiv”¹⁰¹. In 2004–2005, Crimean historian V. Thur worked there also¹⁰². So far, two ceramic workshops with kilns and four locations of separate evidence of glazed ceramic manufacturing have been discovered (Fig. 21).

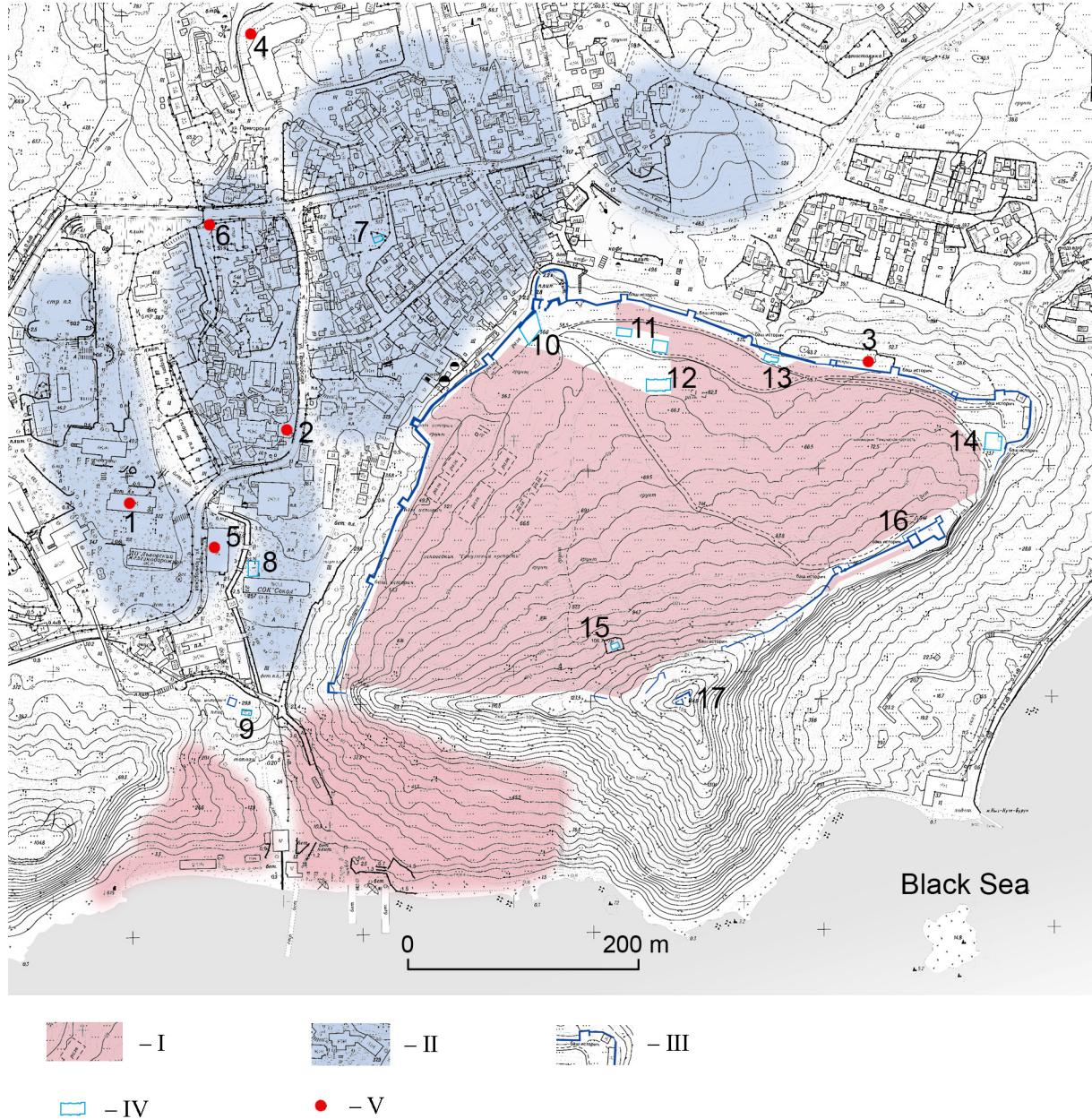


Fig. 21. Sudak / Sougdai, map of medieval archaeological and architectural objects.

I – regular urban development within the fortress walls; II – suburbs outside the fortress walls; III – fortress walls and gates, 1365–1475; IV – medieval architectural dominants; V – pottery workshops or evidence of glazed pottery production.

1 – workshop excavated in 1964; 2 – workshop excavated in 1974; 4–6 – finds of the items related to glazed pottery production; 7 – church of “St. Paraskeva”, the 13th–14th centuries; 8 – bath, the 14th century; 9 – church of “12 Apostles”, the 13th–14th centuries; 10 – city council building (loggia), the second half of the 14th century; 11 – cisterns, the second half of the 14th–15th centuries; 12 – Catholic Church of St. Mary, built around 1365–1384; 13 – Armenian church, 13th–14th centuries; 14 – “Temple with an arcade”, built around 1365–1373; 15 – “Church on consoles”, the 12th–13th centuries; 16 – Consular Castle, 1365–1475; 17 – “Maidens Tower” (Qız-Qule), 1365–1475.

¹⁰⁰ Baranov 1978, 295-296, etc.; Mayko, Dzhano 2015, 19-20.

¹⁰¹ Mayko, Dzhano, Farbey 2007.

¹⁰² Tur 2005; 2008.

The workshops were excavated by M. Frondzhulo in 1964–1965 and 1974¹⁰³. Both objects are situated in the crafts area outside the medieval fortress, about 0.12–0.20 km west of its walls and about 150 meters from each other, in the modern residential area (Prymors'ka street) on a small watershed between two deep beams (Fig. 21/1, 2). The first workshop with the remnant of one pottery kiln was discovered during industrial works in 1964 (Fig. 22). About half of its combustion chamber has been preserved (1.25×1.25 m). It was built in a sub rectangular pit arranged in the mainland clay and equipped with one longitudinal and at least three pairs of transverse channels. The author of the excavations mentioned fragments of ceramic moulds and sherds of moulded wares with the same decoration among the archaeological materials¹⁰⁴. Hence, the workshop most likely specialized in such kinds of pottery. Nine fragments of moulds (three of which are probably from one item), the upper part of the body, two pieces of the walls of moulded jugs, and tripod stilts from these excavations are stored now in the Sudak fortress Museum in Crimea¹⁰⁵

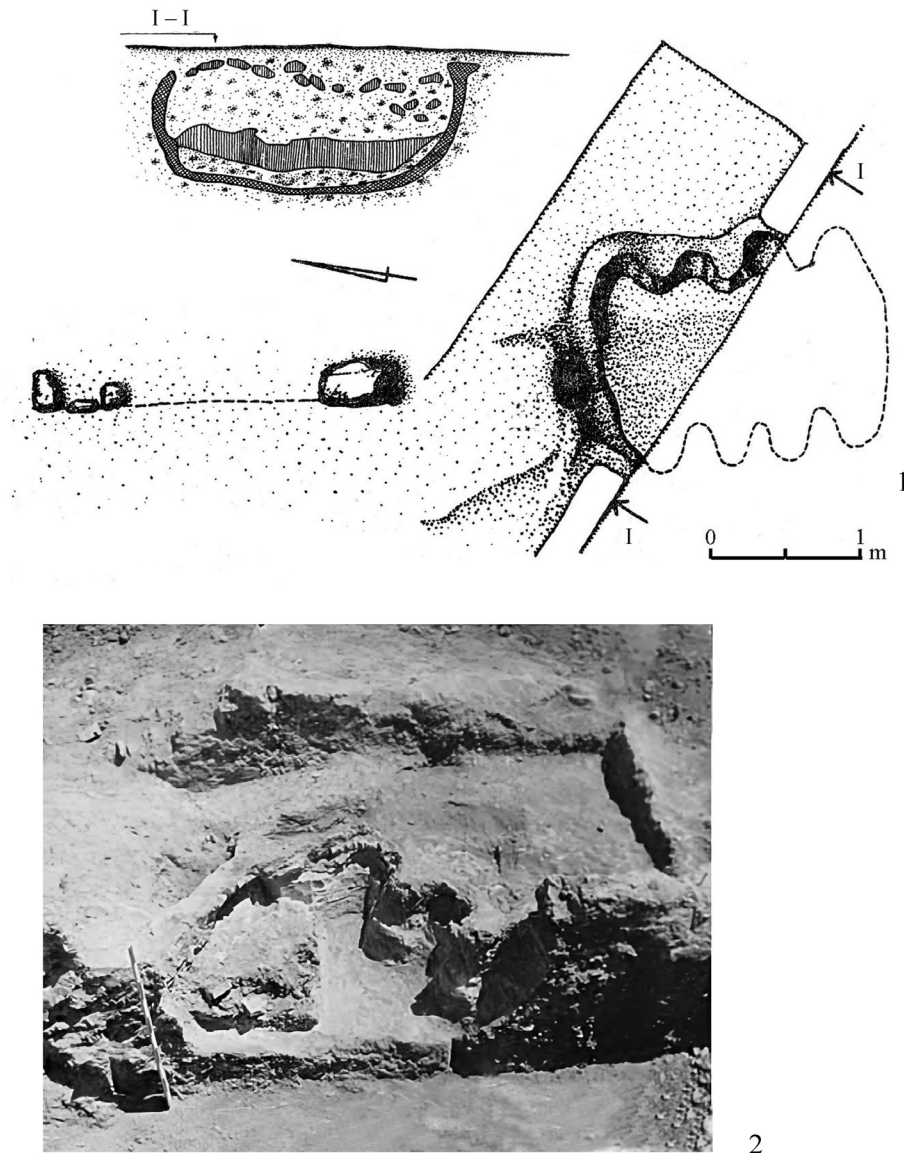


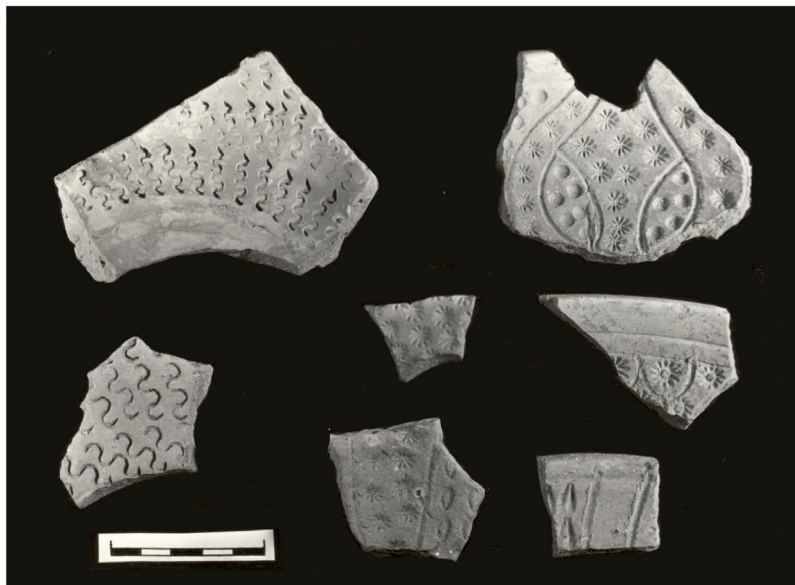
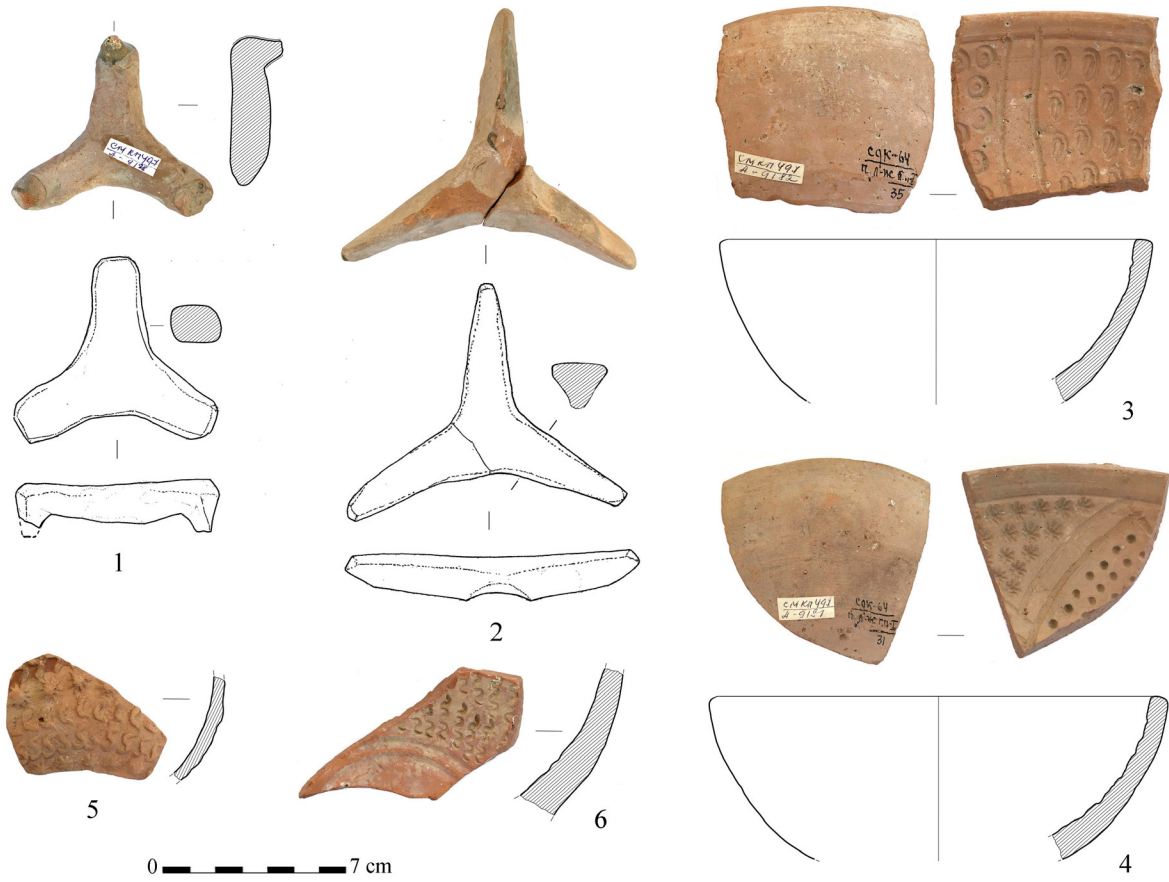
Fig. 22. Sudak / Sougdaia. Pottery kiln in the first workshop, excavation 1964. 1 – plan and section; 2 – photo, view from south-west.

¹⁰³ Frondzhulo 1974, 147; Dzhanov 1998; Maiko, Dzhanov 2015, 194, Fig. 77; 103-104. The detailed reports of M. Frondzhulo have not survived. Nevertheless, we managed to get some information about the results of his work from the personal archive of M. Frondzhulo, which included excerpts from field diaries and inventories, several drawings, and photographs. In addition, some finds are stored in the Museum collections in Kyiv and Sudak and, thanks to this, they are available for study.

¹⁰⁴ Frondzhulo 1974, 147.

¹⁰⁵ Mayko 2022, 421-423, Fig. 2/8; 3/ 4; 4/6.

and the National Conservation Area “St. Sophia of Kyiv” in Kyiv (Fig. 23)¹⁰⁶. Tripod stilts are of two types: with and without spikes on the ends, like in the Bocatash workshops. Each one has patches of green glaze. Thus, it is



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Fig. 23. Sudak / Sougdaia. Tripod stilts and ceramic moulds from the first workshop. 1–4 – National Conservation Area “St. Sophia of Kyiv” in Kyiv; 2 – Sudak Fortress Museum, photo I. Baranov, 1984.

¹⁰⁶ Dzhanov 1998; Teslenko 2018a, 11-13, Fig. 3; 4.

likely that glazed moulded vessels could also be produced there. Anyhow, both variations are well represented in the materials from excavations in Sudak fortress (Fig. 24)¹⁰⁷.

There is no information on the details of the workshop chronology. According to archaeological evidence from other sites, SEC moulded pottery was common from the late 13th until the third quarter of the 14th century¹⁰⁸. Accordingly, the period of the relevant workshop activity is unlikely to extend beyond this.

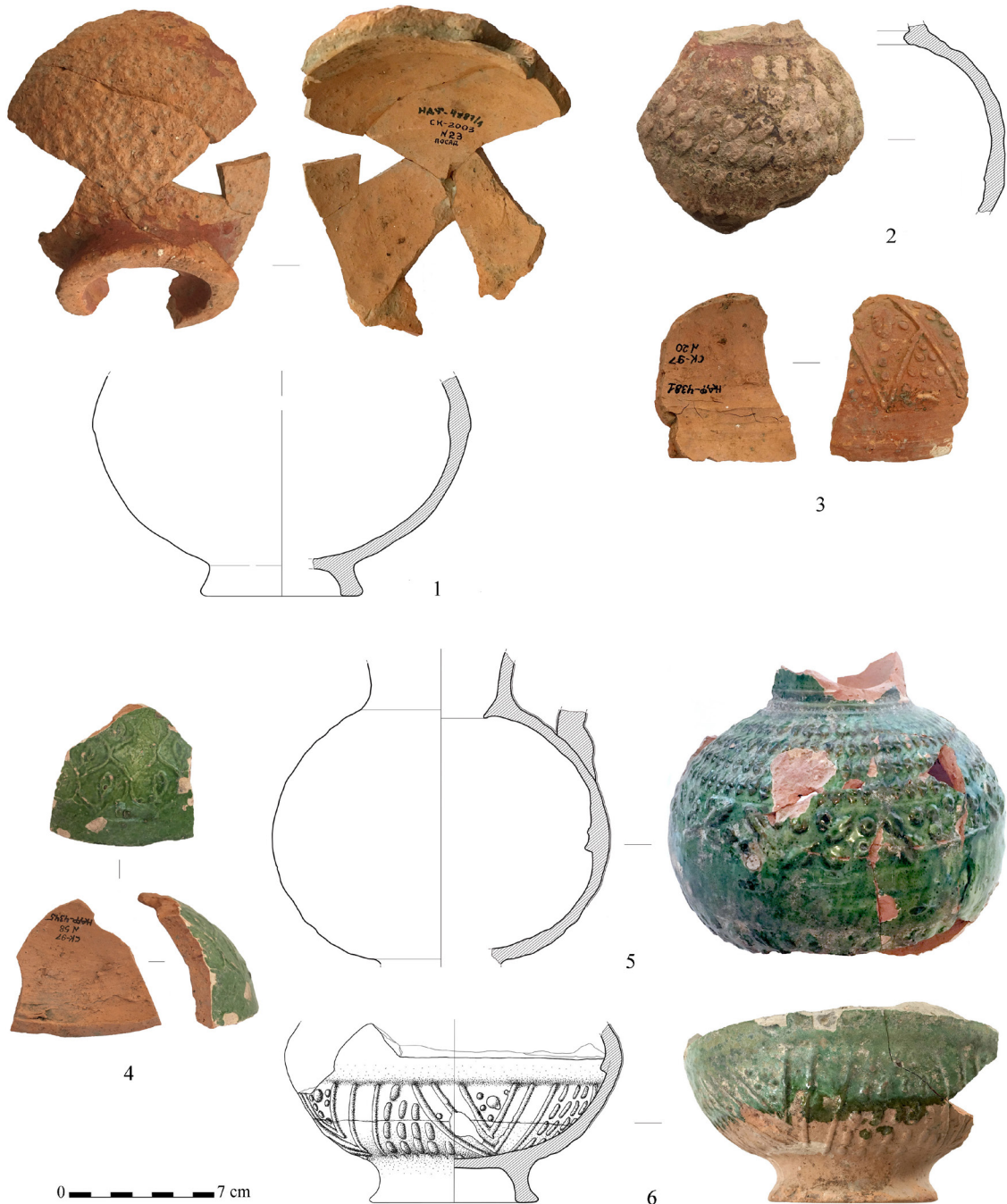


Fig. 24. Sudak / Sougdaia. Unglazed and glazed moulded wares from the excavation in Sudak: 1 – the crafts area outside the medieval fortress, excavations 2003, SK-2003/23; 2, 6 – the crafts area outside the medieval fortress, excavations 1972, SK-1972/110, SK-1972/51; 3-5 – residential area of the 14th and 15th centuries in the so-called quarter 1 inside the Sudak fortress, excavations 1997, SK-1997/20; SK-1997/58; SK-1997/167. National Conservation Area “St. Sophia of Kyiv” in Kyiv.

¹⁰⁷ Maiko 2022.

¹⁰⁸ Teslenko 2018a, 43-44. Attempts of the Crimean archaeologist V. Maiko to extend the chronology of this pottery to the 15th century do not have a reason. He involved the finds without clear context and fragments from displaced deposits of the Sudak

The remains of four pottery kilns, and a medieval stone building with two tandoors were excavated in 1974 in the area of the second workshop (Fig. 21/2)¹⁰⁹. Pottery kilns were built on an artificial terrace on a steep slope. They are two-tiered, round, and sub-square in plan (Fig. 25). The combustion chambers are arranged in pits

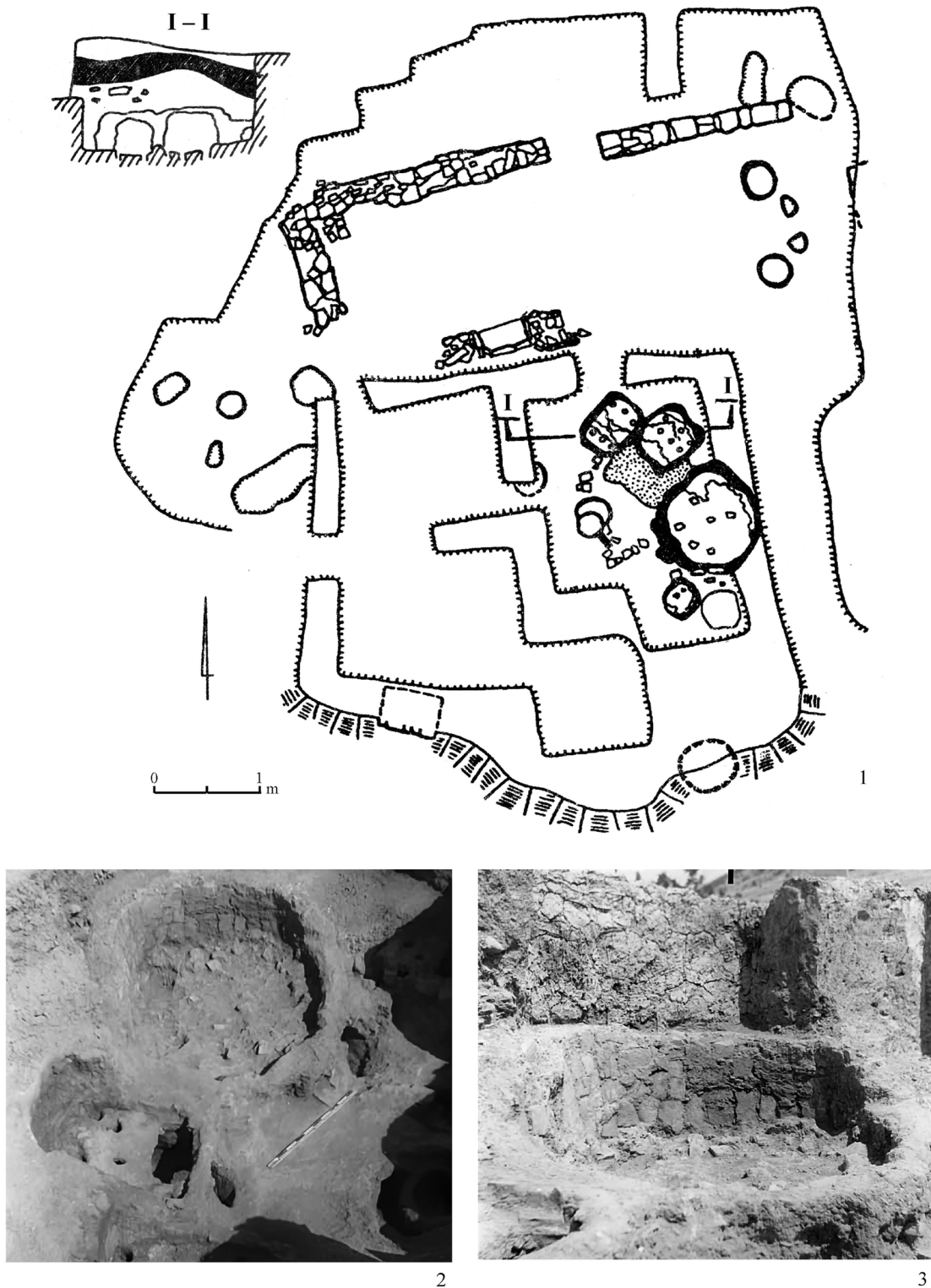


Fig. 25. Sudak / Sougdaia. Pottery kilns in the second workshop excavated in 1974. 1 – plan and section; 2-3 – photo, view from south-west and west.

fortress, which cannot be an argument for clarifying the chronology (Maiko 2022, 423).

¹⁰⁹ Dzhanov 1998, 87-88, Fig. 3; Maiko, Dzhanov 2015, 194, Fig. 104.

buried in the ground and covered with clay inside. Membranes are supported by the edges of the low chambers and are equipped with round venthole¹¹⁰. The firing chambers have not been preserved. Other evidence of pottery production is sparse. Twelve tripod stilts and three biscuits were found at the site in 1974 and 1998¹¹¹ (Fig. 26; 27/BYZ40–44). There is not a lot of data on the chronology of the workshop as well. It seems to have ceased to exist before the middle or second half of the 15th century. At least its remains were damaged by a pit with ceramics f, which date back to this period (Fig. 29)¹¹². On the other hand, decoration similar to that on biscuits was not common in local glazed pottery before the 14th century (see e.g. Teslenko, 2018a). So, the workshop activity could preliminary be dated to around the 14th and no later than the mid-15th century.

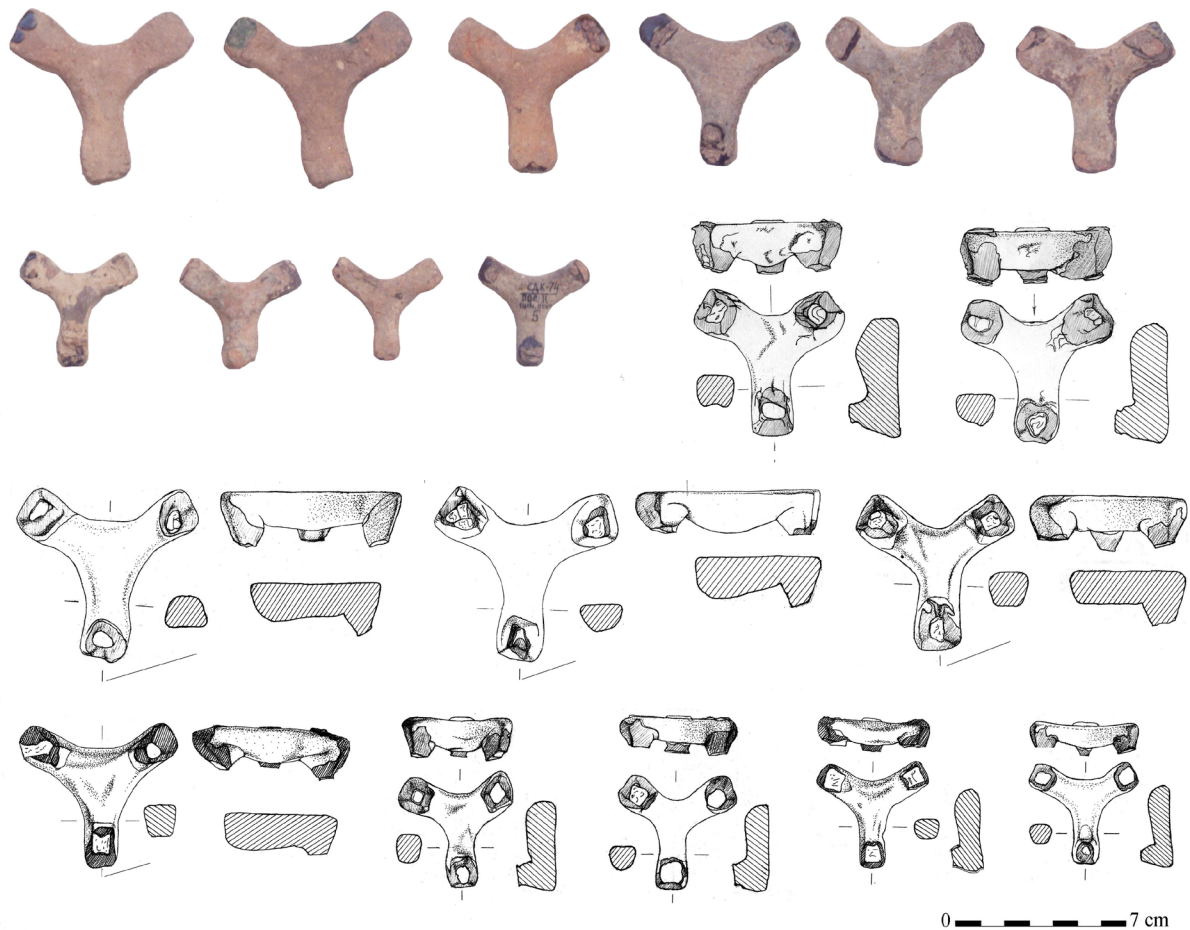


Fig. 26. Sudak / Sougdaia. Tripod stilts from the second workshop. National Conservation Area “St. Sophia of Kyiv” in Kyiv.

A fragment of sgraffito pottery biscuit and tripod stilts were found in the craftsmen’s settlement in 1971 and 1972 (Fig. 21/5, 6; 27/2, 3). Two other ones come from the excavations in 1987 near the north-eastern wall of the Sudak fortress (Fig. 21/3; 27/1,4). Their stratigraphic context is unclear¹¹³. It is also difficult to determine which workshops they may have been associated with. It could be both those already known and those yet to be discovered.

¹¹⁰ Pottery kilns of both workshops have analogies in the territory of the Golden Horde (see e.g. kilns of types 1, 3 and 4 according to: Fedorov-Davydov, Bulatov 1989, 225-230; Pigarev 2015, 106-107; 110-111). In Crimea they also probably appeared together with subjects of the Mongol state. However, the question of where they came from is still relevant for further studies.

¹¹¹ O. Dzhhanov’s diagnostic investigation of 1998.

¹¹² Teslenko 2018a, 9-13. A pot with the so-called “rail-shaped” rim (Fig. 28/7) and a luster bowl painted in “the thistle-leaf pattern” style (Fig. 28/3) are the main chronological indicators for this ceramic assemblage. They both dates back to no earlier than the mid-second half of the 15th century (Teslenko 2021, 71-75, 105, Fig. 62-63; 127/2). The other finds from the pit are also quite typical for this period (Teslenko 2021).

¹¹³ Baranov 2004; Maiko, Dzhhanov 2015, 304, Fig. 165/2.

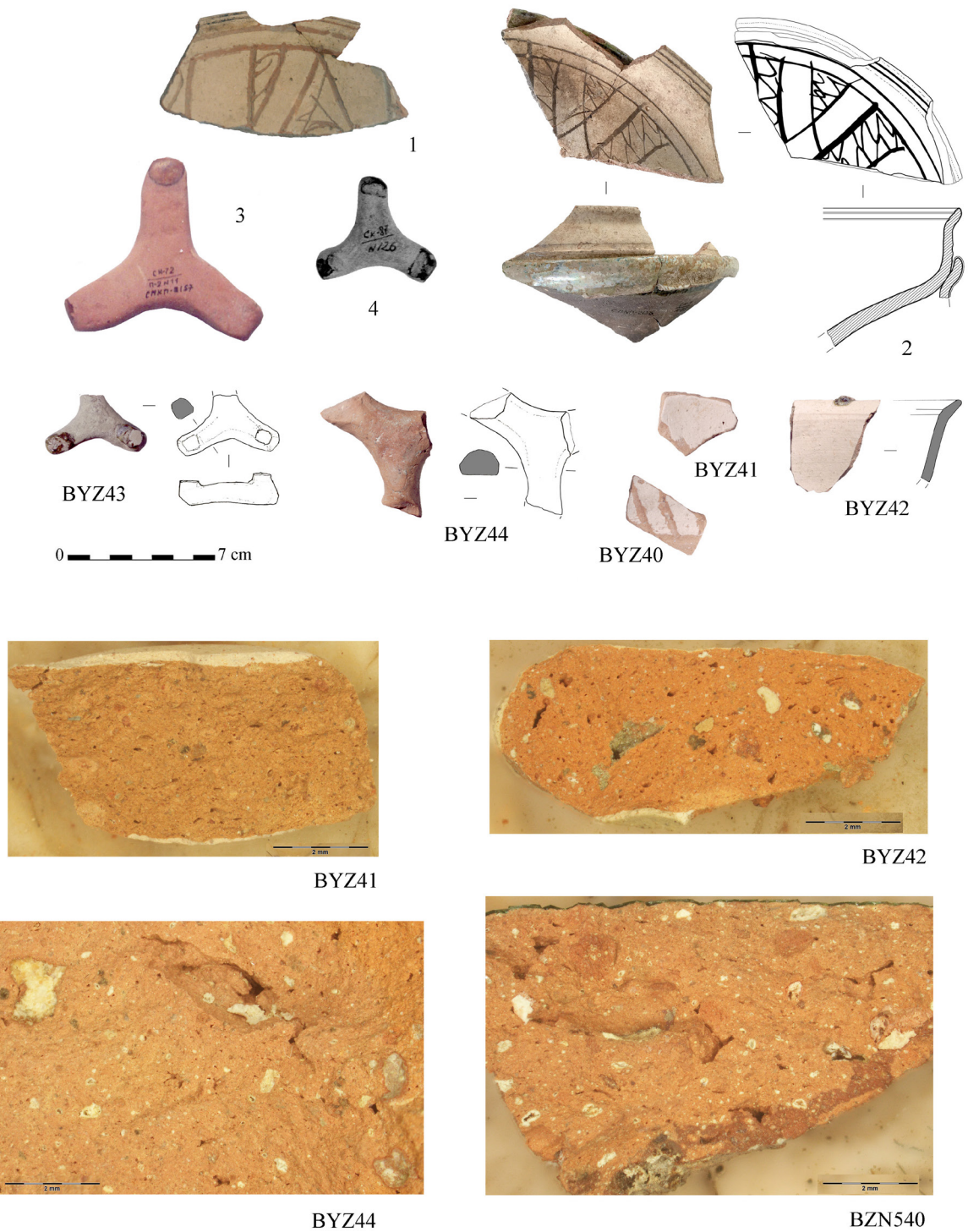


Fig. 27. Sudak / Sougdaia. Evidences of the glazed ceramics manufacturing: biscuits and tripod stilts; photos of the sherds under the binoculars. 1, 4 – the area of the north-eastern wall of the Sudak fortress, excavations 1987, SK-1987/wNo, SK-1987/126; 2-3 – the crafts area outside the medieval fortress, excavations 1971 and 1972, SK-1971/39, SK-1972/11. BYZ40-44; BZN540 – the samples from the site selected for archaeometric study: BYZ40-44 – the second workshop; BZN540 – SK-1997/71; samples are indicated by their Lyon laboratory id. 1, 4 – Sudak Fortress Museum; the others – National Conservation Area “St. Sophia of Kyiv” in Kyiv.

More probable evidence of glazed pottery manufacturing was noted on the northern outskirts of the settlement during O. Dzhanov’s archaeological survey in 1994 (Fig. 21/4)¹¹⁴. These are overburnt open-form vessels with

¹¹⁴ The finds are stored in the Sudak fortress museum in Crimea and are not available for detailed research and publication.



Fig. 28. Sudak / Souгдаia. An area of the second workshop, the later pit, ceramics assemblage, the middle – second half of the 15th century.

sgraffito decoration under the green glaze that are suspected to be waste. The workshop could have been destroyed in the course of modern residential development.

So, there was moulded and sgraffito pottery manufacturing in medieval Souгдаia taking place in at least two workshops. There could have been more, but we still do not have enough data to prove it. However, the small number of remains associated with ceramic production, just like in Solkhat, does not clarify the range of wares and the specifics of their decoration. Instead, the biscuit and waste demonstrate the main feature of the raw material. The fired fabric is brick-red, with small pores, and a significant proportion of natural lime inclusions, large ones

can form crater-shaped chips on the surface. The admixtures of chamotte or dry clay crumbs, and grains that look like local “Taurian series” minerals (siltstones, argillites), are also visible in the moulded ceramics from Sougdaia (Fig. 24). This fact, together with the morphological and decorative features, makes them very similar to the ceramics of Solkhat and its vicinity. On the contrary, chamotte, at least in the examined samples, is not noticeable in the clay composition of sgraffito pottery (Fig. 27). The pottery kilns of both workshops did not have the same construction as well. This could indicate the different origins of the artisan’s traditions. Meanwhile, the relation between the kiln construction and the type of pottery fired in them is not yet obvious. At the workshops of Bokataş II,

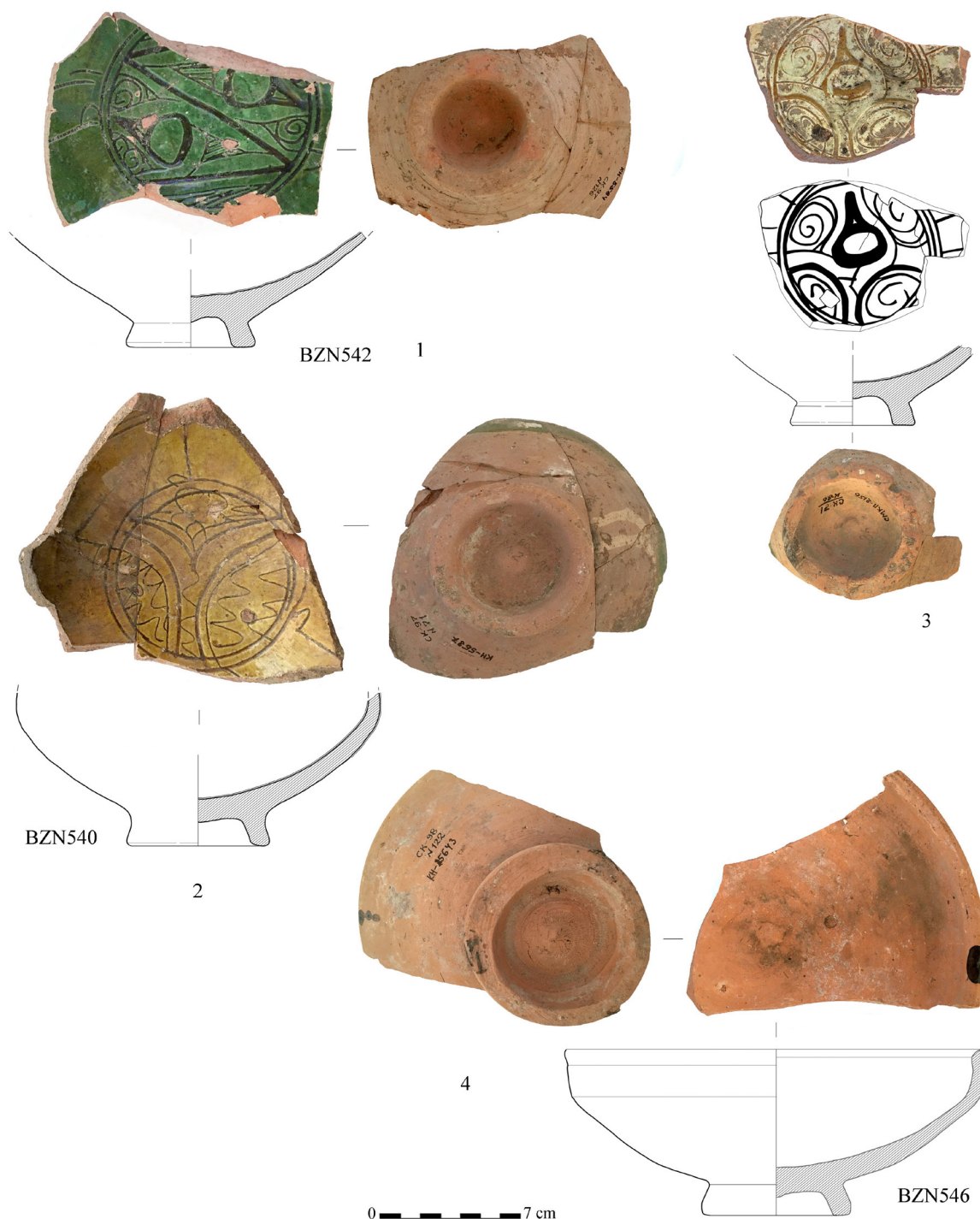


Fig. 29. Sudak / Sougdaia. The samples from the site selected for archaeometric study (1, 2, 4) and the exemplar, which are stylistically and morphologically similar to them (3). Samples are indicated by their Lyon laboratory id. 1, 2, 4 – residential area of the 14th and 15th centuries in the so-called quarter 1 inside the Sudak fortress, excavations 1997 and 1998, SK-1997/126, SK-1997/71; SK-1998/122; 3 – the crafts area outside the medieval fortress, excavations 1971, SK-1971/86.

for example, moulded pottery was fired in rounded plan kilns. Moreover, both types of kilns have analogies in the same Golden Horde craft centers, for example, in the Volga region and both were used for firing a variety of wares¹¹⁵. Thus, the issue needs further research.

Five local references from the second workshop (Fig. 27/BYZ40-44) and 14 shards of SEC group tableware from excavations 1971, 1972, 1997, 1998, 2003, and 2005 in Sudak fortress were selected for archaeometric studies¹¹⁶. All come from the 14th and 15th-centuries contexts of the fortress or surrounding area. According to the preliminary results, three bowls (two decorated and glazed, and one only with a drop of green glaze on the rim) were most similar in both visual features of the raw material and its chemical composition to the biscuits and tripod stilts (Fig. 27/BZN540; 29/BZN540, 542, 546). Their engraved decoration was made with thin and wide incisors in the form of medallions filled with vegetal and geometric patterns, surrounded by c-shaped scrolls. The glaze is transparent lead, green or yellowish-brown in color. Meanwhile, the variety of ornaments and glaze color shades used in the workshop could be much wider (see e.g. Fig. 29/3). Similar decorative schemes and motives are typical for the ceramics of the SEC group of the 1330s – the last quarter of the 14th century¹¹⁷. So, it can be an argument for the chronology of the second workshop activity.

As for the ring foot, two of them (glazed and unglazed bowls) show clear traces of knives, which suggests that they were carved from a monolithic blank (Fig. 29/1, 4). However, there is no great difference in the thickness of the bottom and walls, as in the Solkhat case. On the third bowl, no traces of knife are visible. Therefore, we cannot speak about a universal technology for food making in the second workshop. It is possible that both of them were used there.

To summarize, it is worth noting that, although we managed to clarify some features of local red-clay plain and sgraffito ceramics (high concentration of lime and absence of chamotte or dry clay crumbs; details of ring foot processing), we do not have enough data to confidently separate it from the SEC group. We cannot clearly distinguish the moulded pottery of Sougdaia from the same pottery from Solkhat and its surroundings, as they are very similar in visual features, and there is no archaeometric data on them yet. So, more research efforts in the Sougdaia ceramics study are still worth doing.

Caffa

The first archaeological collection from Caffa was formed during the construction of the harbor of Feodosiya in 1894–1895. The construction manager A. Bertier-Delagarde got these artefacts from workers involved in the earthen work in the citadel of Genoese Caffa¹¹⁸. Tripod stilts – the evidence of local glazed ceramics were also among the finds. Most items were transferred to the Odesa archaeological Museum, and some were given to museums in Feodosiya and Moscow. The first real archaeological excavations were carried out by Moscow archaeologist I. Zeest in 1949, 1951 and 1952. The efforts of the expedition were concentrated on the study of the ancient period of the site. However, in publications she mentions the remains of medieval buildings and a cistern¹¹⁹. In 1975–1977, the expedition of the Institute of Archaeology of the Academy of Sciences of the USSR led by B. Peters with the participation of Feodosiya researchers O. Aibabina and E. Katyushin continued the excavations in the citadel of Caffa¹²⁰. In 1977–1983 O. Aibabina studied some sections of fortifications and the cultural deposits near the Christian temples of Genoese Caffa¹²¹. During 1992–1997 she led the Feodosiya's expedition of the Crimean Branch of the Institute of Archaeology of the National Academy of Sciences of Ukraine and worked together with S. Bocharov. First, they explored an urban area near the southern slope of the Caffa citadel¹²², then they looked for remains of medieval churches¹²³. After 1997, regular excavation of the site ceased. Only occasional preventive work has been carried out¹²⁴.

Ceramic workshops in Caffa were studied twice. Both have kilns and both are located on the left bank of the talweg of a temporary watercourse known from Genoese written sources as Bissannis¹²⁵, on the eastern slope

¹¹⁵ Kilns of types 1, 3, and 4 according to Fedorov-Davydov, Bulatov 1989, 225-230; Pigarev 2008, 11- 17; 2015, 106-107, 110-111.

¹¹⁶ Analyses were carried out in the ArAr Laboratory (CNRS, UMR-5138) in Lyon, France under the direction of S. Y. Waksman. Their results will be published soon (Teslenko, Waksman, Dzhanov forthcoming).

¹¹⁷ Teslenko 2018a, 60.

¹¹⁸ Stern 1906.

¹¹⁹ Zeest 1951, 185-190; 1953, 143-148.

¹²⁰ Peters et al. 1976; Peters, Golentsov 1978; Peters 1979.

¹²¹ Aibabina 1981; 1988.

¹²² Aibabina, Botcharov 1994, 17-21; 1997a, 16-18; 1995, 17-18.

¹²³ Aibabina, Botcharov 1997a, 211-234; 2002, 159-169.

¹²⁴ Maiko 2022, 355-383.

¹²⁵ Massaria Caffae 1381–1382, f 67r.

of the Quarantine Hill, in the area of the north-eastern wall of the citadel between the so-called towers of Pope Clement VI and Crisco, at a distance of about 50–60 meters from each other (Fig. 30). The first workshop was dug in 1975–1976 by B. Peters inside the citadel, the second was excavated in 1994–1995 by O. Aibabina outside it¹²⁶.

The first is situated within the residential area (Fig. 30/1). Its pottery kiln is square in plan (1.25×1.25 m), and has two tiers separated by a perforated floor with round ventholes. The inner parameters of the construction are 1.0×1.0 m. The firing chamber and dome have not survived. The height of the combustion chamber is 0.95 meters. Its walls are made of stone and covered with lime-sand mortar. There is a chimney in its western wall and a stoking chamber towards the northern wall (Fig. 31). A pit with ash measuring 0.4×0.5 m in plan and 0.3 m deep was fixed opposite the stoking chamber. The perforated floor was supported by a vault of two arches resting on the walls of the combustion chamber. They were built of burnt bricks bonded with lime mortar. The lower part of a jug was built into the southeast corner of the kiln (Fig. 31/6). Its function is not clear¹²⁷. The construction of the pottery kiln is quite monumental and it is particularly interesting, that it has analogies among the firing structures from the territory of Italy – Calabria, Apulia, Sicily¹²⁸.

Tripod stilts of the most common type with spikes on the ends, a large fragment of the biscuit, and finished wares decorated in various techniques (slip-painted decorations; manganese purple splash; monochrome and polychrome sgraffito, and engraved monograms) were found in the kiln and associated context (Fig. 32).

The chronology of the workshop is based on the stratigraphy, the building history of fortification and coin finds. The earliest date can be related to the period of the building of the fortified citadel of Caffa, which means near the 1340s or shortly prior. Nonetheless, the completion of construction of its southern sector towers is documented by three lapidary inscriptions from 1342 (2) and 1348 (1)¹²⁹. The final stage of the kiln operation is marked by the finds of coins from the 1380s on its floor¹³⁰. Thus, the whole time of its activity can be defined approximately within the 1340s (or slightly earlier) – 1380s (or a bit later). This is not contradicted by ceramic finds in a related context. The earliest include, for example, a local bowl with purple splashes under the yellow glaze. They were most common in Crimea and beyond in the 1330s–1340s. Underglaze white engobe painting in the form of dots and stylized “diving fish” (Fig. 32/4, 5) together with local monochrome monogrammed sgraffito (Fig. 32/1, 6) were widespread in the middle and second half of the 14th century. The polychrome sgraffito (Fig. 32/2, 3) is the most recent. It made up a notable proportion of local glazed ceramics only from the third quarter – late of the 14th century¹³¹.

The second workshop was set up outside the citadel wall (Fig. 30/2). The excavation materials are poorly published. From the brief report of the authors of the works, presented in the abstracts of the 7th International Congress on Medieval Mediterranean Ceramics, it is known that the manufacturing complex included a pottery kiln, two household pits, a tandoor, remains of stone building, and two waste dumps on the terraces¹³². They do not elaborate on the details of the pottery kiln construction, mentioning only that it was two-tiered with a combustion chamber deepened into the ground. Its size is about 1.10×1.10 meters in the plan. The kiln was filled with fragments of its construction, unfinished and finished glazed wares, and kiln furniture – tripod stilts and samples to determine the heat resistance of clay. The researchers mentioned bowls and plates of different morphological types with four surface design options among the kiln products. There were monochrome wares without decoration with a green or yellow glaze over a light engobe; monochrome and polychrome sgraffito; and with the monogram MH (the name “Michael”). Meanwhile, there is no mention of ceramics with a manganese splash decoration and white slip-painting. They likely have not been in production anymore. Based on the coins find, the workshop activity could be dated back to the 1420s and the late fifteenth century¹³³. Thus, this workshop is later than the previous one, that is, most likely, around the late 14th – beginning of the 15th century, when the ceramic production was moved outside the fortress. There could have been more than two ceramic workshops in Genoese Caffa¹³⁴, but we do not yet have details on their location.

However, despite the lack of information and poor publication of the excavated materials of the site, it is possible to get a better insight into Caffa wares than the ceramics produced in Solkhat and Sougdaia. This is also due to its more extensive archaeometric research. As in the previous cases, the study was carried out at the Laboratory

¹²⁶ Teslenko 2018a, 13-16.

¹²⁷ Peters 1976, 377-378; Sazanov, Ivaschenko 1995, 118-120.

¹²⁸ Bobrinskiy 1991, 72, 79, Fig. 23; 30; 46/7, 8.

¹²⁹ Skržinska 1928, 31-39, № 1-3.

¹³⁰ Sazanov, Ivaschenko 1995, 118-120.

¹³¹ Teslenko 2018a, 44-46, 60-61.

¹³² Aibabine et al. 1999.

¹³³ Aibabine et al. 1999, 29.

¹³⁴ This is quite logically to assume because even after the Ottoman conquest of Crimea in 1475 causing the decline of pottery production, written sources mention several pottery workshops in Kefe (previous Caffa) (Galenko 2005; Teslenko, Aliadinova 2019).

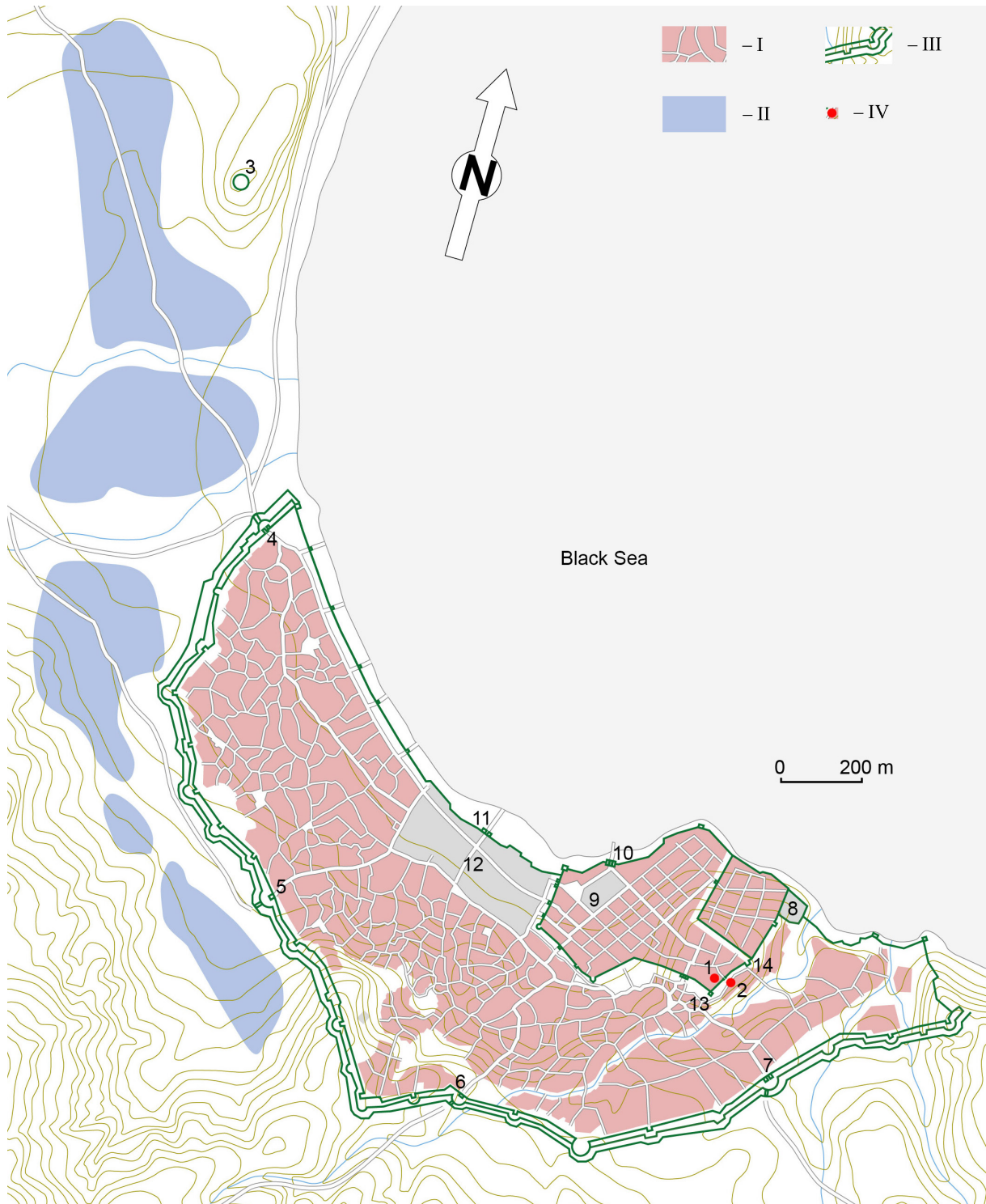


Fig. 30. Feodosiya / Caffa, map of medieval archaeological and architectural objects.

I – regular urban development within the fortress walls; II – suburbs outside the fortress walls; III – fortress walls, towers and gates; IV – glazed pottery workshops.

1 – the first workshop, excavated in 1975–1976; 2 – the second workshop excavated in 1994–1995;
 3 – St. Constantine Tower, built around 1420; 4 – Khachatur gate, the second half of the 14th century;
 5 – St. Theodor gate, the second half of the 14th century; 6 – St. Georgy gate, the second half of the 14th century;
 7 – Gate of St. Peter or the Apostle, the second half of the 14th century; 8 – Naval arsenal, 14th–15th centuries;
 9 – Palace Square, the 14th century; 10 – Harbor gate, the 14th century; 11 – Vonitica gate, the second half of the 14th century;
 12 – Bazaar with caravanserais, the 14th century; 13 – so-called “Clement’s Tower” (Pope Clement VI), approximately 1325–1375; 14 – so-called “Crisco Tower” or Christ Tower (Torre Cristi=Torre Christi) – approximately 1325–1375. The map base was made by Dmytro Vortman (Kyiv).

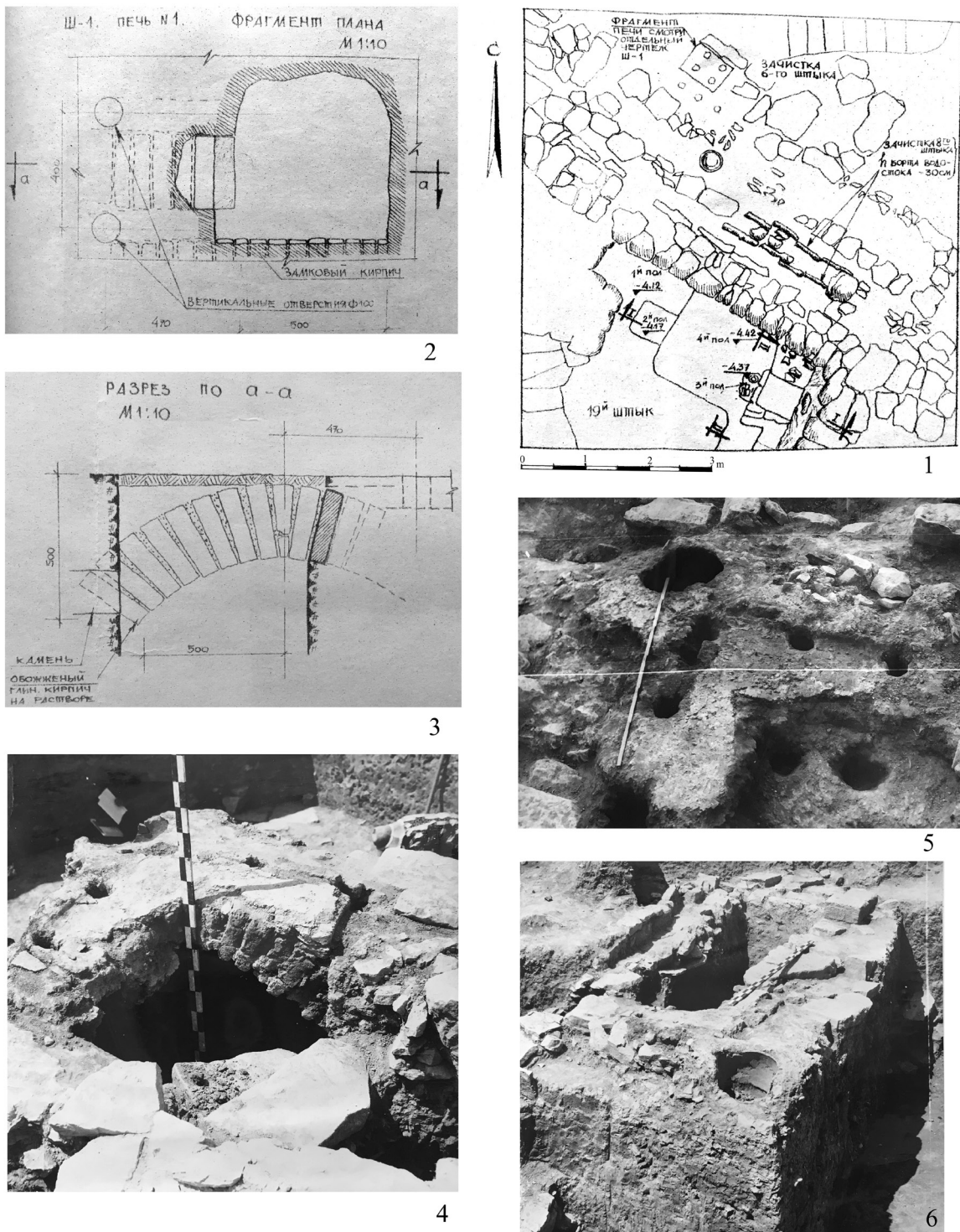


Fig. 31. Feodosiya / Caffa, the workshop excavated in 1975–1976. After (Peters 1975, 242, 257, 260, Figs. 177; 203/2; 206; 1976, 51, 52, Figs. 190/1; 191/1).

of Archaeometry and Archaeology of the French National Research Centre (CNRS UMR 5138) in Lyon under the direction of S. Y. Waksman. The results of the chemical analyses of the local pottery represented in several papers¹³⁵. There are 35 samples belonged to the Caffa chemical group¹³⁶. Since they are not always accompanied

¹³⁵ Waksman, Romanchuk 2007; Waksman, Ginkut 2015; Teslenko, Waksman 2016; Teslenko, Waksman, Ginkut 2021, 334, 337, Tabl. 1; Fig. 4; Teslenko, Waksman 2024.

¹³⁶ Teslenko, Waksman 2016, Fig. 3; Teslenko, Waksman, Ginkut 2021, Tabl. 1; Fig. 4; Teslenko, Waksman 2024, Fig. 4.

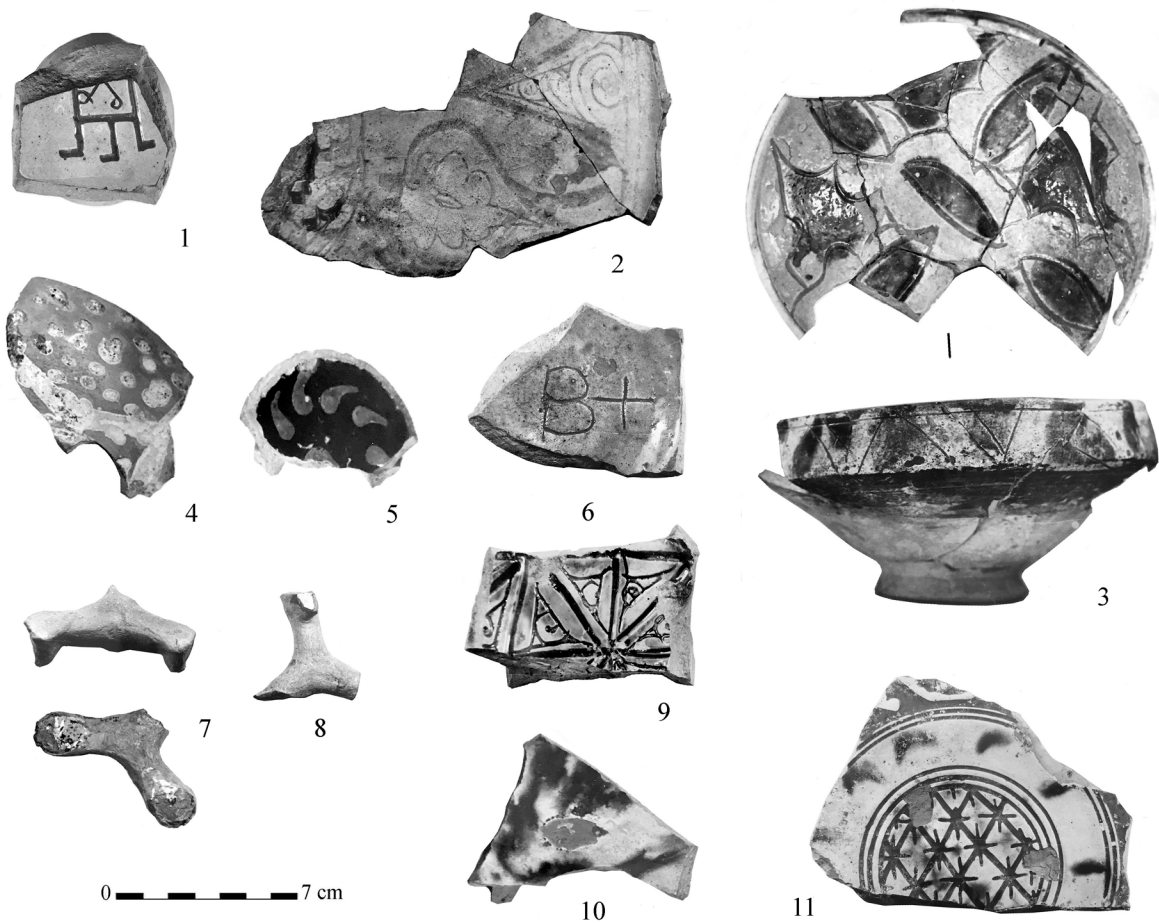


Fig. 32. Feodosiya / Caffa, the workshop excavated in 1975–1976: 7, 8 – tripod stilts; 2 – waster; 3–10 – finished wares. After (Peters 1975, 136, 138, 140, 143, Figs. 11, 13, 15, 18; 1976, 33, 40, 44, 45, 50, Figs. 173, 179, 183, 184, 189).

by images of the sampled wares and references to the archaeological context, we dwell on them in more detail. Nine shards – fragments of a tripod stilt and a biscuit like as a local reference and seven finished glazed wares of various morphological and decorative types, came from the Caffa excavations (Fig. 33/BYZ59-58-64-61-65-63-60-62-66)¹³⁷. Their precise archaeological context is unclear. Another 26 samples provenanced from excavations at other Crimean sites. These are five shards from Chersonesos (Fig. 35). They have no clear archaeological context as well, but by analogy can be dated to the 14th (Fig. 35/BYZ299; 327) and 15th centuries (Fig. 35/BYZ311; 315; 316). Twelve samples proceeded from medieval Alushta, from 14–15th and 15th-centuries contexts (Fig. 35/BZY66, BZY67, BZY725, BZY727; Fig. 37/BZY729, BZY730, BZY732; Fig. 38/BZY731; Fig. 39/BZY726, BZY728, BZY733, BZY734), and nine others were found at Funa fortress, in the 15th-century context (Fig. 36/BZY739, BZY740, BZY742, BZY744, BZY747; Fig. 37/BZY735, BZY743; Fig. 38/BZY736, BZY738)¹³⁸. All of them represent a quite wide range of shapes and decorative types, including plane and slip-painted wares, monochrome and polychrome sgraffito and monogrammed series, but formed rather homogeneous chemical groups indicating their common origin. In addition, we examined 20 of these samples with a binocular (Fig. 34; 40). Their fired clay and the raw material composition looked uniform in visual characteristics. The fabric is dense with small pores and has a muted brick-red to light reddish-yellow color, often lighter at the surface. The raw material is soft, sandless, and well-worked with small rounded inclusions and rare larger grains (up to 2–3 mm) most likely of lime that may also form crater-like chips on the surface (Fig. 34/BYZ65). There are also single small grains that look like local minerals of the Taurian series (siltstones or argillites) (Fig. 40/BZY726,739). The glaze is transparent lead brown, yellow (more often on open vessels), and green (more often on closed vessels) in varying shades, often faintly colored. So, the Caffa wares are very similar to Solkhat ceramics in basic characteristics. The differences lie in the less saturated color of the fabric and glaze and the absence or poor concentration of chamotte-like inclusion,

¹³⁷ We are grateful to O. Aibabina for her kind permission for the study and the publication of these materials.

¹³⁸ More archaeological details see Teslenko 2021, 47–52.

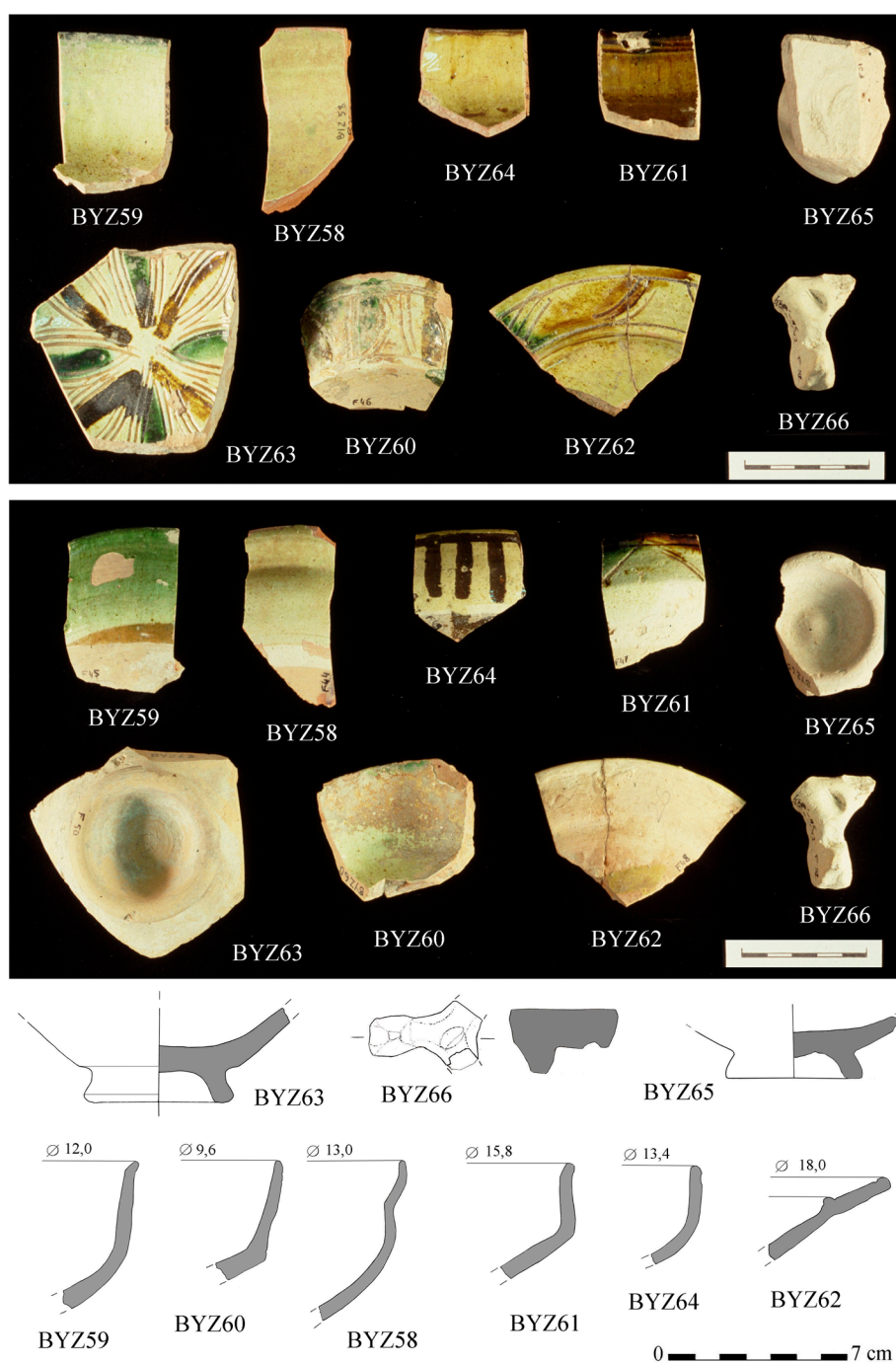
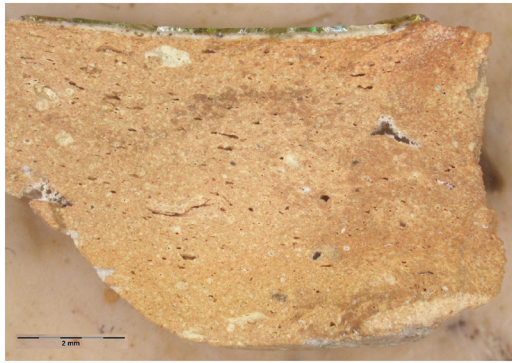


Fig. 33. Feodosiya / Caffa, local references (BYZ65,66), and finished glazed wares (BYZ58-64) originating from different years of Caffa excavations selected for archaeometric study. Samples are indicated by their Lyon laboratory id. Photographs by Y. Montmessin, drawings by the authors.

at least in the samples studied under binoculars. Small grains (less than 0.1 cm) were marked only in one of 20 samples (Fig. 34/BYZ64). In addition, only one ring foot molding technique was used on Caffa pottery: sticking a clay ring onto the flat bottom and then working it on a wheel. These characteristics broadly coincide with those made before¹³⁹, except for one point: chamotte or inclusion resembling it is not well visible in the composition of the clay paste. Thus, based on this main feature, Caffa subgroup could be defined as fairly homogeneous in the SEC group. Detailed chronology and typology of “Caffa style wares” has also been recently developed¹⁴⁰.

¹³⁹ Maslovskiy 2017, 456; Teslenko 2021, 77-78.

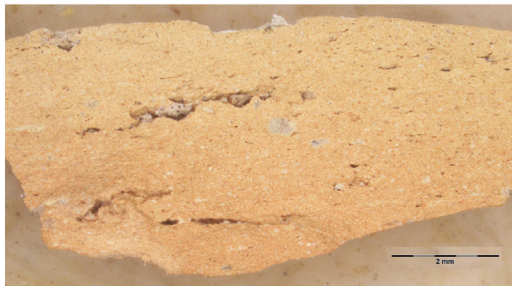
¹⁴⁰ Teslenko 2021, 85-88.



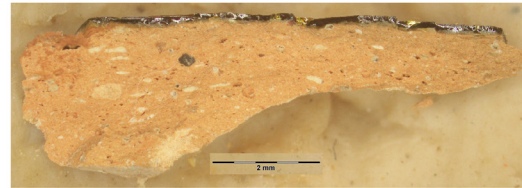
BYZ59



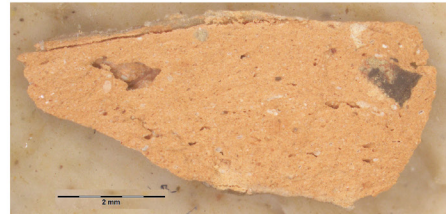
BYZ60



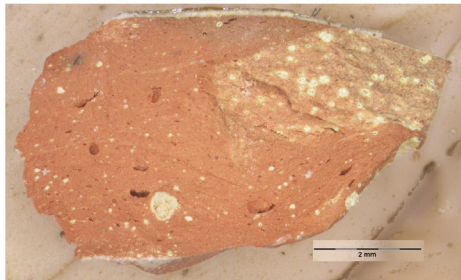
BYZ63



BYZ61



BYZ62



BYZ64



BYZ65



BYZ66

Fig. 34. Feodosiya / Caffa, the shards from Caffa excavations under the binoculars.

Meanwhile, the ceramic productions of one more Genoese point located in the South-Western Crimea – Cembalo fortress are morphologically and decoratively similar to Caffa ware¹⁴¹. Having started its activities a little later, in the middle – second half of the 14th century, it seems that it largely inherited the traditions of Caffa’s workshop. Sometimes its products can be distinguished from Caffa ones only by the chemical composition of the raw materials, although the difference, according to S. Y. Waksman, do not seem rather significant¹⁴². It should also

¹⁴¹ For more details see: Ginkut 2014; Waksman, Ginkut 2015.

¹⁴² According to S. Y. Waksman, this could be due to the origin of the clays from the same geological formations. Furthermore, based on a geological map of Crimea, she notes that “similar geological formations are found in a big part of Crimea, where they reach the southern coast in the areas of Sevastopol/Chersonese and Feodosiya/Cafa” (Waksman, Ginkut 2015, 720-721).

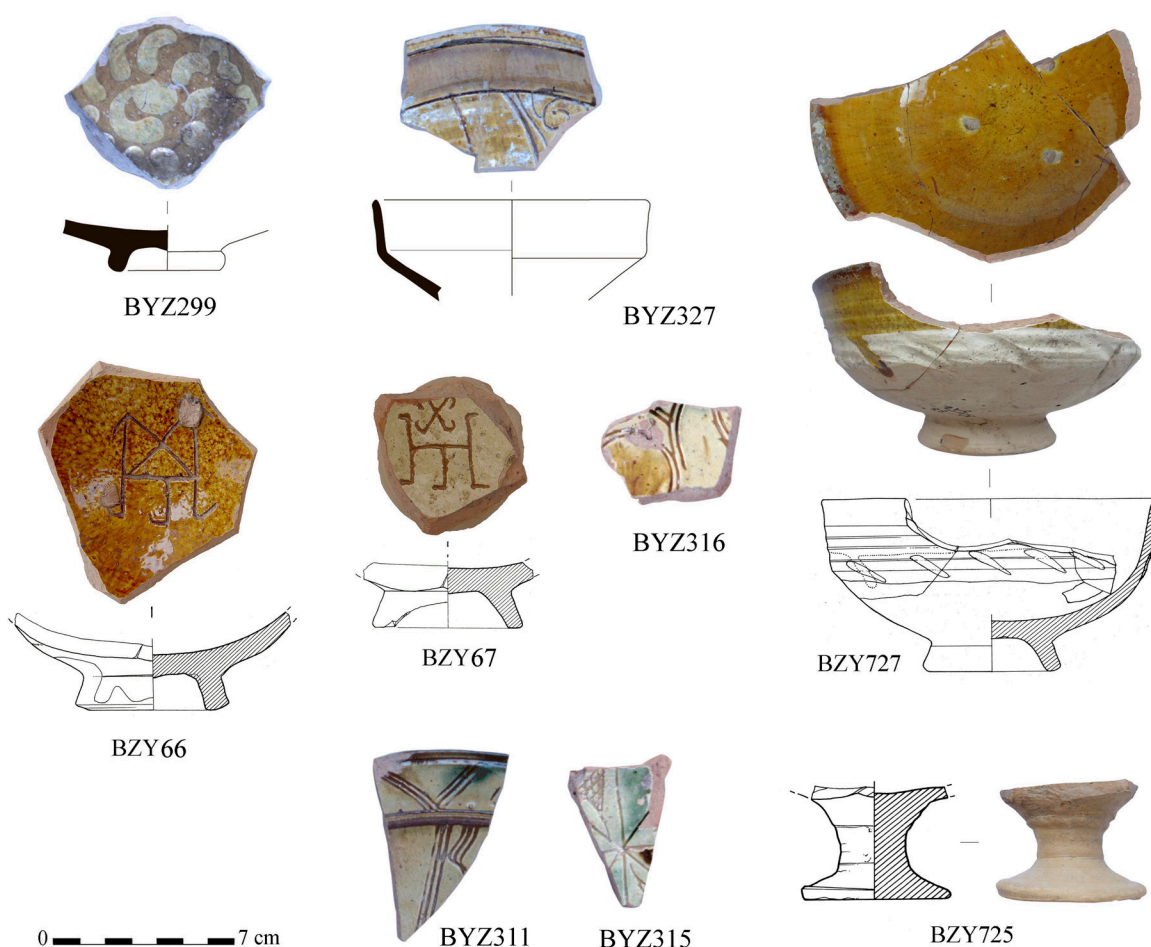


Fig. 35. Ceramics of the Caffa subgroup from excavations at other Crimean sites: BYZ299, 327, 311, 315, 316 – Chersonesos, unclear context; BZY66, BZY67, BZY725, BZY727 – medieval Alushta, the 14th and 15th centuries contexts. Samples are indicated by their Lyon laboratory id.

be noted that binocular examination of several sherds of the “Chembalo and Chersonese region” chemical group in ArAr laboratory (Lyon) showed rare chamotte-like inclusions in their fabric, although, their availability is not stable. Thus, Chembalo or related ceramics are often associated with the so-called “Caffa subgroup” or “Caffa ware” as the clear distinctions between them are mostly poorly visible to the unaided eye.

According to the archaeological data from Crimea and Azak, the “Caffa subgroup” became a remarkable part of the ceramic assemblages from the 1330s and then gradually replaced the Solkhat subgroup in the second part of the 14th century¹⁴³. In the 15th century, together with the Chembalo variations, it became most common in the Northern Black Sea area and beyond¹⁴⁴. For example, at medieval Azak, this subgroup accounted for about 90% of the 15th-century glazed pottery assemblage¹⁴⁵. Similar wares have also dominated among the synchronous glazed ceramics of Adyge sites at the mouth of the Kuban River¹⁴⁶, in the supposed Genoese castle of Illiche (site Dnieprovsk’ke-2) on the bank of the Bug estuary¹⁴⁷ and in the medieval Bilhorod at the mouth of the Dniester¹⁴⁸. In addition, “Caffa style” open-form vessels come from the excavations of the Savsat¹⁴⁹ fortress and the Balatlar or Sinope Koimesis Church in the Black Sea region of Turkey¹⁵⁰, as well as from the adornment of the exterior façades of numerous

¹⁴³ Maslovskiy 2017, 484-485; Teslenko 2018a, 39.

¹⁴⁴ Teslenko 2021, 88-89; Teslenko, Waksman 2024.

¹⁴⁵ Maslovskiy 2007, 87; Zenyuk, Maslovskiy 2018, 214.

¹⁴⁶ Volkov 2007, 26-31, Fig. 1; 2.

¹⁴⁷ Burakov 1991, 105-109.

¹⁴⁸ Teslenko, Waksman 2024.

¹⁴⁹ Yilmaz, Özkul Findik, Aytekin 2022, 422, Fig. 63

¹⁵⁰ Inanan 2012, 154, Tab. 3/10-12.

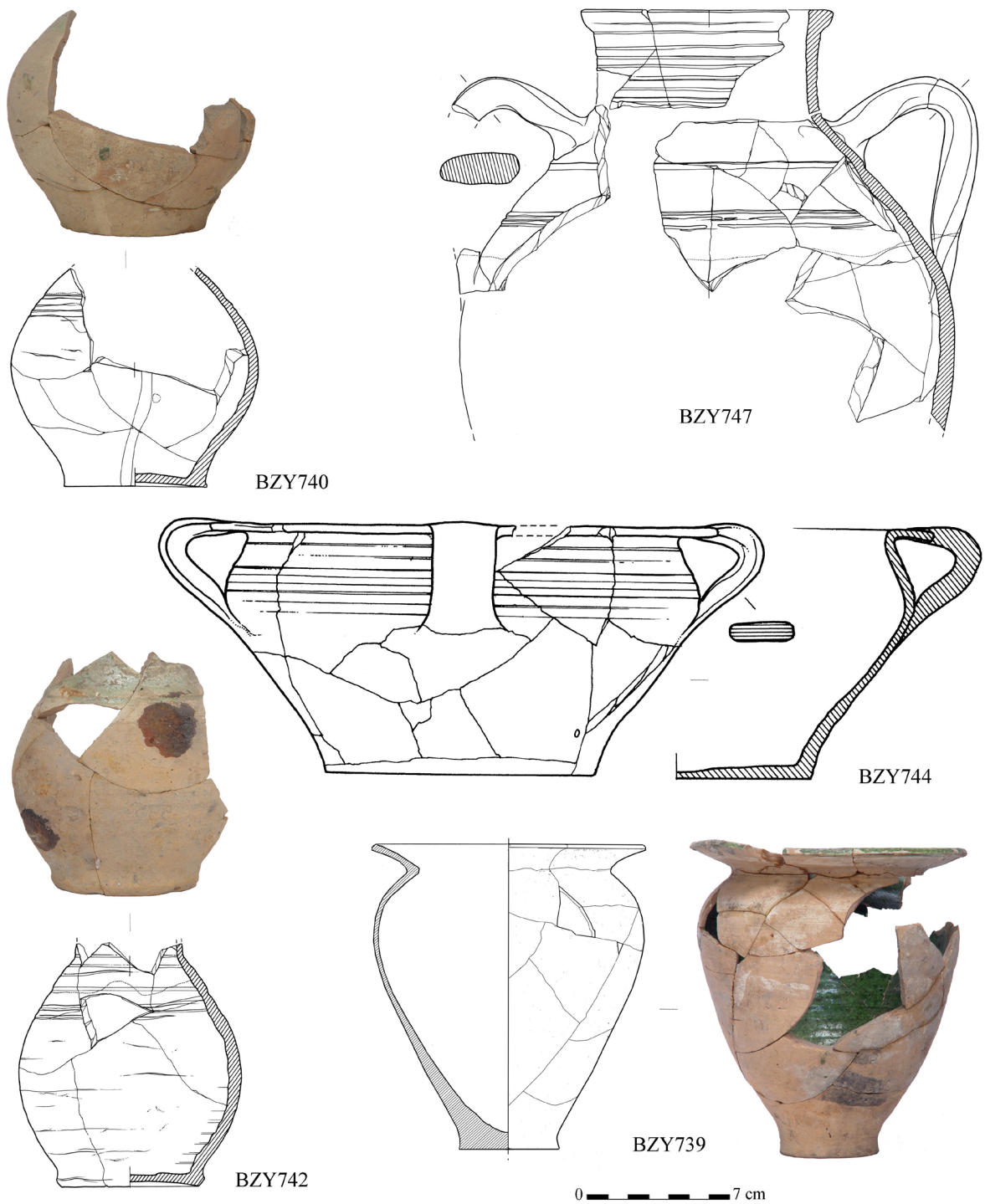


Fig. 36. Ceramics of the Caffa subgroup from Funa fortress excavations, the 15th-century context. Samples are indicated by their Lyon laboratory id.

churches in Crete, which was an important transit point for international trade¹⁵¹. Thus, it is clear that the so-called “Caffa style” Crimean wares in the late 14th and 15th centuries became the main commercial ceramic commodity in the Black Sea region and accounted for some share of the trade goods beyond, at least in the eastern Mediterranean.

¹⁵¹ Yangaki 2020, 432-446.

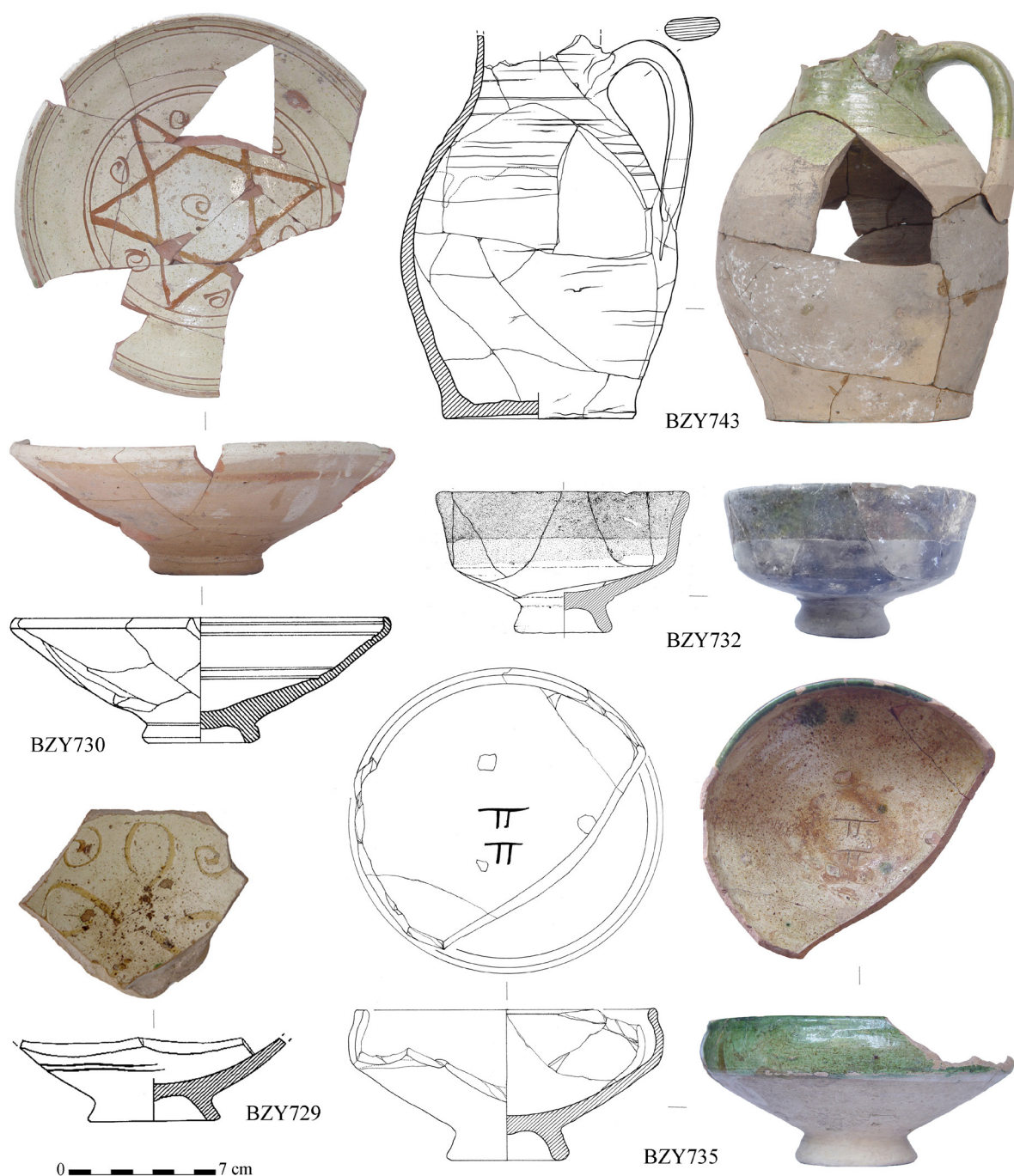


Fig. 37. Ceramics of the Caffa subgroup from excavations at Alushta and Funa: BZY729, BZY730, BZY732 – medieval Alushta, the 15th-century contexts; BZY735, BZY743 – Funa fortress, the 15th-century context. Samples are indicated by their Lyon laboratory id.

Concluding remarks and perspectives

Thus, according to the available archaeological data, the beginning of the glazed pottery workshops activity in the Crimea falls between 1270-1280 and 1330-1340 with variations in the chronology and historical destiny for each center. They were primarily related to the rapidly developing urban centers of the southeast of the peninsula: the new administrative site of the Mongol state – Solkhat/Qırım and its vicinity, and probably, Sougdaia/Sudak



Fig. 38. Ceramics of the Caffa subgroup from excavations at Alushta and Funa: BZY731 – medieval Alushta, the 15th-century contexts; BZY736, BZY738 – Funa fortress, the 15th-century context. Samples are indicated by their Lyon laboratory id.

subordinated to the Mongols. Then, around the early second quarter of the 14th century, a similar artisanship developed in the Genoese colony of Caffa.

The fabric of wares from all of these workshops have a visible resemblance such as red-burning, plastic, and sandless with lime inclusion, which is a good argument for combining them into a big technological South-East Crimean group which is not rather homogenous. The differences lie in some technological and decorative features,

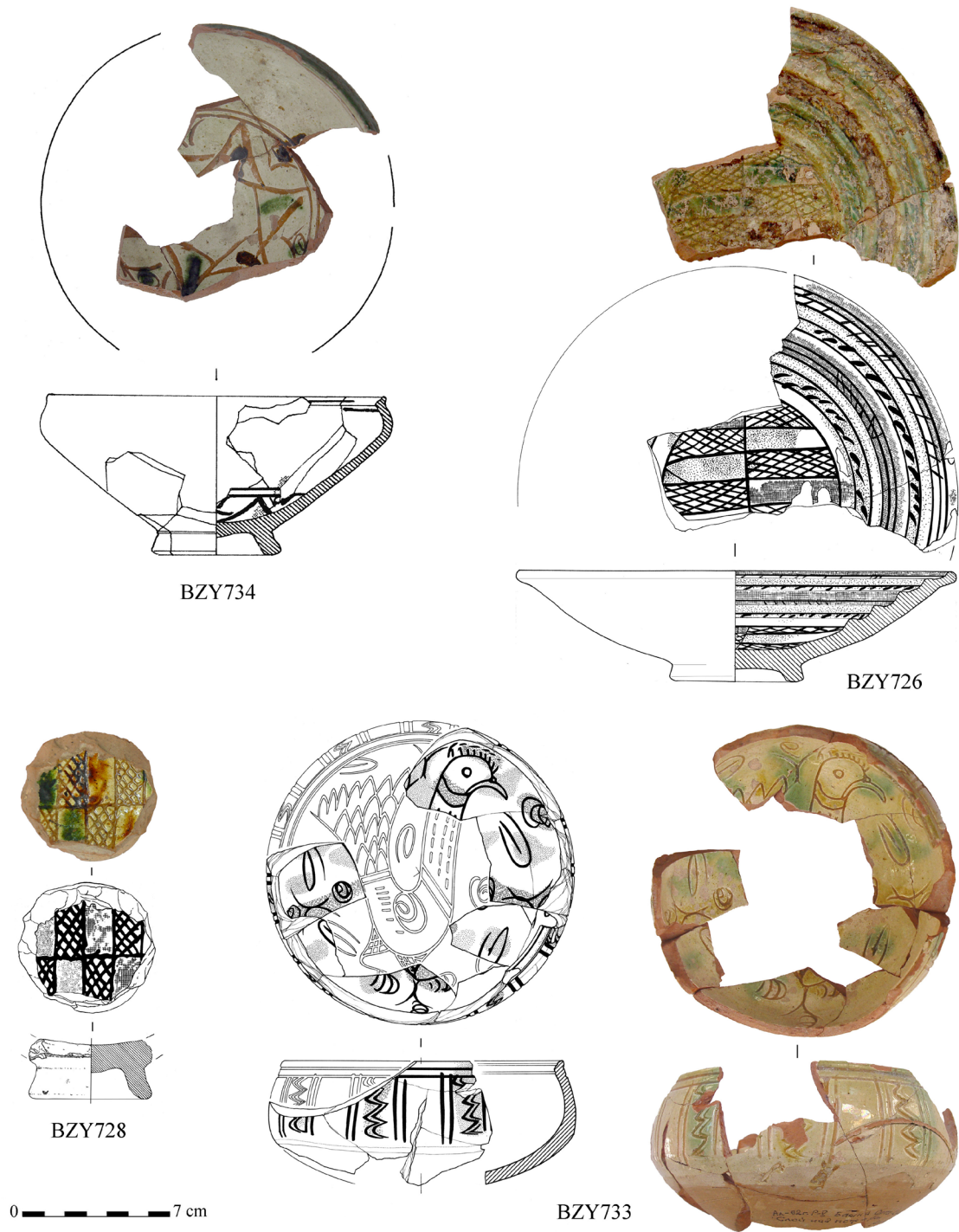


Fig. 39. Ceramics of the Caffa subgroup from excavations at medieval Alushta, the late 14th and 15th centuries contexts. Samples are indicated by their Lyon laboratory id.

which contributed to the a priori identification of three subgroups: Solkhat, Sougdaia and Caffa. However, the criteria for this are not always clear enough. Therefore, we carefully examined the information about each of the known glazed pottery workshops of the South-Eastern Crimea.

The archaeological information concerning them is quite diverse but not evenly represented. Most data are related to the Bokataş II and Caffa ones, and less is about the Solkhat and Sougdaia sites. Their repertoire has some differences most likely due to the divergence of chronology and artisans' cultural traditions.

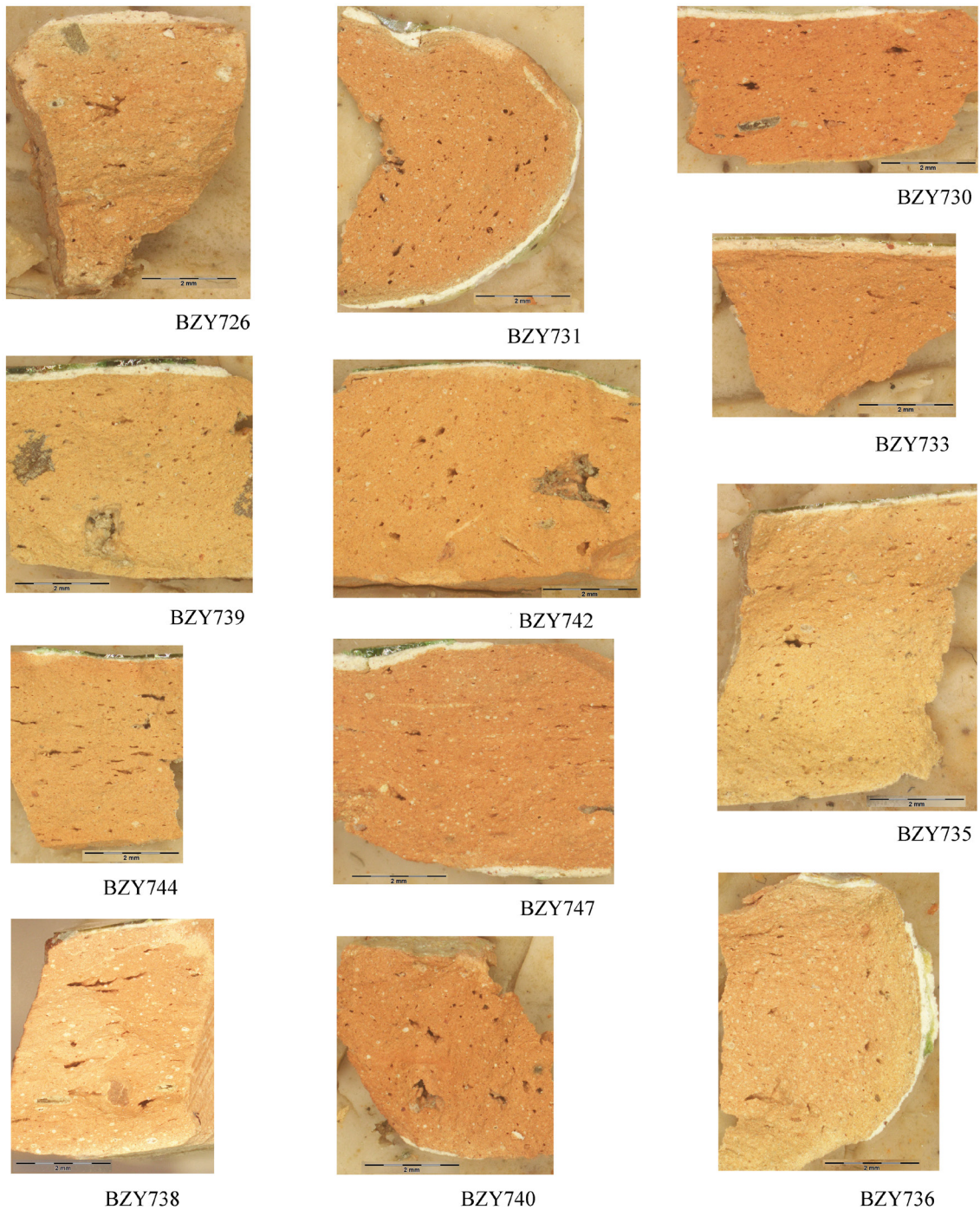


Fig. 40 Ceramics of the Caffa subgroup from excavations at other Crimean sites, the shards under the binoculars. Samples are indicated by their Lyon laboratory id.

Bokatash II was located in the settlement of pottery craftsmen in the Solkhat vicinity, and produced moulded pottery, sgraffito with concentric circles, and a rather original decoration, the analogues of which still have to be found. As they have several specific technological (fabric, feet making technic) and decorative features, productions of this site should probably be considered as a separate subgroup of “Bokatash wares” for which clearer criteria have yet to be worked out. The period of workshops activity was quite short from 1270–1280 to around the mid-14th century. The reasons for the decline are not completely clear. “Bokatash wares” were not widely distributed as commodities.

The Solkhat workshops began its activity almost simultaneously and were initially located within the newly developing settlement. Solkhat ceramics or at least some of its variations have specific feet-making technique and

a remarkable feature of fabrics (a significant number of chamotte-like admixtures, and less lime inclusion) that make it possible to distinguish this group more or less confidently in various ceramic assemblages. The territory of the workshops was reorganized around the 1330–1350s with the construction of dwellings and then religious and public facilities. As a result, pottery manufacturing could have been relocated elsewhere. However, the glazed wares with similar technical characteristics continued to be common in Solkhat and known from other sites at least until the third quarter of the 14th century or shortly thereafter. The pottery repertoire included unglazed and glazed moulded wares, as well as plane, slip-painted, and sgraffito glazed ceramics with a wide variety of morphological and decorative types that were well-known on the internal and external markets. However, the chronology and typology of Solkhat's ceramics production, despite recent progress in this field, are still far from being completed. Sougdaia workshops were the part of the craft outskirts of the rather big urban center with an established layout. Their historical destiny is more nebulous. Perhaps, the moulded ceramic manufacturing in Sougdaia was simultaneous to the previous two. Anyhow, the moulded wares from Bokataş, Solkhat, and Sougdaia are very similar, which could be associated with the related cultural background of the craftsmen, circulation of artisans and ceramic moulds within a region as was the case in Anatolia, for example¹⁵². The activity of the second workshop in Sougdaia, which produced sgraffito ceramics, seems to have started no earlier than the 14th century. The *terminus ante quem* is marked by another kind of anthropogenic activity on the site around the middle to the second half of the 15th century. We do not yet have clear criteria to define its products and previous attempts to do this should be considered more speculative than justified. This issue still calls for further research. So far it can only be noted that some varieties of Sougdaia's sgraffito ceramics have an increased concentration of lime inclusion in fabric.

The Caffa atelier was integrated into the urban infrastructure of the new urban site, initially located inside the residential quarters, and then moved outside the fortress walls. Its activity began near the early second quarter of the 14th century, not later than the 1330s–1340s and continued until the Ottoman conquest of 1475 or even after. There is no data for the earlier outset yet. Caffa subgroup seems to be the most homogeneous and best studied. There were a great variety of forms, painted and engraving decoration in its repertoire. This is probably where the specific style of polychrome sgraffito decoration, which in modern practice has the name “Caffa style”, was developed. “Caffa-style” pottery became predominant in Crimea and beyond from the late 14th to the late 15th centuries. However, it was most likely not the product of one workshop or even one site. It is already possible to specify two of them – Caffa and Cembalo. So, clearer criteria for distinguishing their wares should still be worked out.

The manufacturing of glazed pottery in Crimea was largely focused on the external market. However, trade networks and the area of Crimean ceramics distribution are largely impacted by geopolitical processes in the region. From the end of the 13th century – to the middle or the third quarter of the 14th century the market for Crimean ceramics covered mainly the territory of Eastern Europe, which was in the Golden Horde's sphere of influence. However, at the late 14th century and throughout the 15th century, the flow of ceramic goods from Crimea was diverted mainly to the Black Sea region and apparently in part to the Eastern Mediterranean. It could be assumed that the trade was mainly carried out through the intermediary of the Genoese, as well as other trading agents, such as the Greeks or Venetians. The geography and intensity of the Crimean ceramics trade are still in the study.

Among the promising questions for the future is also the origins of glazed pottery craft and art in Crimea. The recent analysis of archaeological materials from several sites in the Black Sea area and the Eastern Mediterranean testify in favor of the participation of artisans with different cultural backgrounds in local glazed pottery manufacturing. These were most likely migrants from the regions with developed glazed ceramics art. Based on the available data, we can assume several waves of potters' migration from the South Black Sea and western regions of Anatolia and, possibly, Khorezm who came to the peninsula during the last quarter of the 13th century and in the last third of the 14th century¹⁵³. Further research will help to make more progress in this issue.

Acknowledgements

This study was funded by the European Commission, Marie-Sklodowska-Curie Actions – COFUND Programme, FIAS Fellowship program. We would like to thank Collège de France, Lyon University and ArAr Laboratory CNRS UMR 5138 in Lyon, who support the research in 2023–2024. We are very grateful to the S.Y. Waksman and the staff of the analytical facilities in the Lyon ArAr laboratory (CNRS UMR 5138) whose research achievement is involved in this study. Our thanks also go to our colleagues O. Aibabina, O. Gavrilov, and D. Vortman for sharing with us cartographical materials and some results of their study in Caffa and Solkhat, as well as Andrei Mirea from the Nicolae Iorga Institute of History, Romanian Academy of Sciences, for his assistance in proofreading of the main text and translating the abstract and illustration captions into French.

¹⁵² See, e.g., Gök Gürhan, 2011; Waksman, Burlot, Böhlendorf-Arslan, Vroom 2017.

¹⁵³ Teslenko 2020b; Karasu 2021.

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Fig. 28. Sudak / Sougdaia. Secteur du second atelier, la fosse ultérieure, ensemble céramique, milieu – seconde moitié du XVe siècle.

Fig. 29. Sudak / Sougdaia. Échantillons du site sélectionnés pour une étude archéométrique (1, 2, 4) et un exemplaire stylistiquement et morphologiquement similaire (3). Les échantillons sont identifiés par leur numéro mis au laboratoire de Lyon. 1, 2, 4 – zone résidentielle des XIVe et XVe siècles dans le dit quartier 1 à l'intérieur de la forteresse de Sudak, fouilles archéologiques de 1997 et de 1998, SK-1997/126, SK-1997/71 ; SK-1998/122 ; 3 – zone artisanale à l'extérieur de la forteresse médiévale, fouilles archéologiques de 1971, SK-1971/86.

Fig. 30. Feodosiya / Caffa, carte des objets archéologiques et architecturaux datant du Moyen Âge. I – développement urbain structuré à l'intérieur des murs de la forteresse ; II – faubourgs à l'extérieur des murs de la forteresse ; III – murs, tours et portes de la forteresse ; IV – ateliers de poterie glaçurée. 1 – le premier atelier, fouillé en 1975–1976 ; 2 – le deuxième atelier, fouillé en 1994–1995 ; 3 – la tour de Saint-Constantin, construite vers 1420 ; 4 – la porte de Khachatur, seconde moitié du XIVe siècle ; 5 – la porte de Saint-Théodore, seconde moitié du XIVe siècle ; 6 – la porte de Saint-Georges, seconde moitié du XIVe siècle ; 7 – la porte de Saint-Pierre ou de l'Apôtre, seconde moitié du XIVe siècle ; 8 – l'arsenal naval, XIVe–XVe siècles ; 9 – la place du Palais, XIVe siècle ; 10 – la porte du Havre, XIVe siècle ; 11 – la porte de Vonitica, seconde moitié du XIVe siècle ; 12 – le bazar avec caravansérails, XIVe siècle ; 13 – la dite « Tour de Clément » (Pape Clément VI), environ 1325–1375 ; 14 – la dite « Tour de Crisco » ou la Tour de Christ (Torre Cristi=Torre Christi), environ 1325–1375. Le prototype de la carte a été réalisé par Dmytro Vortman (Kyiv).

Fig. 31. Feodosiya / Caffa, atelier fouillé en 1975–1976 (d'après Peters 1975, 242, 257, 260, Figs. 177 ; 203/2 ; 206 ; 1976, 51, 52, Figs. 190/1 ; 191/1).

Fig. 32. Feodosiya / Caffa, atelier fouillé en 1975–1976 : 7, 8 – supports tripodes ; 2 – déchet de fabrication ; 3-10 – céramiques finies (d’après Peters 1975, 136, 138, 140, 143, Figs. 11, 13, 15, 18 ; 1976, 33, 40, 44, 45, 50, Figs. 173, 179, 183, 184, 189).

Fig. 33. Feodosiya / Caffa, références locales (BYZ65,66) et céramiques glaçurées finies (BYZ58-64) provenant de différentes années des fouilles archéologiques de Caffa, sélectionnées pour une étude archéométrique. Les échantillons sont indiqués par leur numéro mis au laboratoire de Lyon. Photographies de Y. Montmessin, dessins des auteurs.

Fig. 34. Feodosiya / Caffa, tessons provenant des fouilles archéologiques de Caffa observés sous des lunettes binoculaires.

Fig. 35. Céramiques du sous-groupe de Caffa provenant des fouilles archéologiques d’autres sites de Crimée : BYZ299, 327, 311, 315, 316 – Chersonèse, contexte inconnu ; BZY66, BZY67, BZY725, BZY727 – Alushta médiévale, contextes des XIVe et XVe siècles. Les échantillons sont indiqués par leur numéro mis au laboratoire de Lyon.

Fig. 36. Céramiques du sous-groupe de Caffa provenant des fouilles archéologiques de la forteresse de Funa, contexte du XVe siècle. Les échantillons sont indiqués par leur numéro mis au laboratoire de Lyon.a

Fig. 37. Céramiques du sous-groupe de Caffa provenant des fouilles archéologiques d’Alushta et de Funa : BZY729, BZY730, BZY732 – Alushta médiévale, contextes du XVe siècle ; BZY735, BZY743 – forteresse de Funa, contexte du XVe siècle. Les échantillons sont indiqués par leur numéro mis au laboratoire de Lyon.

Fig. 38. Céramiques du sous-groupe de Caffa provenant des fouilles archéologiques d’Alushta et de Funa : BZY731 – Alushta médiévale, contextes du XVe siècle ; BZY736, BZY738 – forteresse de Funa, contexte du XVe siècle. Les échantillons sont indiqués par leur numéro mis au laboratoire de Lyon.

Fig. 39. Céramiques du sous-groupe de Caffa provenant des fouilles archéologiques d’Alushta médiévale, contextes de la fin du XIVe et du XVe siècle. Les échantillons sont indiqués par leur numéro mis au laboratoire de Lyon.

Fig. 40. Céramiques du sous-groupe de Caffa provenant des fouilles archéologiques d’autres sites de Crimée, tessons observés sous des lunettes binoculaires. Les échantillons sont indiqués par leur numéro mis au laboratoire de Lyon.

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