

THE LATE BRONZE AGE SETTLEMENT AT ŞAGU AND THE EARLY USE OF THE CHanneLED POTTERY

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Keywords: Lower Mureş Basin, LBA, channelled-decorated pottery, Cruceni-Belegiş, absolute chronology.

(Abstract)

The new radiocarbon dates coming from the Late Bronze Age settlement in Şagu-*Site A1_1* offer a new perspective on the emergence and distribution of channelled pottery. The association of radiocarbon dates with pottery coming from clear contexts proves that channelled pottery appeared in significant amounts as early as the 16th century BC. This circumstance also has an impact on the inner chronology of the Cruceni-Belegiş pottery, with the new available data outlining once more the lack of a clear definition regarding the evolution of this pottery style. At the same time, this early dating of the channelled pottery uncovered in Şagu leads to a reassessment of the origin and distribution patterns of this pottery decoration technique within the entire eastern Carpathian Basin.

Introduction

One of the most significant gaps in our knowledge of the Late Bronze Age (LBA) in the Intra-Carpathian region is represented by the absence of a chronology based on radiocarbon dates. Furthermore, the parallel use of radiocarbon dates and of relative chronologies established based on the evolution of pottery specific to different archaeological cultures has led to numerous confusions and misunderstandings.¹ Additionally, there are other factors that lead to confusions, such as, for example, the lack of definitions and a clear outlining of the criteria used to define a pottery style, which is usually assumed to be the same as an archaeological culture, or the absence of associations between radiocarbon dates and the corresponding pottery uncovered in specific sites.

The aforementioned problems are also encountered in the Lower Mureş Basin, a micro-region located in the lowlands, between the Apuseni Mountains and the Tisza River. Within the complex landscape of the LBA in this micro-region there are several sites that stand out, sites that shortly after being investigated became representative for the LBA in the area: Sântana-*Cetatea Veche*,² Corneşti-*Iarcu*,³

Gradişte Idoş,⁴ Csánadpalota-*Földvár*,⁵ and the cemetery from Tápé-*Széntégláégető*.⁶ The settlement from Şagu-*Site A1_1* can be added to this list of sites; this settlement stands out not only due to its large size, but also through the frequency and diversity of the archaeological assemblage uncovered within. The most frequently encountered find at Şagu is by far the pottery, which can be analysed in detail from a typological and morphological perspective.

The radiocarbon dates coming from Şagu along with the associated pottery enable the study of the evolution of the pottery uncovered within this settlement. Several lines of evidence indicate that channelled decoration was widespread in this site as early as the 16th century BC. This early dating of features containing channelled pottery in association with incised pottery offers a new perspective on the evolution of LBA pottery in the micro-region, and bears strong implications on the dating of other pottery styles from the entire Intra- and Extra- Carpathian region.

Setting and background

The use of channelled decoration can be traced back to the Middle Bronze Age (MBA) (c. 2000–1600/1500 BC). In the Romanian part of Banat, the pottery style termed Corneşti-Crvenka is

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¹ See also Gogâltan 2019.

² Sava *et alii* 2019; Gogâltan *et alii* 2019.

³ Szentmiklósi *et alii* 2011; Krause *et alii* 2019.

⁴ Molloy *et alii* 2020.

⁵ Szeverényi *et alii* 2017.

⁶ Trogmayer 1975.

encountered at this time.⁷ To the north, the Mureş/Maros pottery is found in the Lower Mureş Basin,⁸ the Otomani-Füzesabony cultural complex can be encountered in Crişana and the Carei plain,⁹ while in Transylvania the Wietenberg pottery style is widespread.¹⁰ Although channelled decoration was not predominant during the MBA, it was nevertheless encountered in certain contexts. A more substantial use of channelled decoration can be observed in the Mureş milieu, especially in the upper layers from Pecica-Şanţul Mare.¹¹ The same phenomenon can also be encountered in western Romania north of the Mureş River in the last phases of the Otomani-Füzesabony pottery style,¹² as well as in the Suci de Sus I group from the Sătmăr Plain.¹³

Subsequently, during the LBA, channelled decoration becomes the predominant pottery decoration technique in the Intra-Carpathian region and surrounding areas. In Banat, after the MBA tell settlements were abandoned, we witness the emergence of the Cruceni-Belegiş pottery style, which is characterised in its early phases by the use of pseudo-cord and incised decoration, and in its late phase by the use of channelled decoration.¹⁴ In the mountainous areas of Banat the Balta Sărată pottery style is encountered at this time, which combines pottery elements specific to the Cruceni-Belegiş, Pişcolt-Cehăluţ/Hajdúbagos and late Wietenberg styles; in a later phase of the LBA, the Susani-Bobda pottery is encountered in central Banat.¹⁵ In the regions lying close to the central and southern Tisza Plain, we are witnessing the influences of the so-called Tumulus Culture.¹⁶ In north-western Romania (Crişana, the Someş Plain and the Sătmăr Depression) Suci de Sus and Pişcolt-Cehăluţ/Hajdúbagos pottery styles are predominant, both continuing earlier MBA traditions, with channelled decoration being widespread among these styles.¹⁷ In a later chronological phase, the aforementioned pottery styles from the central and north-eastern Tisza Plain and the Lower Körös Basin are replaced by the Pre-Gáva

and Proto-Gáva styles.¹⁸ The Lăpuş pottery style is widespread in the mountainous regions of north-western Romania,¹⁹ while in the karstic area of Crişana we encounter the Igriţa pottery style.²⁰ In Transylvania, the MBA Wietenberg pottery continues to be used until about 1500/1400 BC, even if after 1600 BC the Noua pottery style spreads in eastern Transylvania.²¹ The combination of the two aforementioned styles is known as Gligoreşti-type pottery in previous publications.²² The spread of Gáva or Gáva-Holíhrady pottery brings about a homogenisation of the pottery over large areas, with channelled decoration becoming the predominant ornamental technique.²³

The settlement at Şagu – Site A1_1

The settlement at Şagu – Site A1_1 stands out among the many LBA sites in the Lower Mureş Basin.²⁴ The site is located in the high Vinga Plain (Fig. 1). Although the settlement is known to archaeologists since the 1980s, it was only in 2010 that large-scale excavations were undertaken at the site.²⁵ Surface surveys indicate that the site extended over an area of approximately 23 ha. Within the excavated area (28.800 m²), a number of 306 LBA features have been unearthed (Fig. 2).

Various finds allow for the reconstruction of the economic life of this settlement. The archaeozoological analysis indicates the predominance of cattle and pig at the site.²⁶ Complementary to animal rearing, the discovery of a butter churn suggests that activities related to the exploitation of secondary animal products were also undertaken at Şagu.²⁷ Numerous quern stones found within the entire settlement are proof of intense agricultural activities.²⁸ A pottery kiln with vessels preserved in situ located next to a clay extraction pit, alongside the numerous pottery sherds unearthed here, provide evidence for local pottery production. Besides

⁷ Gumă 1997; Gogăltan 1999; Gogăltan 2004.

⁸ Soroceanu 1991.

⁹ Molnár 2014; Fazecaş, Gogăltan 2019.

¹⁰ Boroffka 1994; Balan *et alii* 2016.

¹¹ Soroceanu 1991, Abb. 13/b.

¹² Molnár 2014, graphic 35.

¹³ Pop 2009.

¹⁴ Gumă 1993; Gumă 1997.

¹⁵ Gumă 1997.

¹⁶ Sánta 2011; Sánta 2017.

¹⁷ Kemenczei 1984; Kacsó 1990; Marta 2009; Némethi 2009; Marta 2010.

¹⁸ Szabó 2017.

¹⁹ Kacsó 2001; Metzner-Nebelsick *et alii* 2010; Kacsó 2011.

²⁰ Chidioşan – Emödi 1982; Chidioşan – Emödi 1983; Andrişoiu 1992.

²¹ Ciugudean – Quinn 2015.

²² Gogăltan – Popa 2016.

²³ László 1994; Leviţki 1994; Pankau 2004; Bader 2012; Szabó 2017; Kósa 2018.

²⁴ Sava – Gogăltan 2019.

²⁵ Sava *et alii* 2011.

²⁶ The archaeozoological analysis was undertaken by Xenia Pop.

²⁷ Sava 2014.

²⁸ The analysis of the macro-lithic assemblage was undertaken by Anna Priskin.

these economic activities, metalworking was also attested at the site. Metalworking debris has been uncovered within 12 pits of various shapes and sizes. The evidence of metalworking consists of 42 casting moulds, out of which 14 were made of sandstone and 28 were made of clay, 18 crucible fragments that still have metal adhering to their surface, 9 casting cores, and slag residues. Additionally, excavations at the site have yielded 19 small bronze artefacts whose weight only amounts to 45 grams.²⁹ Furthermore, an installation that was probably used for smelting ores has also been unearthed. Besides these findings of an economic nature, excavations at the site have also led to the occasional discovery of funerary finds. For example, a lidded vessel contained the cranium of a foetus (8–8.6 months old).³⁰

The description of features with AMS radiocarbon dates (Fig. 3)

Feature **cx. 26** is an almost circular pit, with straight walls and a flat base, located at the north-eastern edge of the settlement. The fill of the pit consisted of two layers: 1. dark-grey soil mixed with numerous daub fragments, and 2. dark-grey soil of an ashy consistency with numerous yellow clay intrusions. Most of the finds (pottery sherds Pl. 17–19, hearth fragments, grindstone fragments, animal bones, and a miniature bronze axe) were unearthed within the second layer, from where the RoAMS 990.80 sample was also taken.

Pit **cx. 35** was uncovered in approximately the same area of the site. The pit had a circular shape, with a straight southern wall, and a northern wall displaying a step. Numerous artefacts came to light from the fill of the pit: pottery sherds (Pl. 11–14), loom weights, hearth walls, the pointed end of a bronze pin, daub fragments and animal bones. The fill of the pit consisted of two layers: 1. grey-yellowish soil mixed with numerous daub fragments and 2. grey-yellowish soil. Sample RoAMS 991.80 was taken from the first layer.

The pit **cx. 71** had an almost oval shape, with slightly arched walls and a flat base. The fill consisted of two layers: 1. dark-grey soil, with few fragments of daub, containing pottery sherds and animal bones; 2. grey-yellowish soil mixed with daub and charcoal fragments, of a clayish consistency, with numerous calcareous concretions. Several

pottery sherds (Pl. 1–2) and animal bones have been unearthed within the pit. The second layer of the pit was framed in the southern and south-eastern parts by a consistent dark-grey clay layer mixed with a few fragments of daub and charcoal; at the base of this layer there was a clay casting mould for socketed axes and three fragments of a crucible that still had metal adhering to their inner surfaces. The sample RoAMS 992.80 was taken from the second layer.

Pit **cx. 93** had an oval shape, with slightly oblique walls and a flat base. The three layers that made up the fill of the pit had the following properties: 1. dark-grey soil mixed with daub and charcoal fragments, of an ashy consistency; 2. dark-brown soil, that had in its middle a layer of grey soil (3). On the base of the pit, within the second layer, numerous pottery sherds (Pl. 4–10), animal bones, decorated daub fragments, grindstone fragments and a stone axe have been unearthed. The sample RoAMS 993.80 was taken from this layer.

Sample RoAMS 994.80 was taken from the circular-shaped pit with slightly oblique walls and flat base termed **cx. 236**. The fill of this pit has a grey colour with yellow clay intrusions; it was mixed with few fragments of daub and charcoal and had a clayish consistency. Several pottery sherds, animal bones, a bronze pendant, and a bronze *saltaleone* fragment have also been uncovered in the fill of the pit.

Cx. 291 is a pit with an almost rectangular shape and a concave base located close to the southern edge of the settlement. The pit had a homogenous fill consisting of a dark-brown soil; animal bones, a small bronze ornamental disk, several pottery sherds (Pl. 3), and a restorable vessel have been uncovered within the pit. Sample RoAMS 995.80 was taken from the fill of this pit.

All the AMS samples from Şagu-*Site A1_1* have been taken from animal bones belonging to the *Ruminantia* taxon.

The chronology of the features and the pottery

Following the analysis of the pottery assemblage uncovered during excavations carried out at Şagu, a number of six features have been selected for radiocarbon dating; the samples were taken from animal bones. The aforementioned features yielded 270 pottery sherds, and a few complete pottery vessels (Fig. 4).

These six features have been selected based on relative typo-chronological criteria characteristic to the evolution of the Cruceni-Belegiş pottery

²⁹ Sava *et alii* 2012.

³⁰ Sava *et alii* 2011, 80–84, Fig. 153–158; Andreica 2012; Urák *et alii* 2015.

style,³¹ so as to cover the entire chronological evolution of the settlement. Thus, from a relative chronological perspective, features cx. 71, cx. 236, and cx. 291 would belong to the first phase of the Cruceni-Belegiș pottery style (dominated by incised decoration), feature cx. 93 would belong to an intermediary stage between phases I and II, while features cx. 35 and cx. 26 could be assigned to the second phase. It should be mentioned that pseudo-cord decoration, a defining element of the Cruceni-Belegiș I pottery, is entirely absent from the 306 LBA features at Șagu.³² Furthermore, the radiocarbon dates obtained (Tab. 1) significantly alter the absolute dating of this pottery style, and cast serious doubts over the criteria employed for defining the various phases of the Cruceni-Belegiș pottery.

the same time, other aspects related to the morphology of the pottery assemblage from Șagu will also be briefly discussed.

The designations employed for pottery shapes, decoration techniques and ornamental motifs have been adopted from a paper dealing with the main characteristics of the LBA pottery from the entire Lower Mureș Basin³⁴.

Pottery shapes

Six main pottery shapes have been identified within the aforementioned features. It can be easily noticed that the most widespread vessel types are the dishes, followed by cups (Fig. 7).

Taking into account the frequency of the various vessel types within the features, alongside with their dating, a chronological scheme of their evolu-

No.	Site	Feature no.	Lab no.	Age 14C [BP]	±	Calibration value 2σ	Mean	Material
1	Șagu-Site A1_I	cx. 71	RoAMS 992.80	3312	26	cal BC 1660–1517	cal BC 1581	animal bone
2	Șagu-Site A1_I	cx. 291	RoAMS 995.80	3275	30	cal BC 1626–1497	cal BC 1557	animal bone
3	Șagu-Site A1_I	cx. 93	RoAMS 993.80	3204	28	cal BC 1526–1422	cal BC 1472	animal bone
4	Șagu-Site A1_I	cx. 35	RoAMS 991.80	3185	33	cal BC 1521–1406	cal BC 1461	animal bone
5	Șagu-Site A1_I	cx. 236	RoAMS 994.80	3177	29	cal BC 1505–1408	cal BC 1454	animal bone
6	Șagu-Site A1_I	cx. 26	RoAMS 990.80	3079	29	cal BC 1416–1265	cal BC 1342	animal bone

Tabel 1. List of the LBA radiocarbon dates from Șagu_Site A1_I

The six radiocarbon dates presented above, indicate that the site was in use beginning with the 16th century until the end of the 14th–13th century cal BC (Fig. 5–6). However, pottery discovered in some contexts indicates that the settlement may have survived until the end of the 13th century BC, at the latest 12th century BC. In this context it should be noted that existing data indicate that the most numerous traces of settlement activity belong to the 16th–14th centuries BC.

Analysis of the pottery

Taking into account that channelled decoration is encountered in a very high percentage in virtually all of the analysed features, a fact that is clearly in contrast with previous held opinions,³³ I will consequently highlight in the following the importance of employing this decoration technique. At

tion can be outlined (Tab. 2). Features cx. 71 and cx. 291, which belong to the time period ranging between c. 1600 and c. 1500 cal BC, contained a lower number of pottery sherds, as was the case for all of the features from this period uncovered at Șagu. This can probably explain why fewer vessel types have been identified, with only dishes with a straight rim (1A, 1E and 1G), pots (3A) and biconical vessels of a smaller size (4A) being encountered.

A more diversified pottery assemblage can be assigned to the period between c. 1500 and c. 1400 cal BC. Both the continued use of shapes from the previous chronological stage and the appearance of new shapes can be clearly attested. Although dishes are the most frequently encountered in terms of numbers of specimens and subtypes, cups and jars also appear in larger numbers. The dish with inverted rim (1H) and the cup with a globular belly and a handle reaching up to the rim (2B) are the most representative shapes for this phase.

For the analysis of the subsequent phase (dating between c. 1400 and c. 1300 cal BC), only the

³¹ For the evolution of the Cruceni-Belegiș pottery, the definitions and divisions in Gumă 1993 and Gumă 1997 were used.

³² Within all the excavated features a single pottery sherd with pseudo-cord decoration has been found.

³³ Gumă 1993 and Sava – Ignat 2016 with older references.

³⁴ Sava 2020.

Context	1A	1C	1D	1E	1G	1H	1I	1J	2B	2C	2G	3A	4A	6	8
Şagu-Site A1_I_ cx. 71				1	1								1		
Şagu-Site A1_I_ cx. 291	1			1								2	1		
Şagu-Site A1_I_ cx. 93				5	1	10	5		6		2	2			
Şagu-Site A1_I_ cx. 35						6	2	1						2	
Şagu-Site A1_I_ cx. 236				1	1		2					5			
Şagu-Site A1_I_ cx. 26		1	3			5				2					1

Table 2. Distribution and frequency of pottery shapes by feature

pottery uncovered in feature cx. 26 is available. Although dishes with inverted rims (1H) continue to be encountered in substantial numbers, other shapes are also being used, such as the cups with globular bellies, wide mouths and handles rising slightly above their rims (2C) and trays (8).

Pottery decoration techniques

As a result of the morphological analysis, four main pottery decorations could also be observed: incised decoration, channelled decoration, embossed decoration,

Context	1	1; 2	1; 5	2	2; 4	2; 4; 1; 5	4	4; 1	4; 1; 5	5
Şagu-Site A1_I_ cx. 71	1			6			2			3
Şagu-Site A1_I_ cx. 291	3	1	2	4					1	
Şagu-Site A1_I_ cx. 93	5			14	2	1	15	1		2
Şagu-Site A1_I_ cx. 35	2		1	18	1		5			
Şagu-Site A1_I_ cx. 236	2		2				8			
Şagu-Site A1_I_ cx. 26	1			24	4		6			2

Table 4. Distribution and frequency of the association of pottery decoration techniques by feature

Context	incisions (1)	channelled (2)	embossed decorations (4)	impressions (5)
Şagu-Site A1_I_ cx. 71	1	6	2	3
Şagu-Site A1_I_ cx. 291	7	5	1	3
Şagu-Site A1_I_ cx. 93	7	17	19	3
Şagu-Site A1_I_ cx. 35	3	21	6	1
Şagu-Site A1_I_ cx. 236	4		8	2
Şagu-Site A1_I_ cx. 26	1	29	10	2

Table 3. Distribution and frequency of pottery decoration techniques by feature

and impressed decoration. As previously mentioned, pseudo-cord decoration is absent among the pottery assemblage from Şagu; furthermore, this decoration technique is not attested in the entire northern Banat region and the Lower Mureş Basin. The most frequent decoration technique is

the channelled one, even within the earliest features (cx. 71 and cx. 291) (Tab. 3). An analysis of the association of pottery decoration techniques reveals that only a limited number of vessels have both channelled and incised decoration, this association being mostly encountered in the early phase of the settlement (Tab. 4). It can further be observed that incisions are most frequently associated with impressions, while channelled decoration is associated with embossed decoration. Although the number of pottery sherds analysed in this study is rather low, nonetheless a preference towards using embossed decoration on dishes with inverted rims (1H+4), channelled decoration on dishes with biconical bodies and constricted necks (1D+2) and large biconical vessels (6+2) can be noted (Tab. 5).

Regarding the chronological distribution of the four decoration techniques, it can be noted that a decrease in incised decoration corresponds to a gradual increase in the use of channelled decoration. However, it should be once more emphasised that channelled decoration is frequently encountered beginning with the earliest phase of the

Context	1D +2	1E +4	1H +4	1H +2; 4	1I +4	1J +2	2B +1	2G +2	2G +1; 2; 4; 5	3A +2	3A +4	3A +1; 2	3A +1; 4	3A +1; 5	4A +2	4A +1; 4; 5	6 +2
Şagu-Site A1_I_cx. 71															1		
Şagu-Site A1_I_cx. 291										1		1				1	
Şagu-Site A1_I_cx. 93		1	5				2	1	1	1			1				
Şagu-Site A1_I_cx. 35			2			1											2
Şagu-Site A1_I_cx. 236					1						1			1			
Şagu-Site A1_I_cx. 26	3		1	1													

Table 5. Distribution and frequency of the association between pottery decoration techniques and pottery shapes by feature.

settlement, becoming the predominant decoration technique in the final phase of the site (Fig. 8; 9).

Ornamental motifs

The repertoire of ornamental motifs reflects the trends outlined above, especially the higher percentage of channelled decoration at the site. Although incised ornamental motifs occur in significant numbers, ornamental motifs made by channelled decoration are the most numerous ones (Fig. 10).

Although motifs made through channelled decoration (Fig. 10), such as 2.11 and 2.12, are widespread among all the analysed features, certain preferences are noticeable for the various phases of the settlement. Within the early features cx. 71 and cx. 291 for example, motifs made by incision are predominant, such as the rows of incised arches (1.12) or the rows of short oblique incisions (1.1). Both motifs are also encountered in later features, such as cx. 93 dating to the period between c. 1526 and c. 1422 BC. However, beginning with the 15th century BC motifs made by channelled decoration such as 2.11 and 2.12 are widely used alongside those made by embossed decoration such as the conical knob (4.1), a motif used especially for decorating dishes with inverted rims (1H) (Tab. 6).

Discussion

The association of radiocarbon dates with the analysed pottery assemblage offers a new perspective on the evolution of LBA pottery. As previously mentioned (see also Fig. 5–6), the pottery here under discussion (Pl. 1–17) can be dated much earlier than originally thought. Previously, incised decoration was associated with the first phase of the Cruceni-Belegiş pottery style in Banat, while channelled decoration was associated with its second phase. However, the newly available absolute data do not support these assertions, at least not in the case of the settlement in Şagu. In the traditional relative chronology, this first phase of this pottery style was ascribed to the Bz. C stage (1400–1300

BC), while the second phase was either associated exclusively with Bz. D or was thought to end during the Ha. A1 stage.³⁵ For some researchers the end of the Cruceni-Belegiş pottery style occurred sometime during the Ha. B phase,³⁶ while other others associated the second phase of this style with the Gáva pottery.³⁷ Although no radiocarbon dates were available at the time, some researches have nevertheless dated the beginning of the Cruceni-Belegiş pottery style around 1500 BC³⁸ or during the 16th century BC,³⁹ a dating that closely resembles the results obtained in this paper. The recent radiocarbon dates coming from several Cruceni-Belegiş settlements such as Foeni-Gomila Lupului, Giroc-Mescal and Hrtkovci-Gomolava prove that the evolution of the pottery dating to the first phase took place between c. 1600 and c. 1400 cal BC (Fig. 11), while the second phase can be placed sometime between c. 1400 and 1200 cal BC (Fig. 12). A comparative analysis of the pottery assemblages coming from the aforementioned sites reveals that in most cases, with the exception of feature L.2/2206 from Giroc-Mescal, pseudo-cord decoration is frequently associated with incised and channelled decoration during the first phase of the Cruceni-Belegiş pottery style. As mentioned above (Tab. 3, Fig. 8; 9), a similar situation is encountered at Şagu, where incised decoration is associated with channelled decoration beginning with the earliest phase.

This brief overview clearly shows the absence of a clear definition of the Cruceni-Belegiş pottery style and its evolution. The lack of pseudo-cord decoration on vessels uncovered in the northern Banat region and in the Lower Mureş Basin, the association of incised, pseudo-cord and channelled decorations within numerous features beginning

³⁵ Gumă 1993; Gumă 1997; Ciugudean 2010.

³⁶ Horedt 1967a, 20; Horedt 1967b, 149; Tasić 1984; Tasić 2001.

³⁷ Bukvić 2000.

³⁸ Gogâltan 1998.

³⁹ Gogâltan 2004.

as early as the 16th century cal BC, as well as the fact that channelled decoration is the predominant pottery decoration technique at Şagu even in its earliest phases, question the traditional views concerning the evolution of the Cruceni-Belegiş pottery, as well as those regarding the evolution of LBA pottery in Banat.

As was demonstrated (Fig. 5; 6; Tab. 1), the settlement in Şagu-*Site A1_I* was established during the 16th century cal BC and continued to be in use until the 13th century cal BC. Although the number of pottery sherds analysed in this paper is rather reduced considering the large amount of pottery uncovered in the 306 LBA features from the site, the predominance of channelled pottery can be observed beginning with the early phase of the settlement in the 16th century cal BC.

The settlement in Şagu is a key site for understanding the emergence and spread of channelled pottery in the eastern Carpathian Basin. The absolute dating of features containing a large amount of channelled pottery (cx. 71 and cx. 291) represents a good starting point for discussions revolving around the spread of channelled pottery in the region. It should be noted however that the 16th century channelled pottery from Şagu continues certain elements of the MBA Mureş pottery that can be considered a precursory for the LBA channelled pottery.⁴⁰ It is also clear that some settlements from the Lower Mureş Basin contributed in the spread of channelled pottery. This phenomenon reached its peak with the emergence of the mega-forts in Sântana-Cetatea Veche and Corneşti-Iarcuri during the 15th century cal BC, sites that will ensure the spread of channelled pottery on larger areas.

Taking into account both older opinions in the existing literature on the subject and the results of the analysis undertaken in this paper, it can be stated that channelled decoration is encountered in the eastern Carpathian Basin beginning with the MBA, becoming the predominant pottery decoration technique during the subsequent LBA and the Early Iron Age (EIA). While between c. 1600 and 1450/1400 BC channelled decoration is found in rather low proportions, subsequently, during c. 1450/1400 and 1300/1250 BC it becomes the preferred decoration technique. Beginning with this chronological interval and until the end of the LBA, this technique spreads over an area covering the entire current territories of Romania, Hungary, Slovakia and the Moldavian Republic. Even during

the EIA, until the 7th century BC, channelled decoration continues to be the predominant pottery decoration technique. Parallel with this evolution of channelled decoration, a preference for certain pottery shapes such as the biconical vessels (amphora), the biconical dishes with inverted rims and the cups with handles rising above their rims can also be noticed. These shapes appeared during the MBA and continue to be in use until the EIA. However, it should also be mentioned that each region followed its own trajectory and had specific characteristics that can nevertheless be subsumed to a general trend. Although channelled pottery from the Intra-Carpathian region is commonly exclusively associated with the Gáva style,⁴¹ it should be noted that during the Gáva period we are only witnessing the peak of channelled decoration usage, this technique originating much earlier and continuing its evolution even after the disappearance of the Gáva pottery.

Acknowledgements

I am grateful to Dr. habil. Florin Gogâltan for his valuable help in correcting the manuscript and advice regarding the subject. At the same time, I would like to thank Dr. Dragoş Diaconescu for his kind advice on modeling and interpreting the radiocarbon data. Dr. Alexandra Găvan has graciously accepted to translate the text.

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⁴⁰ Soroceanu 1991.

⁴¹ Metzner-Nebelsick 2012; Dietrich 2015.

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Figure 1. The geographic location of the A1_1 Site from Şagu (the map of the Intra-Carpathian. Region was realised by H. Balász, source: <http://www.ace.hu/igcp442/maps.html>)

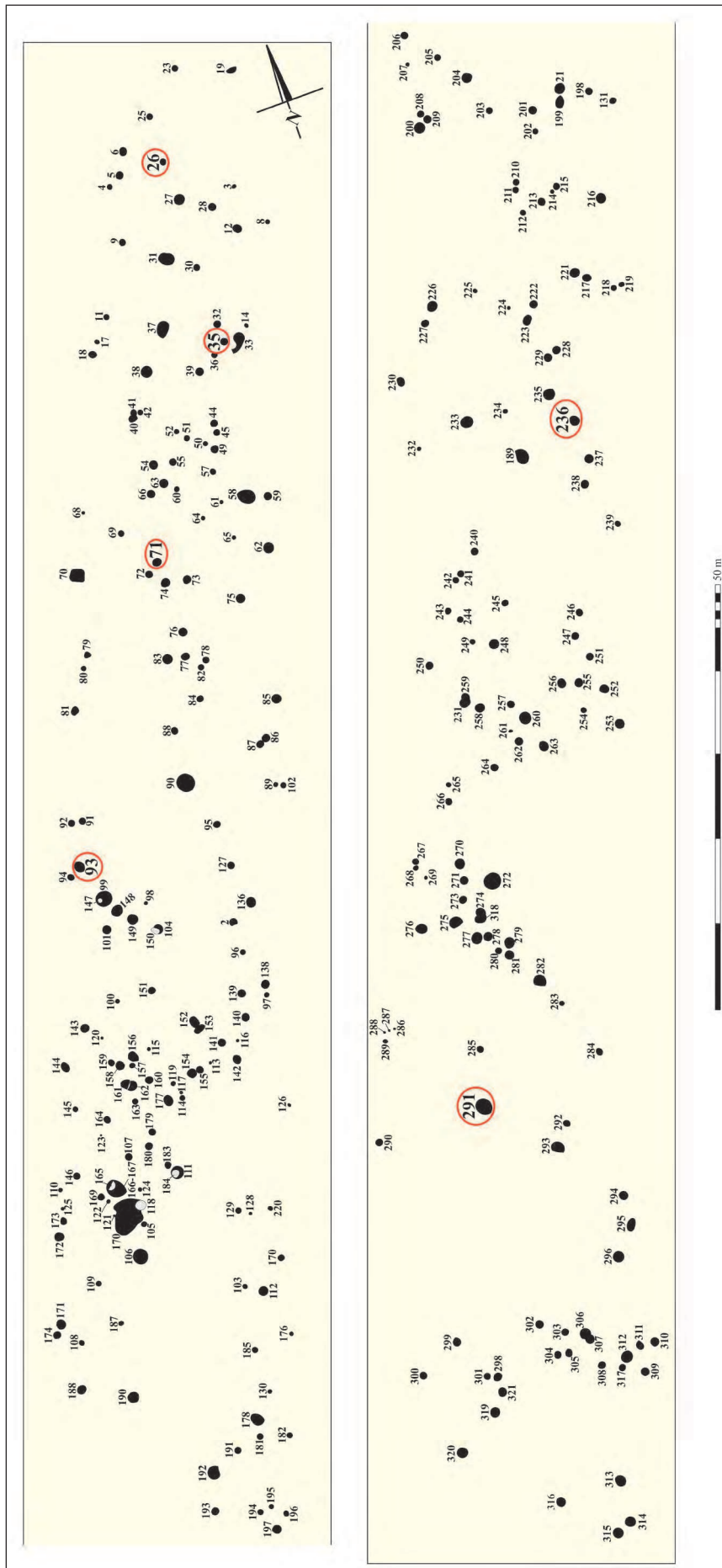


Figure 2. The topographic plan of excavations undertaken at Şagu-Site A1_1, with indication of the features from where AMS radiocarbon samples were taken (red circles) (plan by the author)

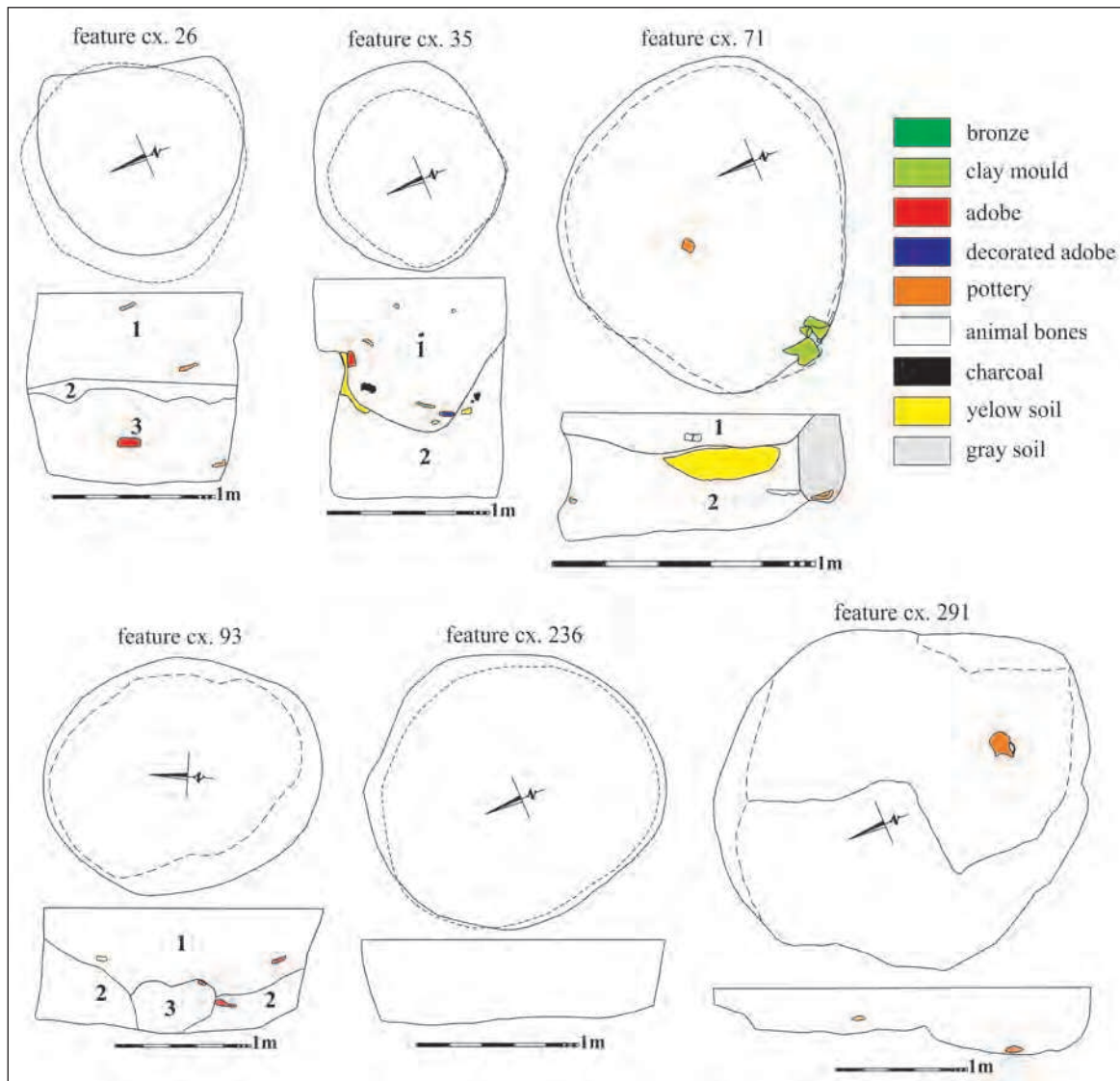


Figure 3. Drawings of the features that yielded the AMS dates (plans by the author)

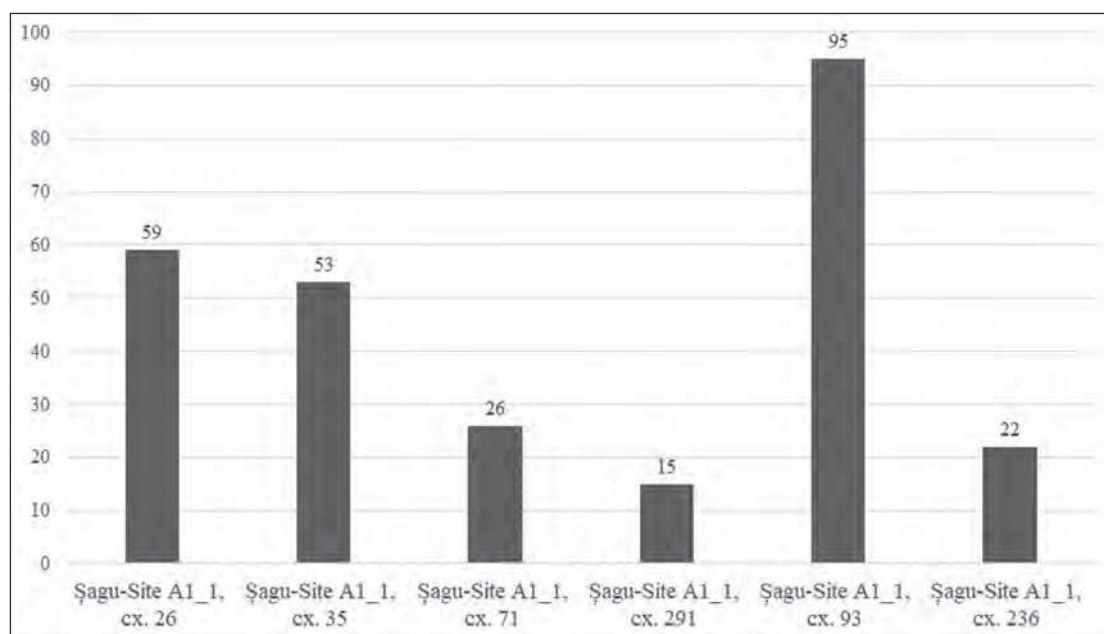


Figure 4. Distribution of the number of analysed pottery sherds by feature (graphic by the author)

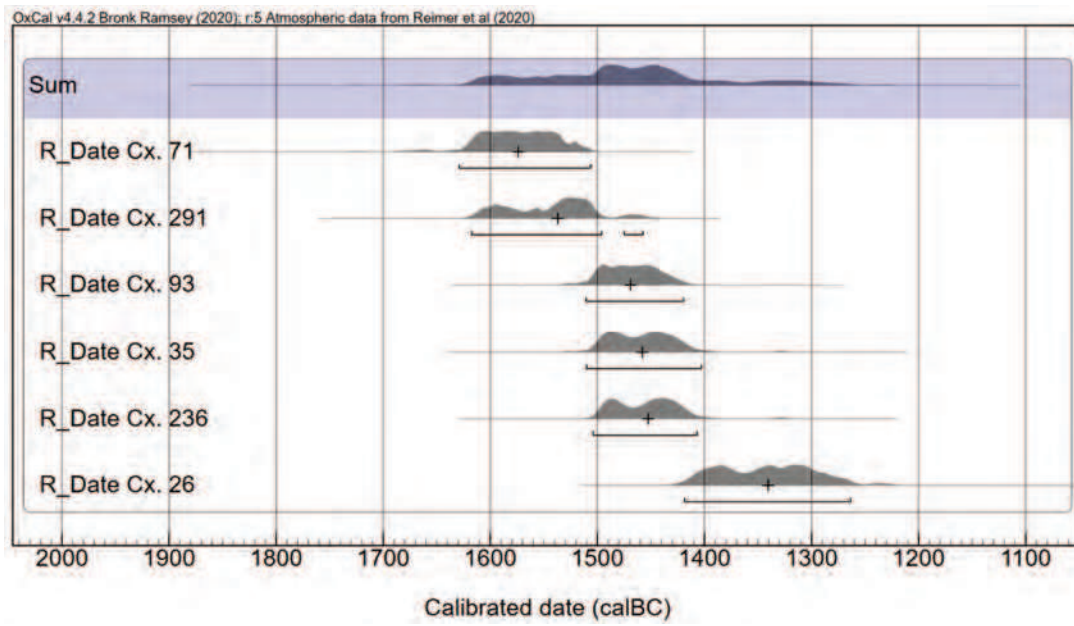


Figure 5. The calibrated AMS dates from Şagu-Site A1_1 (graphic by the author)

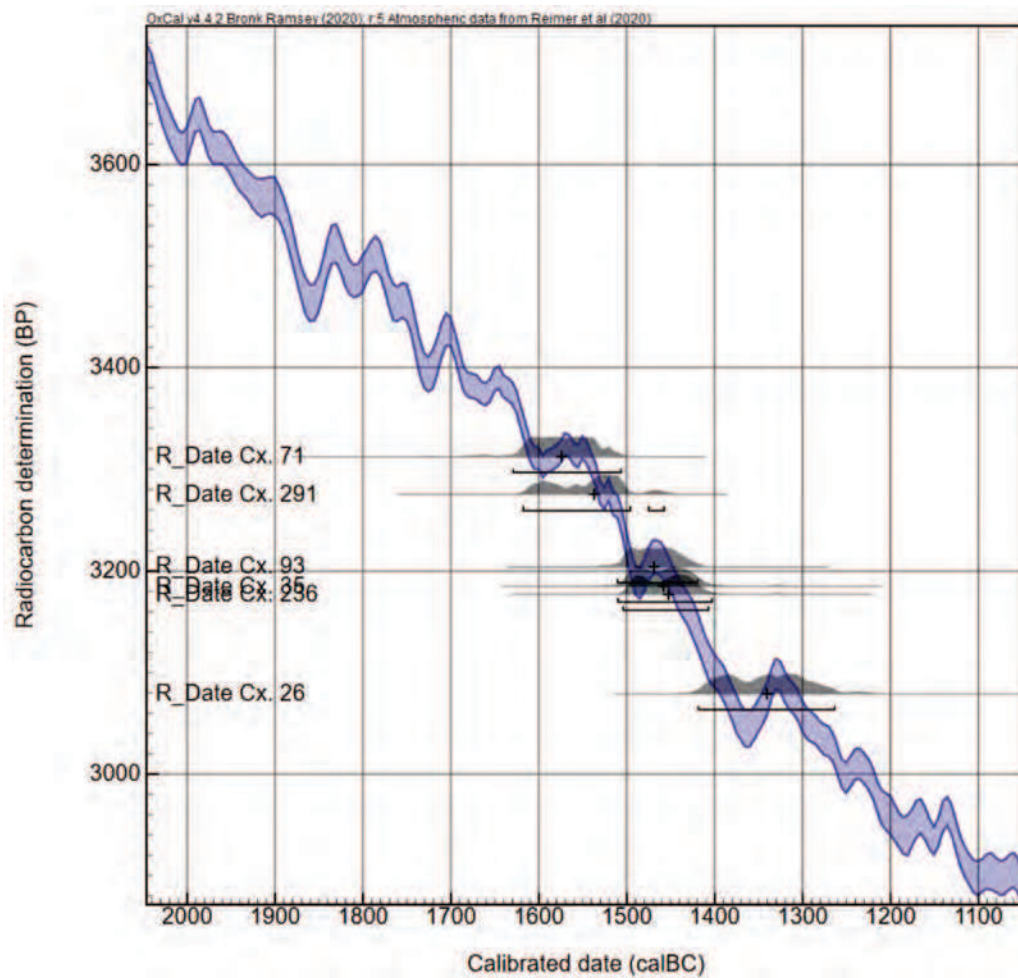


Figure 6. The AMS dates from Şagu-Site A1_1 displayed on the calibration curve (graphic by the author)

1. Dishes	<p>1A 1C 1D 1E 1G 1H 1I 1J</p>
2. Cups	<p>2B 2G</p>
3. Pots	<p>3A</p>
4. Biconical vessels	<p>4A</p>
6. Large biconical vessels	<p>6</p>
8. Trays	<p>8</p>

Figure 7. *Typological table of the pottery shapes identified in the analysed features (graphic by the author). 1. Dishes: 1A. Dish with straight rim (of a reduced size); 1C. Dish with biconical body; 1D. Dish with biconical body and a short neck; 1E. Dish with lobed rim; 1G. Dish with straight rim (of a large size); 1H. Dish with inverted rim; 1I. Dish in the shape of a truncated cone; 1J. Large dish with S-shaped profile; 2. Cups: 2B. Cup with globular belly and a handle reaching up to the rim; 2G. Cup with a globular body, wide mouth and a handle rising slightly above the rim; 2C. Cup with a globular belly, ringed base and wide mouth; 3. Pots: 3A. Pot with constricted neck; 4. Biconical vessels: 4A. Low biconical vessel with wide mouth and flaring rim; 6. Large biconical vessels with flaring rim, biconical body and flat base; 8. Trays*

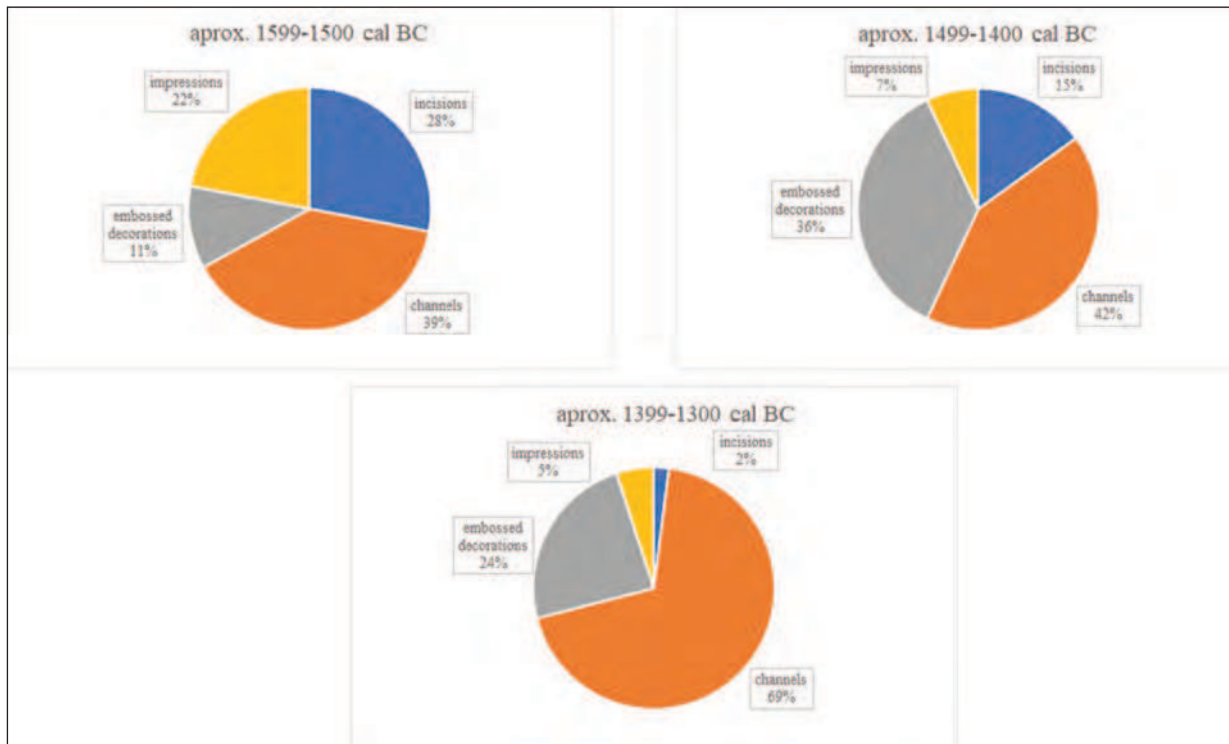


Figure 8. Chronological distribution and frequency of pottery decoration techniques by centuries (graphic by the author).

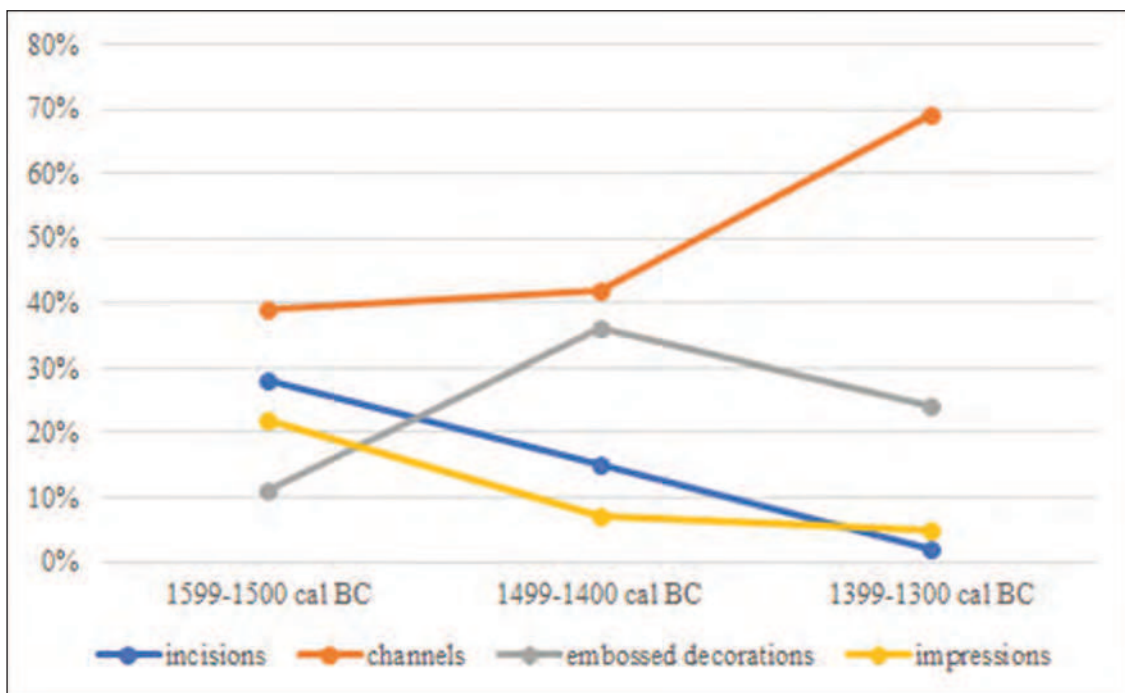


Figure 9. Chronological distribution and frequency of pottery decoration techniques (graphic by the author).

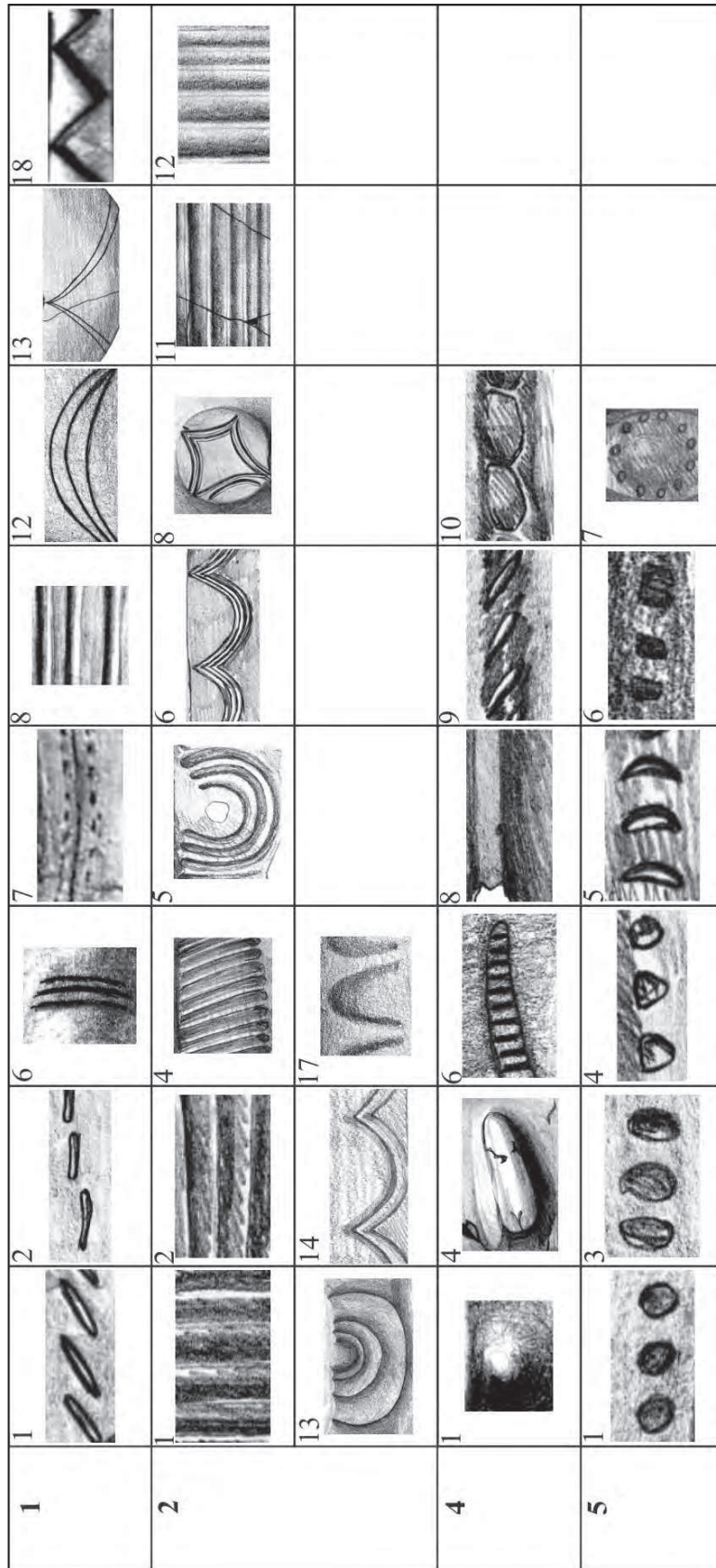


Figure 10. Typological table of the ornamental motifs identified within the analysed features (graphic by the author). **1. Incisions:** 1.1. Row of short oblique incisions; 1.2. Row of short horizontal incisions; 1.6. Row of slightly concave incisions; 1.7. Stripe made of a horizontal incision framed by small incisions; 1.8. Rows of wide horizontal incisions; 1.12. Rows of incised arches; 1.13. Incisions displayed in a star shape on the base of the vessel; 1.18. Row of narrow incisions displayed in a triangle shape; **2. Channellings:** 2.1. Narrow vertical channellings; 2.2. Narrow horizontal channellings; 2.4. Narrow oblique channellings; 2.5. Narrow channellings displayed semi-circularly; 2.6. Narrow channellings displayed in a garland pattern; 2.8. Narrow channellings displayed in a star shape on the base of the vessel; 2.11. Wide horizontal channellings; 2.12. Wide vertical channellings; 2.13. Wide channellings displayed semi-circularly; 2.14. Wide channellings displayed in a garland pattern; 2.17. Wide channellings displayed in arches; **4. Embossed decorations:** 4.1. Conical knob; 4.4. Elongated rectangular knob; 4.6. Indented rib; 4.8. Horizontal rib; 4.9. Stripe made of indentations; 4.10. Stripe made of alveoli; **5. Impressions:** 5.1. Row of circular impressions; 5.3. Row of oval impressions; 5.4. Row of small impressions shaped like an upturned triangle; 5.5. Row of crescent-shaped impressions; 5.6. Row of rectangular impressions; 5.7. Impressions displayed in a circle.

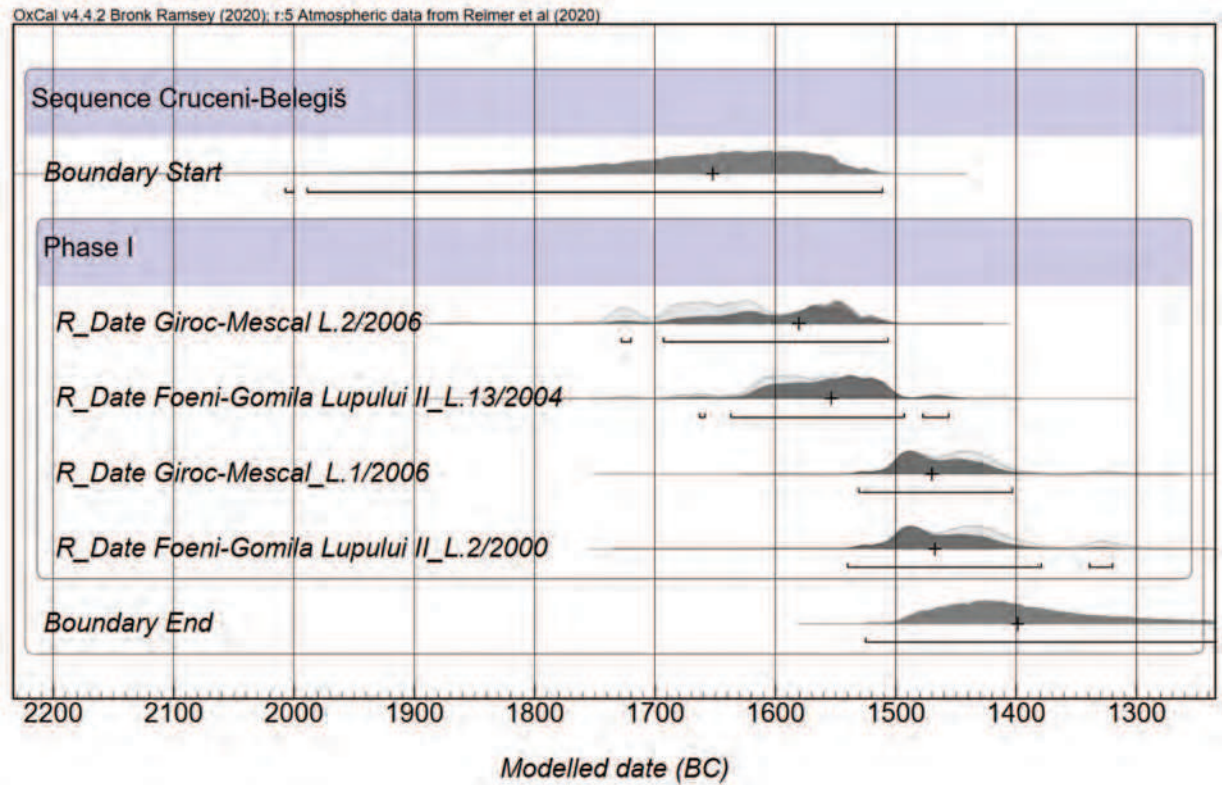


Figure 11. Calibrated AMS dates coming from features dated to the first phase of Cruceni-Belegiš (graphic by the author).

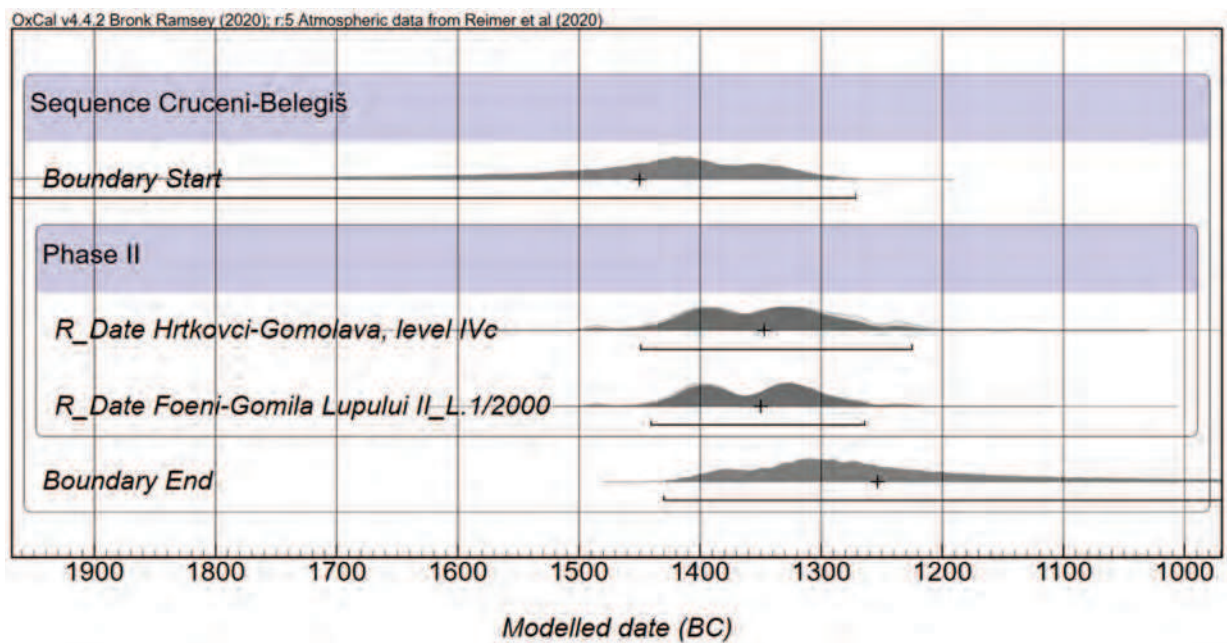


Figure 12. Calibrated AMS dates coming from features dated to the second phase of Cruceni-Belegiš (graphic by the author).



Plate 1. Characteristic pottery of the period 1660–1517 cal BC (2σ): Şagu-Site A1_1, cx. 71 (drawings by R. Tănăsache).

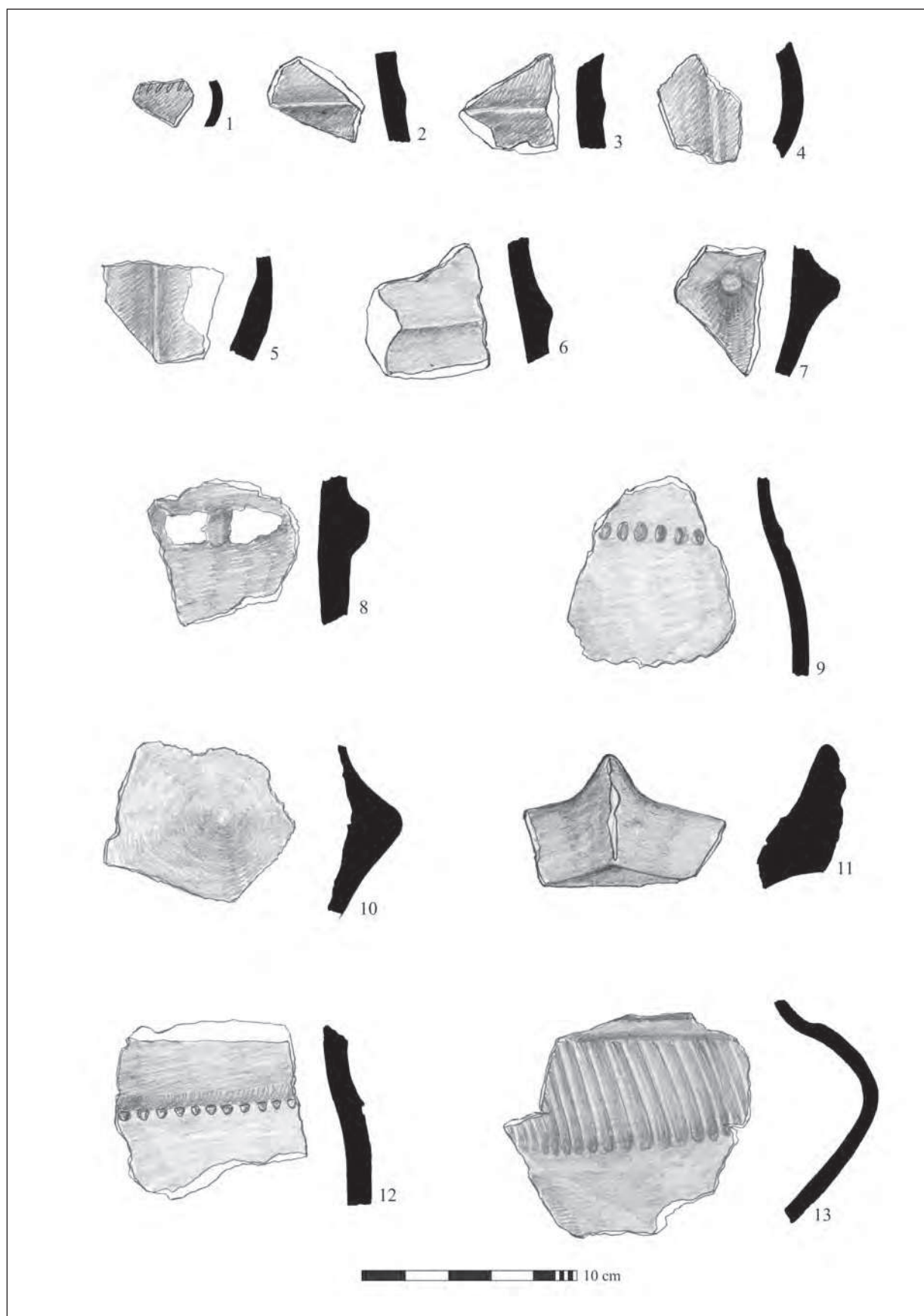


Plate 2. Characteristic pottery of the period 1660–1517 cal BC (2σ): Şagu-Site A1_1, cx. 71 (drawings by R. Tănăsache).

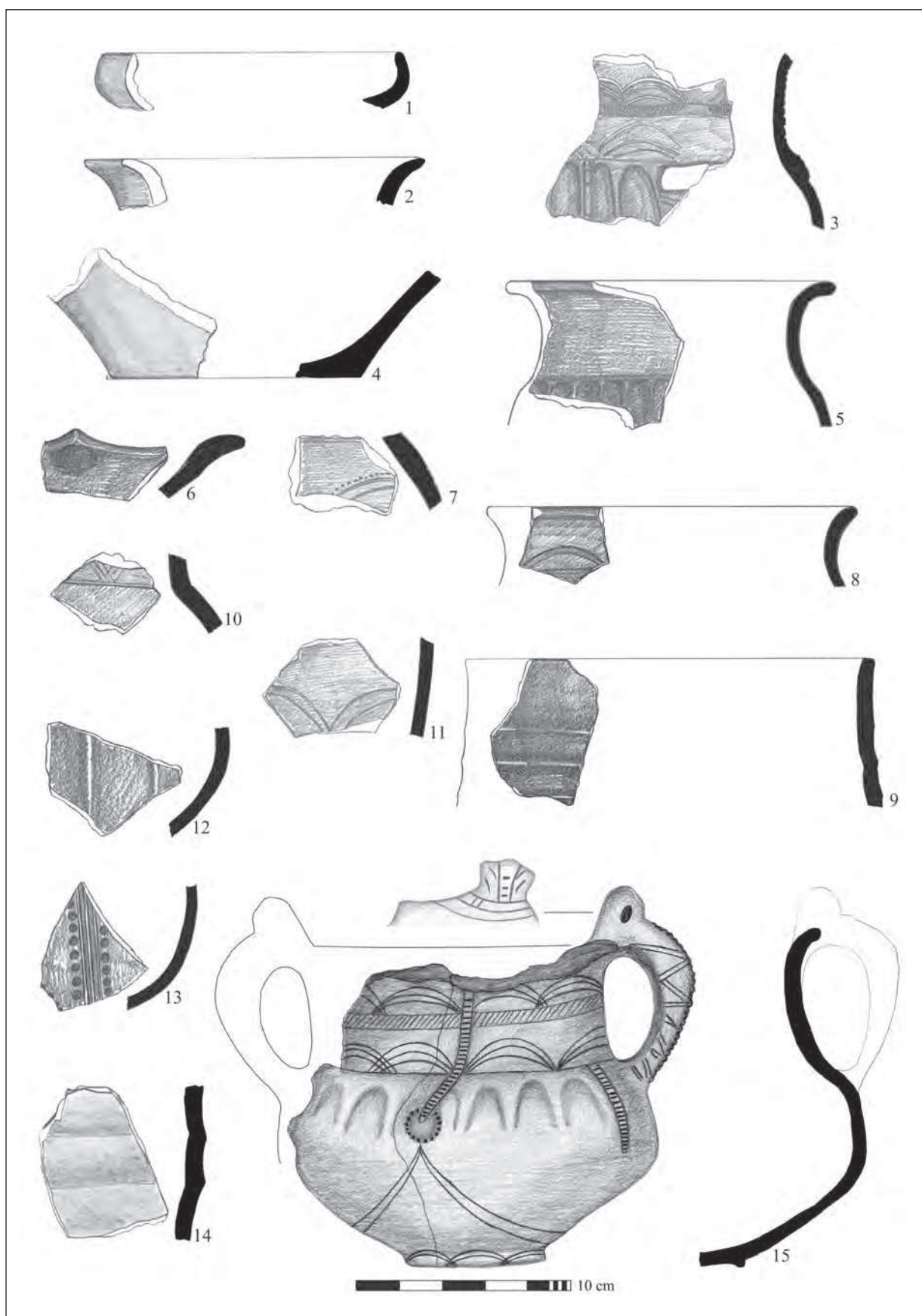


Plate 3. Characteristic pottery of the period 1626–1497 cal BC (2σ): Şagu-Site A1_1, cx. 291 (drawings by R. Tănăsache).

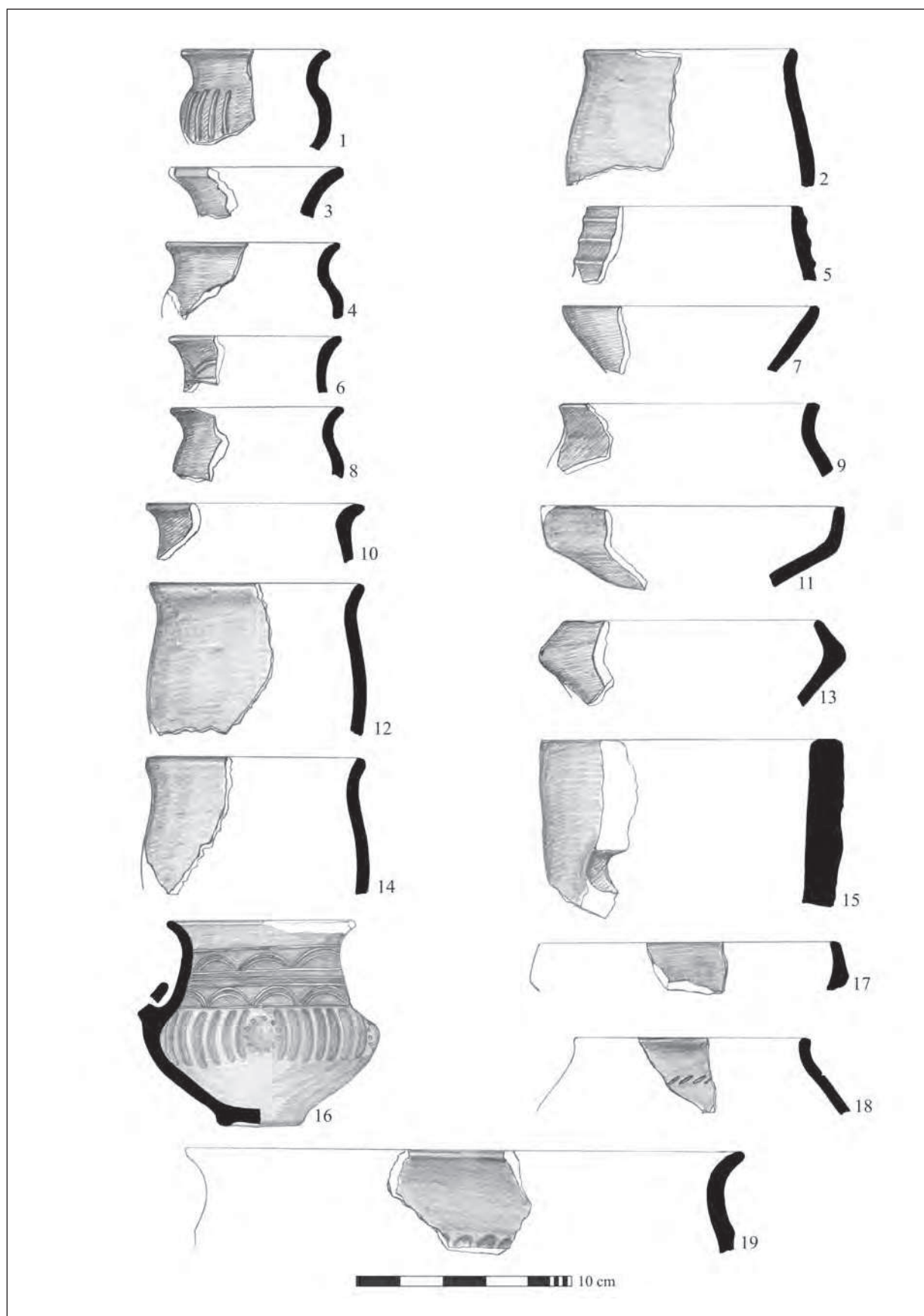


Plate 4. Characteristic pottery of the period 1526–1422 cal BC (2σ): Şagu-Site A1_1, cx. 93 (drawings by R. Tănăsache).

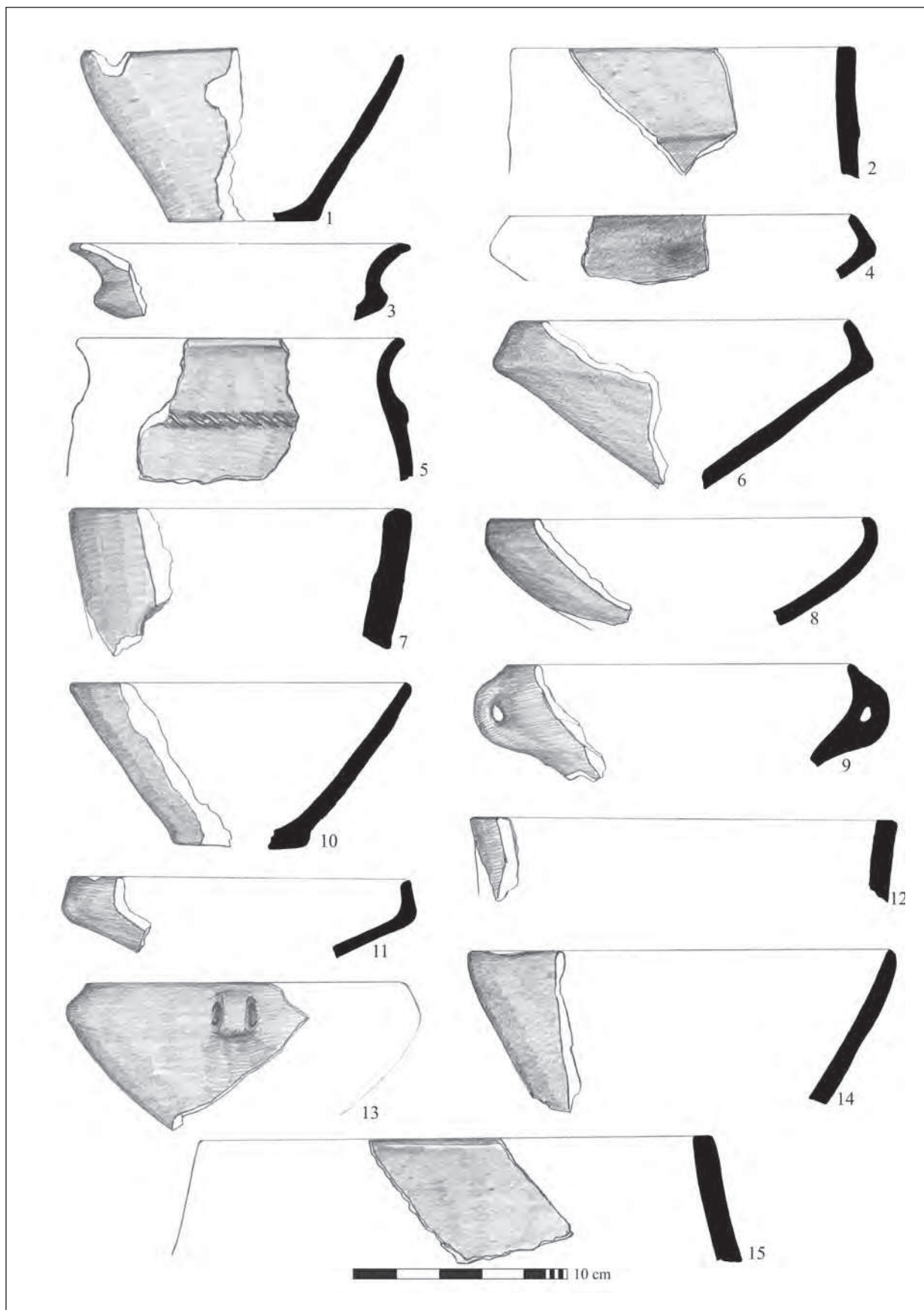


Plate 5. Characteristic pottery of the period 1526–1422 cal BC (2σ): Şagu-Site A1_1, cx. 93 (drawings by R. Tănăsache).



Plate 6. Characteristic pottery of the period 1526–1422 cal BC (2σ): Şagu-Site A1_1, cx. 93 (drawings by R. Tănăsache).

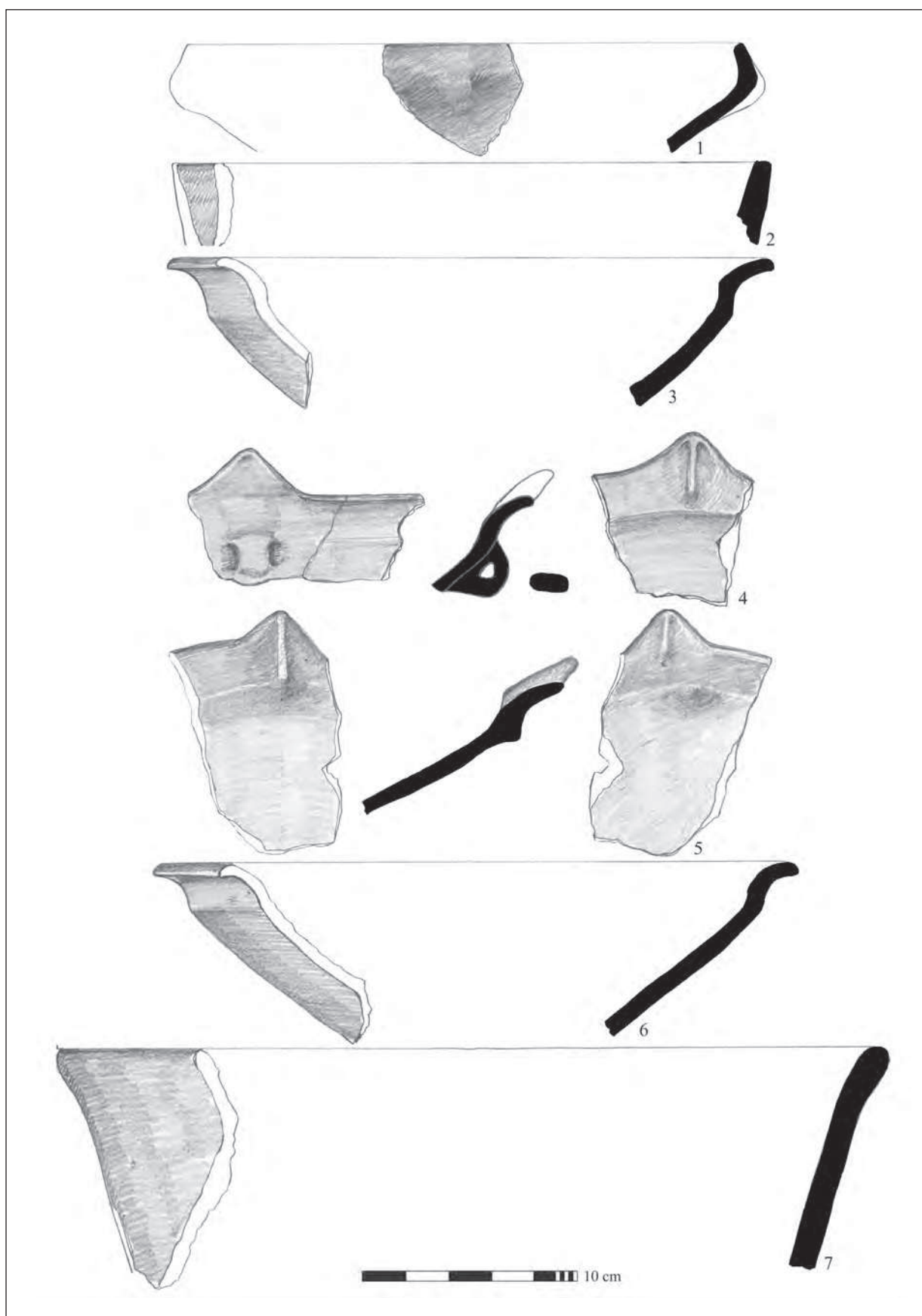


Plate 7. Characteristic pottery of the period 1526–1422 cal BC (2σ): Şagu-Site A1_1, cx. 93 (drawings by R. Tănăsache).

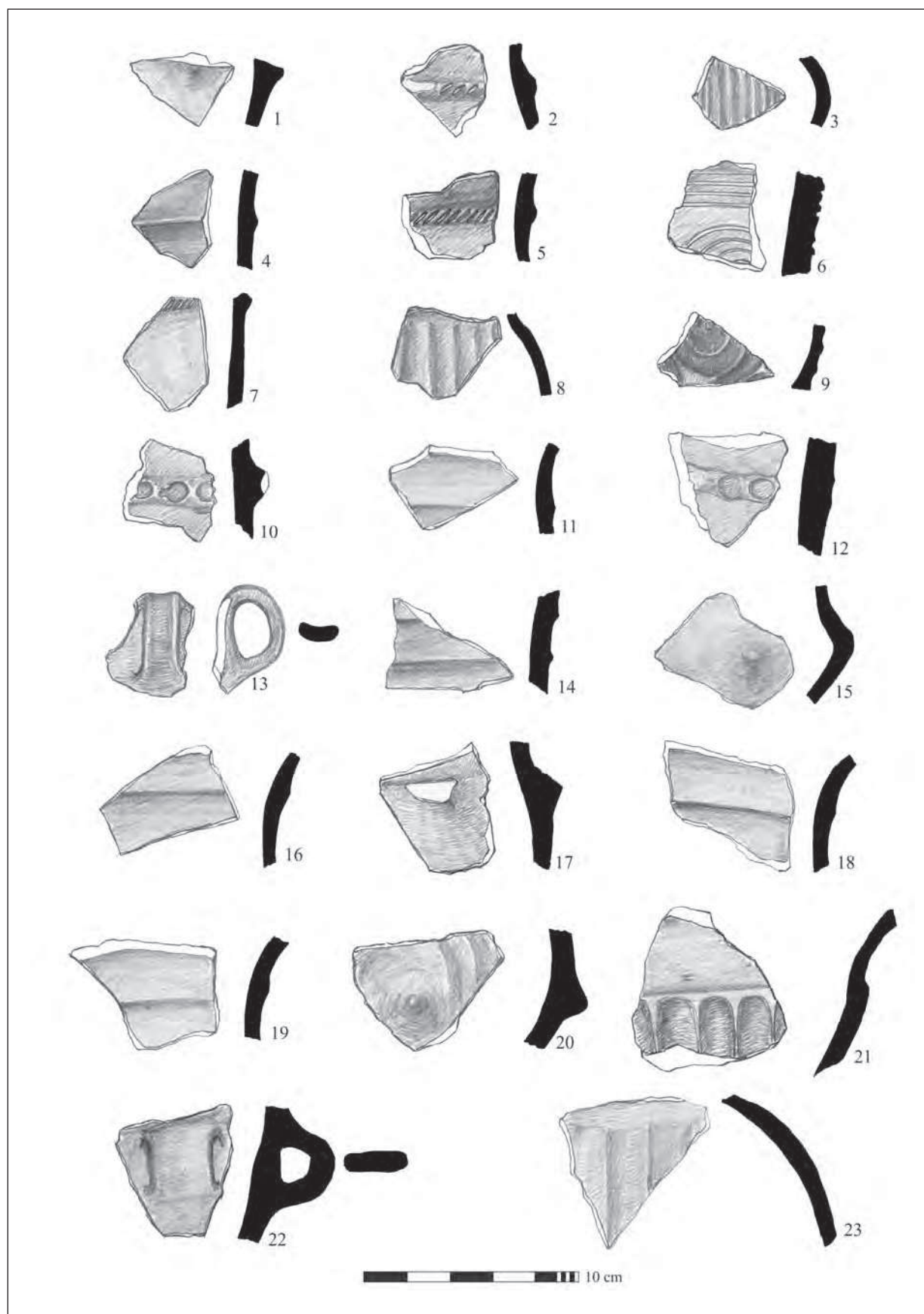


Plate 8. Characteristic pottery of the period 1526–1422 cal BC (2σ): Şagu-Site A1_1, cx. 93 (drawings by R. Tănăsache).

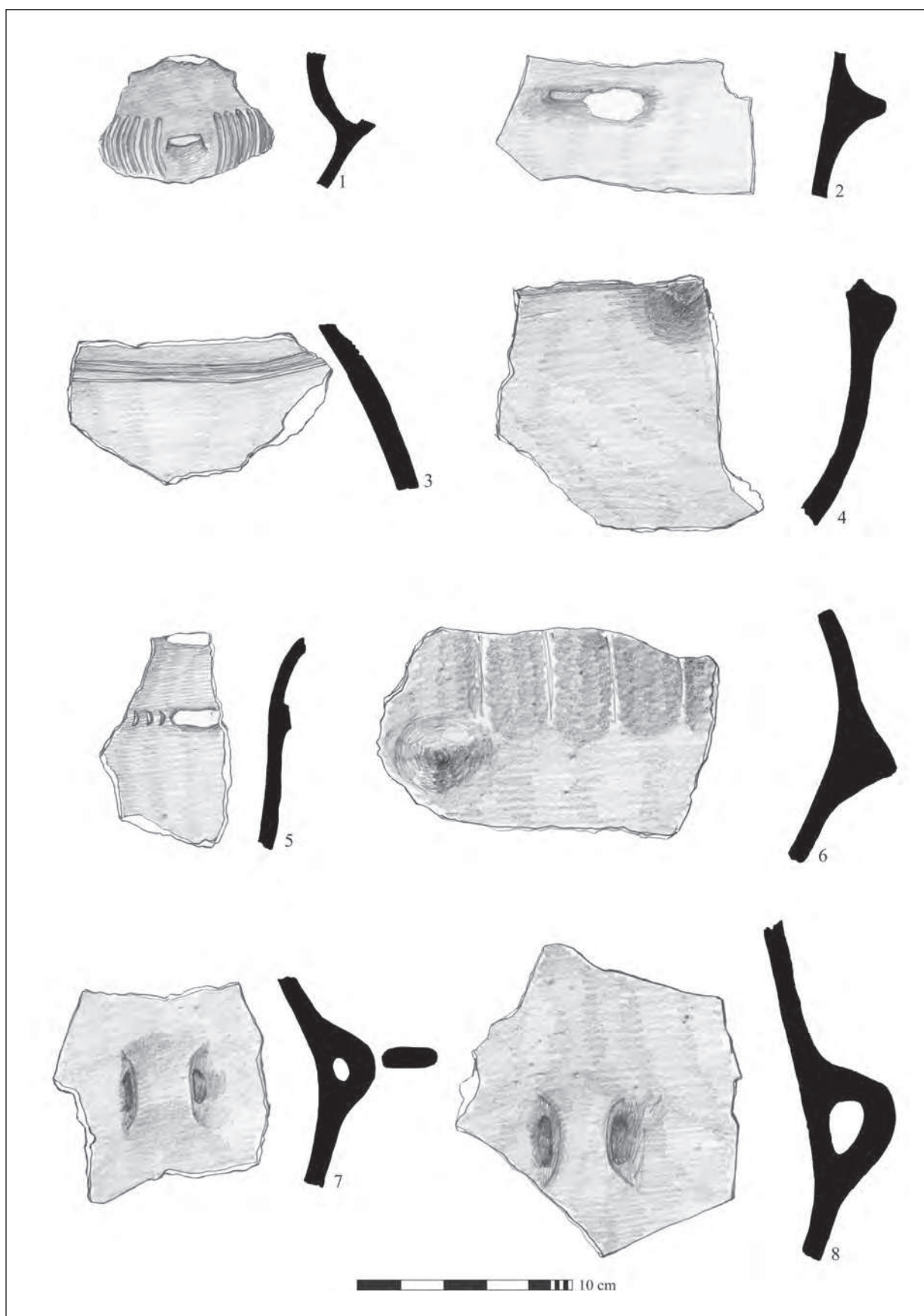


Plate 9. Characteristic pottery of the period 1526–1422 cal BC (2σ): Şagu-Site A1_1, cx. 93 (drawings by R. Tănăsache).

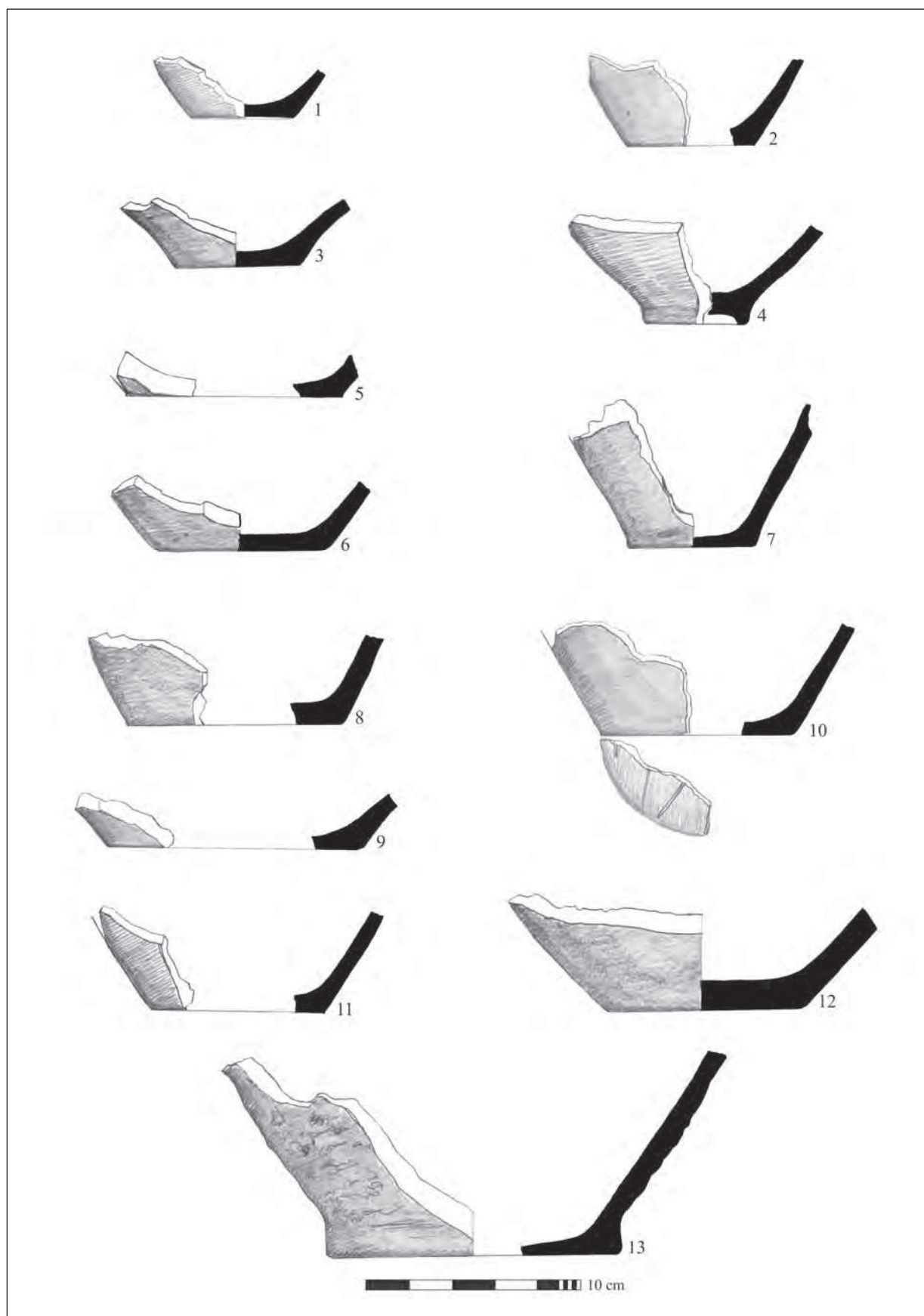


Plate 10. Characteristic pottery of the period 1526–1422 cal BC (2σ): Şagu-Site A1_1, cx. 93 (drawings by R. Tănăsache).

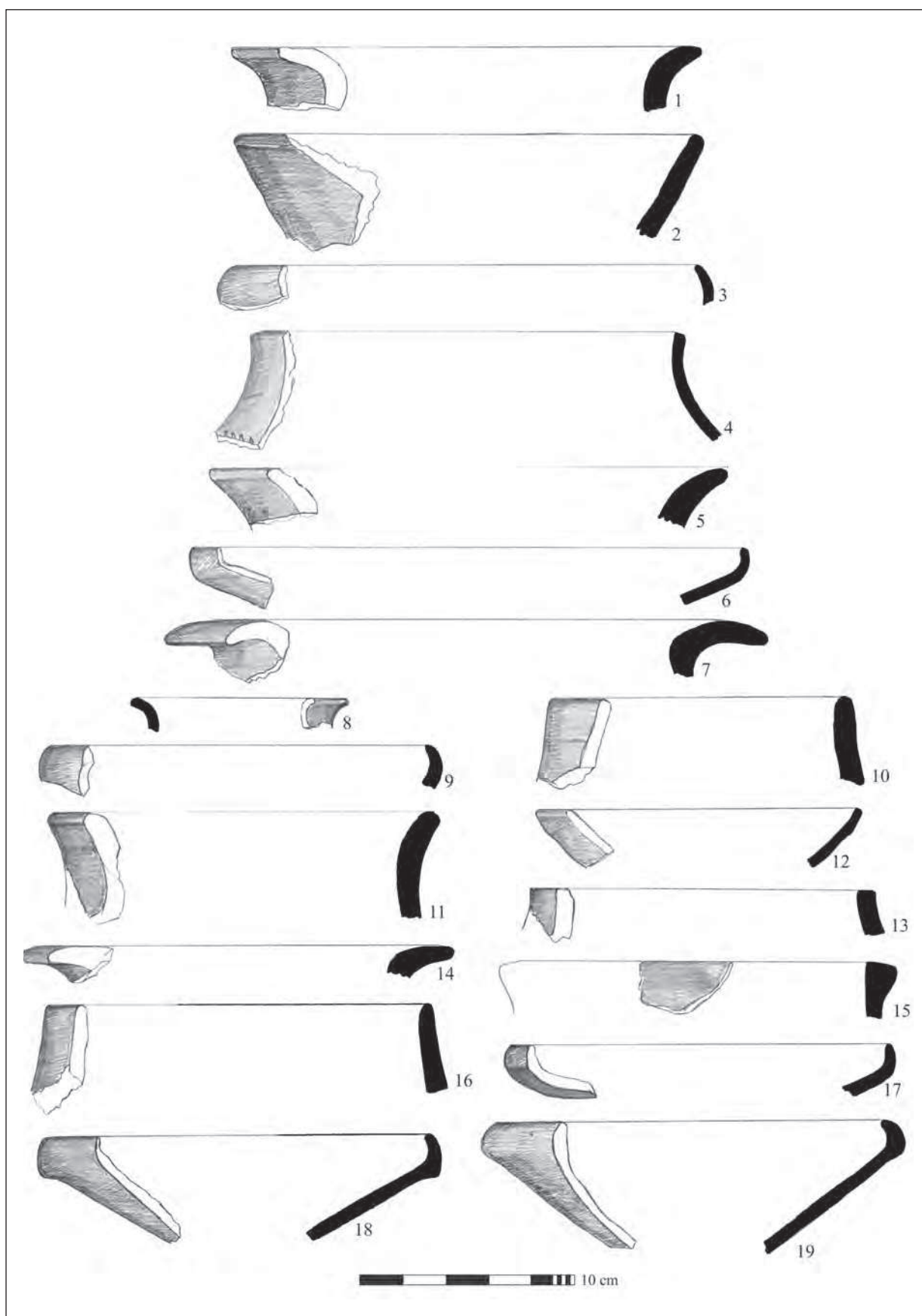


Plate 11. Characteristic pottery of the period 1521–1406 cal BC (2σ): Şagu-Site A1_1, cx. 35 (drawings by R. Tănăsache).

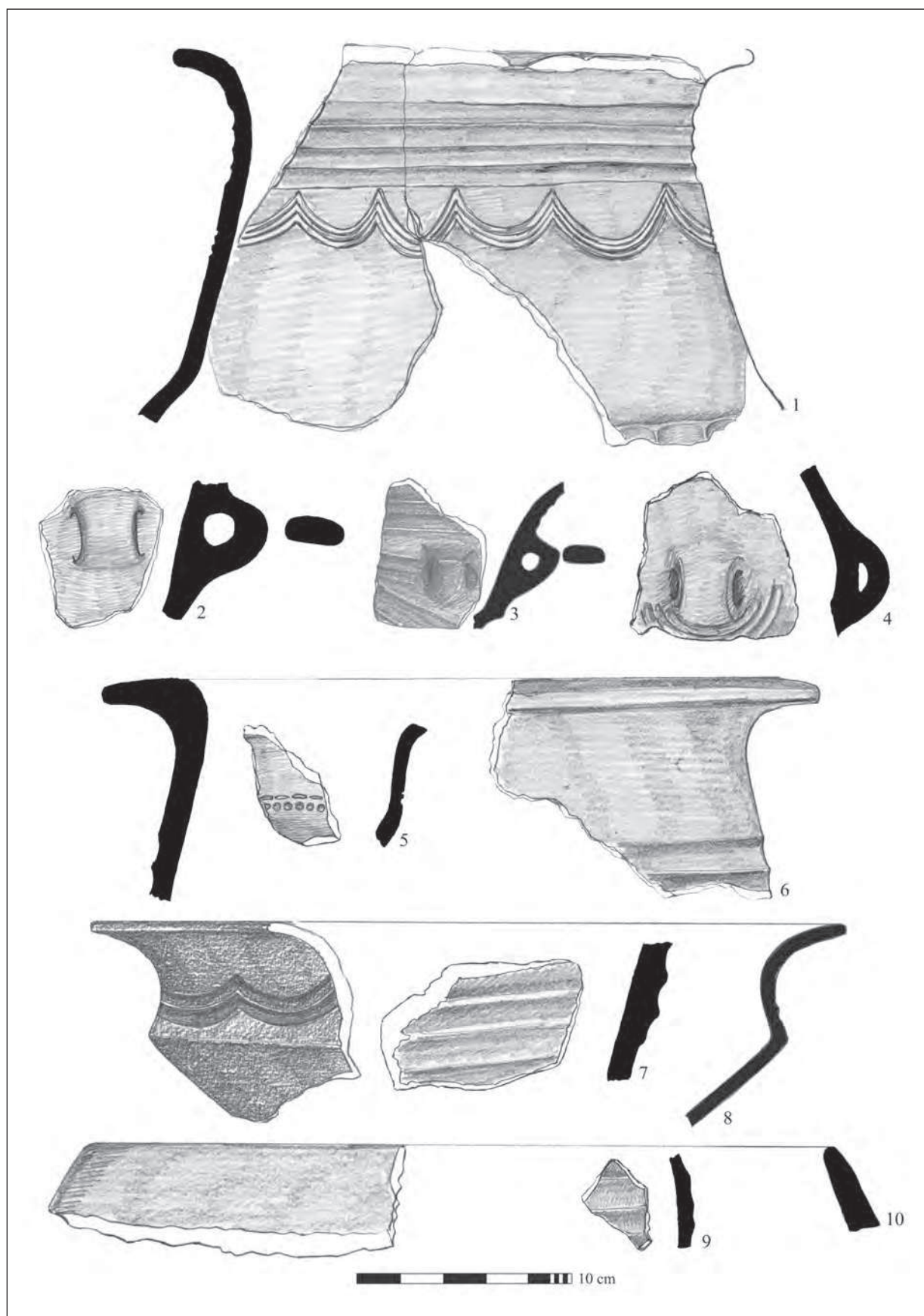


Plate 12. Characteristic pottery of the period 1521–1406 cal BC (2σ): Şagu-Site A1_1, cx. 35 (drawings by R. Tănăsache).

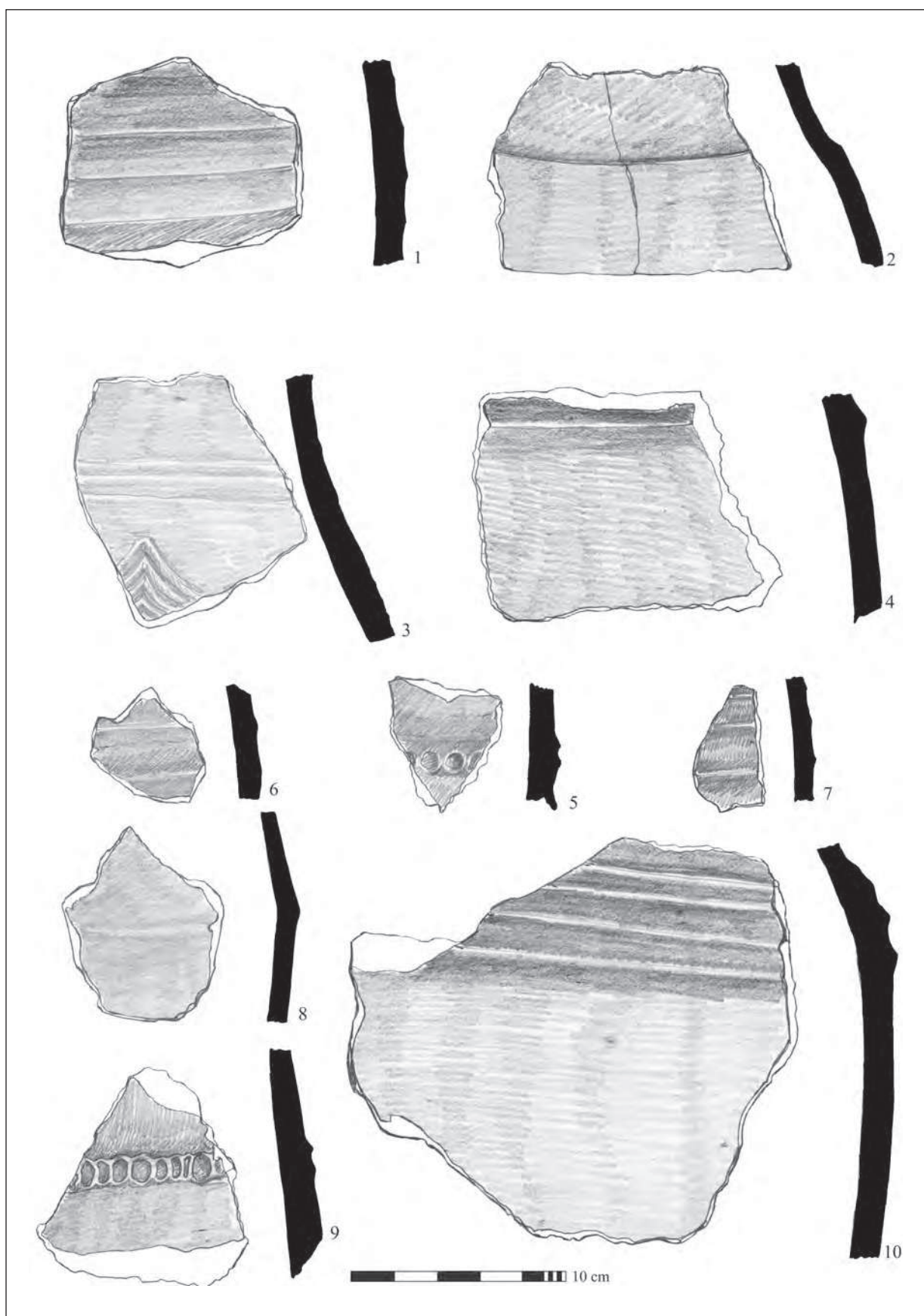


Plate 13. Characteristic pottery of the period 1521–1406 cal BC (2σ): Şagu-Site A1_1, cx. 35 (drawings by R. Tănăsache).

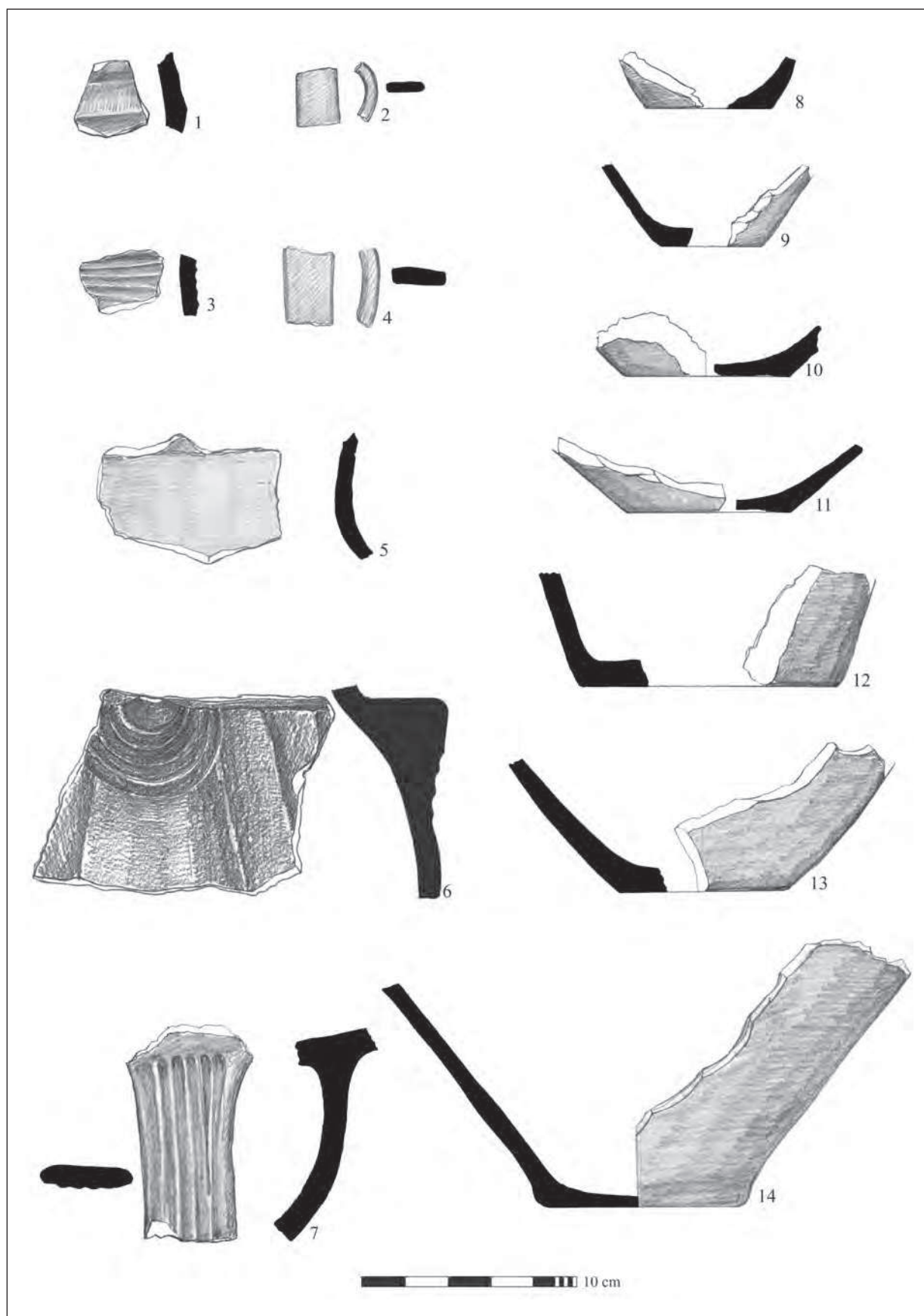


Plate 14. Characteristic pottery of the period 1521–1406 cal BC (2σ): Şagu-Site A1_1, cx. 35 (drawings by R. Tănăsache).

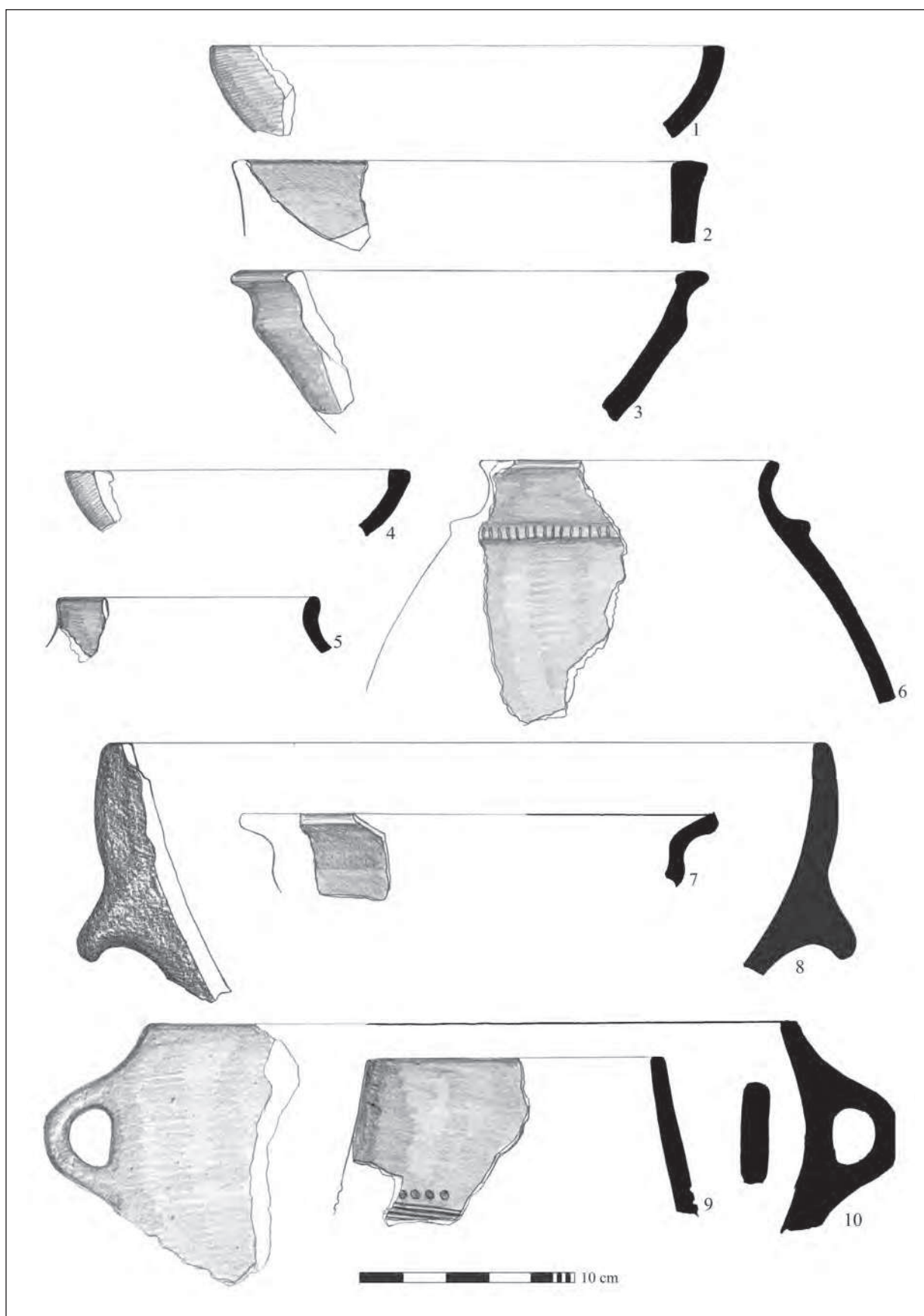


Plate 15. Characteristic pottery of the period 1505–1408 cal BC (2σ): Şagu-Site A1_1, cx. 236 (drawings by R. Tănăsache).

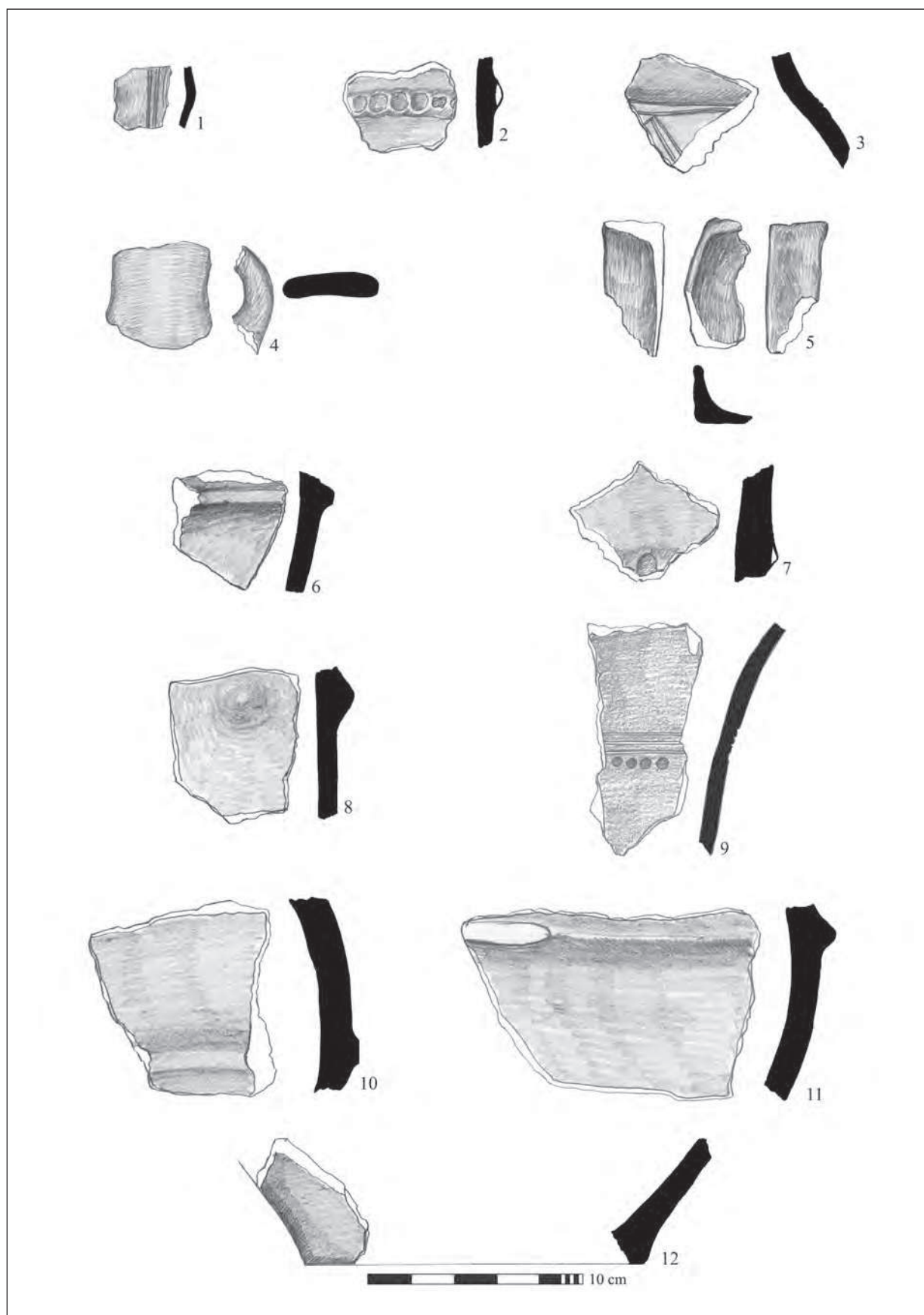


Plate 16. Characteristic pottery of the period 1505–1408 cal BC (2σ): Şagu-Site A1_1, cx. 236 (drawings by R. Tănăsache).

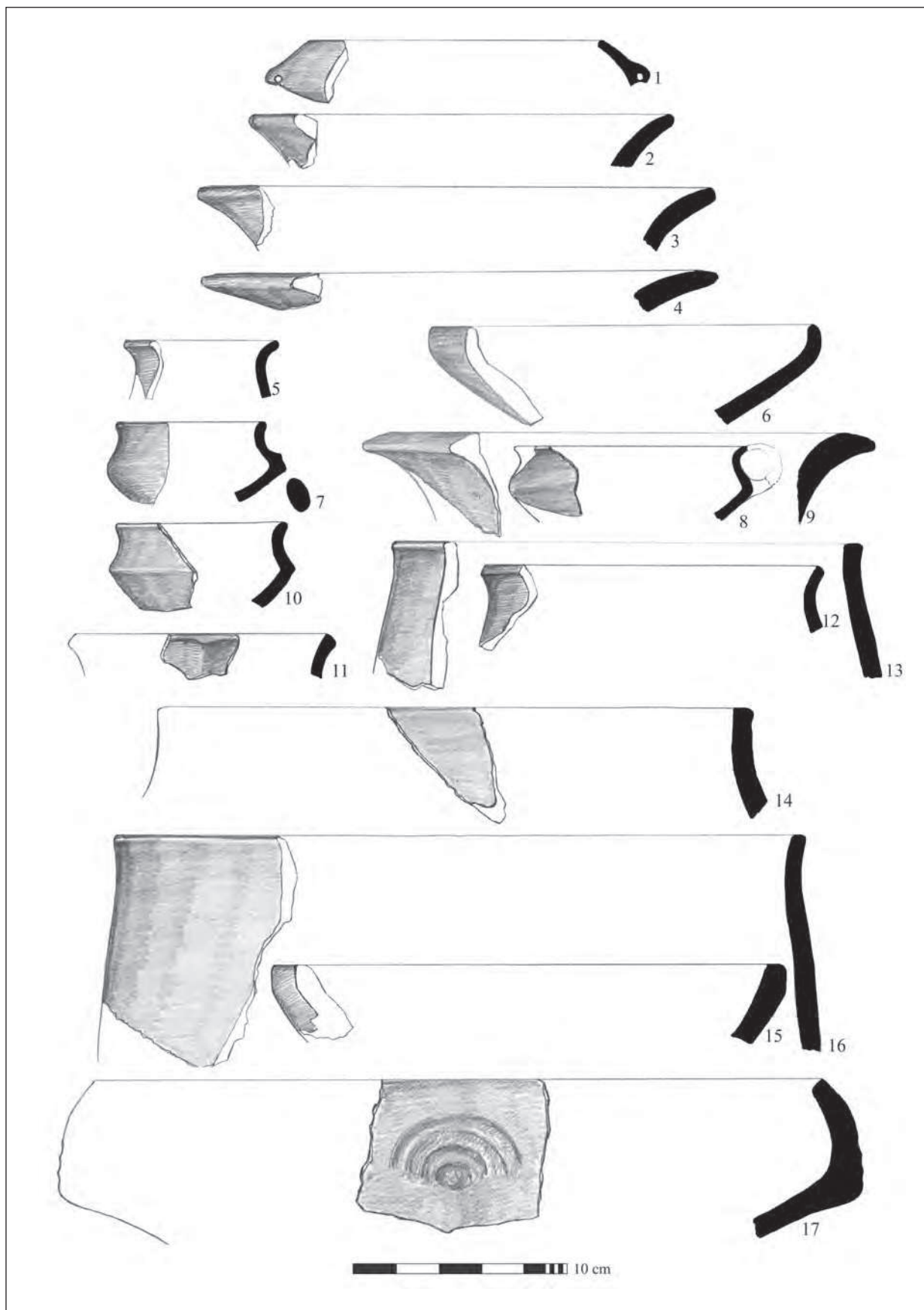


Plate 17. Characteristic pottery of the period 1416–1265 cal BC (2σ): Şagu-Site A1_1, cx. 26 (drawings by R. Tănăsache).

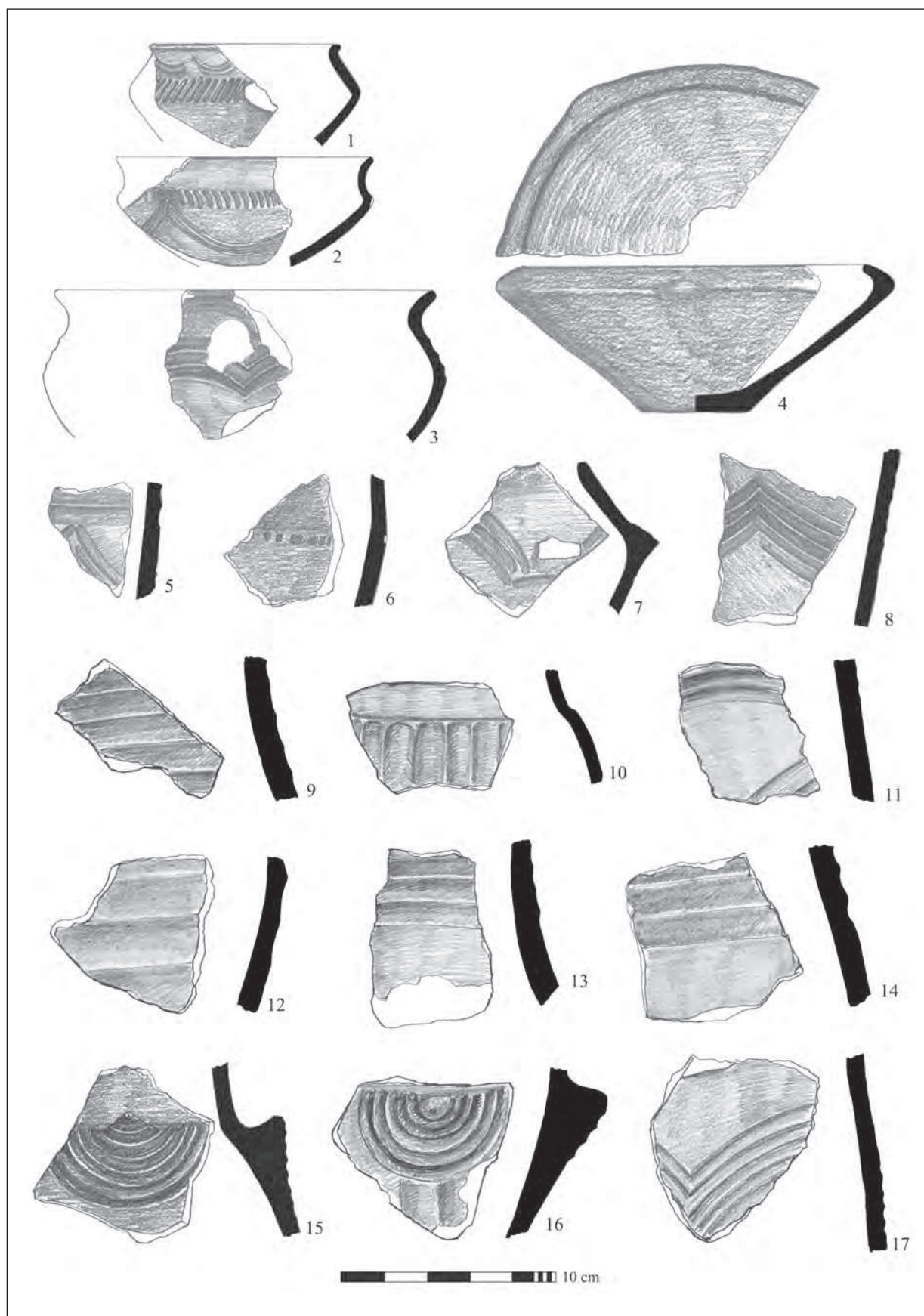


Plate 18. Characteristic pottery of the period 1416–1265 cal BC (2σ): Şagu-Site A1_1, cx. 26 (drawings by R. Tănăsache).

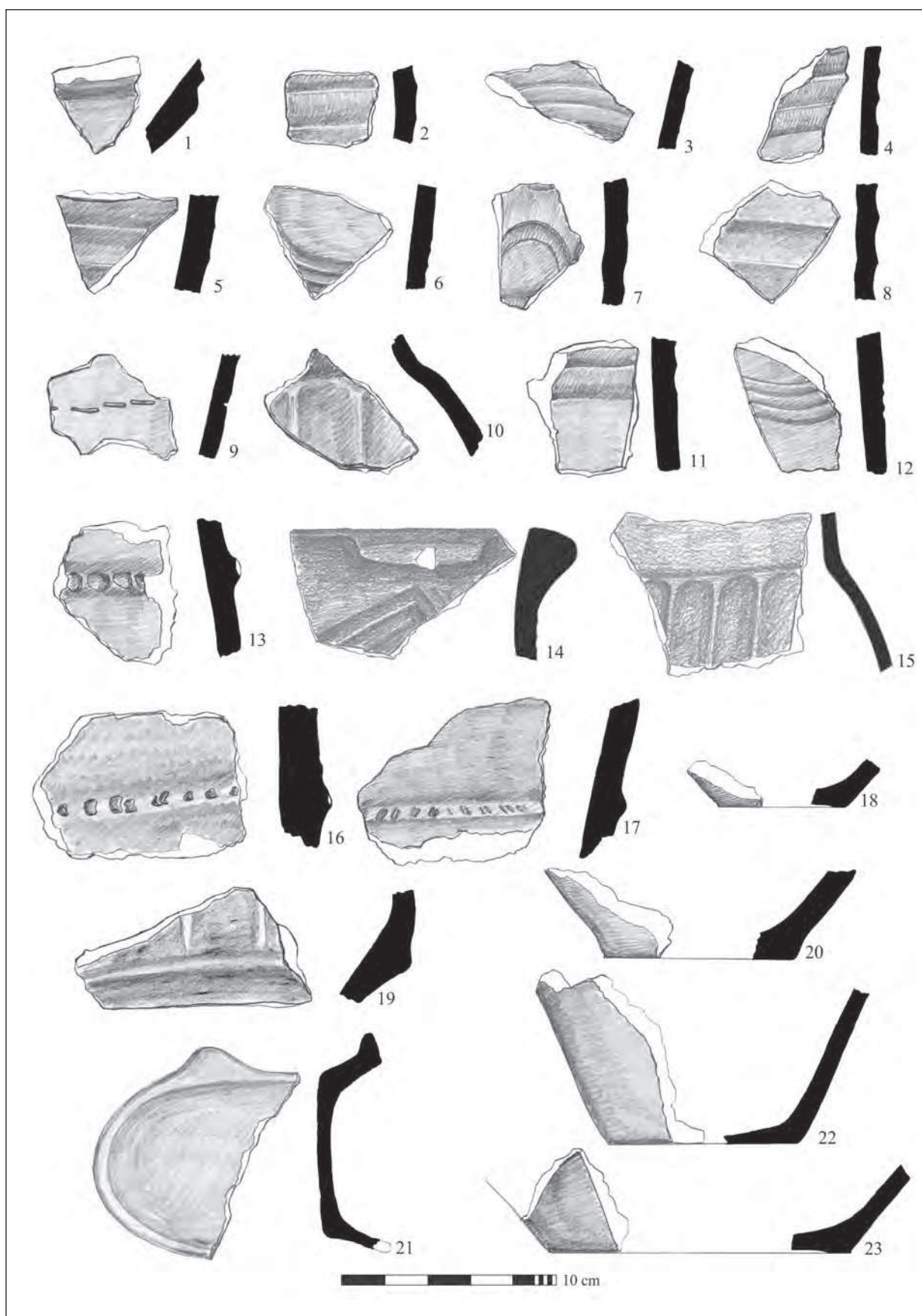


Plate 19. Characteristic pottery of the period 1416–1265 cal BC (2σ): Şagu-Site A1_1, cx. 26 (drawings by R. Tănăsache).