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# Yamna/Budzhak Culture of North-West Pontic region: classification and typology of pottery

Svitlana V. Ivanova<sup>1</sup>

**Abstract.** In publications related to various aspects of Yamna culture, the barrows of the North-Western Pontic region are invariably distinguished as a separate group, characterised by certain features of the material complex. It was the pottery that made it possible to separate the Budzhak archeological culture. However, funerary rites indicate their inclusion in the Yamna cultural and historical community. Currently, there is no unified classification and typology of the pottery of Budzhak culture in scientific literature. Researchers have offered variants of classifications that differ from each other, and the same vessels sometimes receive different names. In this article, we propose a classification of Budzhak culture pottery based on the application of system analysis. This approach allows for a more objective identification of classes, categories, and types of pottery, considering the variability of its individual features (elements) and combining existing classifications. This will help, in turn, to objectively assess the variability of pottery over time. The complex approach to its study, taking into consideration barrow stratigraphy and absolute dating, revealing imports and imitations will allow us to clarify the chronology and periodisation of Budzhak culture. The comparative analysis of a ceramic complex executed based on a comparative-typological method of synchronous cultures will provide the opportunity to define potential communication among the people of Budzhak culture. These problems make it important to find a unified classification and typology of pottery.

**Keywords:** North-West Pontic region, Yamna Culture, Budzhak culture, pottery, classification.

**Cultura Iamnaia/Bugeac din regiunea nord-vest pontică: clasificarea și tipologia vaselor ceramice.** În publicațiile referitoare la diferite aspecte ale culturii Iamnaia, tumulii din regiunea nord-vest pontică se disting invariabil ca un grup separat, caracterizat prin anumite trăsături ale culturii materiale. Ceramica a fost cea care a făcut posibilă definirea culturii arheologice Bugeac. Cu toate acestea, obiceiurile funerare sunt cele caracteristice comunității culturale și istorice Iamnaia. În prezent în literatura științifică nu există o clasificare și o tipologie unitare pentru ceramica atribuită culturii Bugeac. Cercetătorii propun variante de clasificări care diferă unele de altele, iar aceleași vase primesc uneori denumiri variate. În acest articol propunem o clasificare a ceramicii culturii Bugeac pe baza aplicării analizei de sistem. Această abordare

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permite o identificare mai obiectivă a claselor, categoriilor și tipurilor de ceramică, ținând cont de variabilitatea caracteristicilor (elementelor) individuale și combinând clasificările existente. Acest lucru va ajuta, la rândul său, la evaluarea obiectivă a variabilității ceramicii în timp. Abordarea complexă a studiului, luând în considerare stratigrafia tumulilor și datarea absolută, identificarea importurilor și imitațiilor ne vor permite să lămurim cronologia și periodizarea culturii Bugeac. Analiza comparativă a unui complex ceramic efectuată pe baza unei metode comparativ-tipologice a culturilor sincrone va oferi ocazia de a defini potențiala comunicare între reprezentanții comunităților culturii Bugeac. Aceste probleme determină importanța găsirii unei clasificări și unei tipologii unitare pentru ceramică.

**Cuvinte cheie:** Regiunea nord-vest pontică, cultura Iamnaia, cultura Bugeac, ceramică, clasificare.

## Introduction

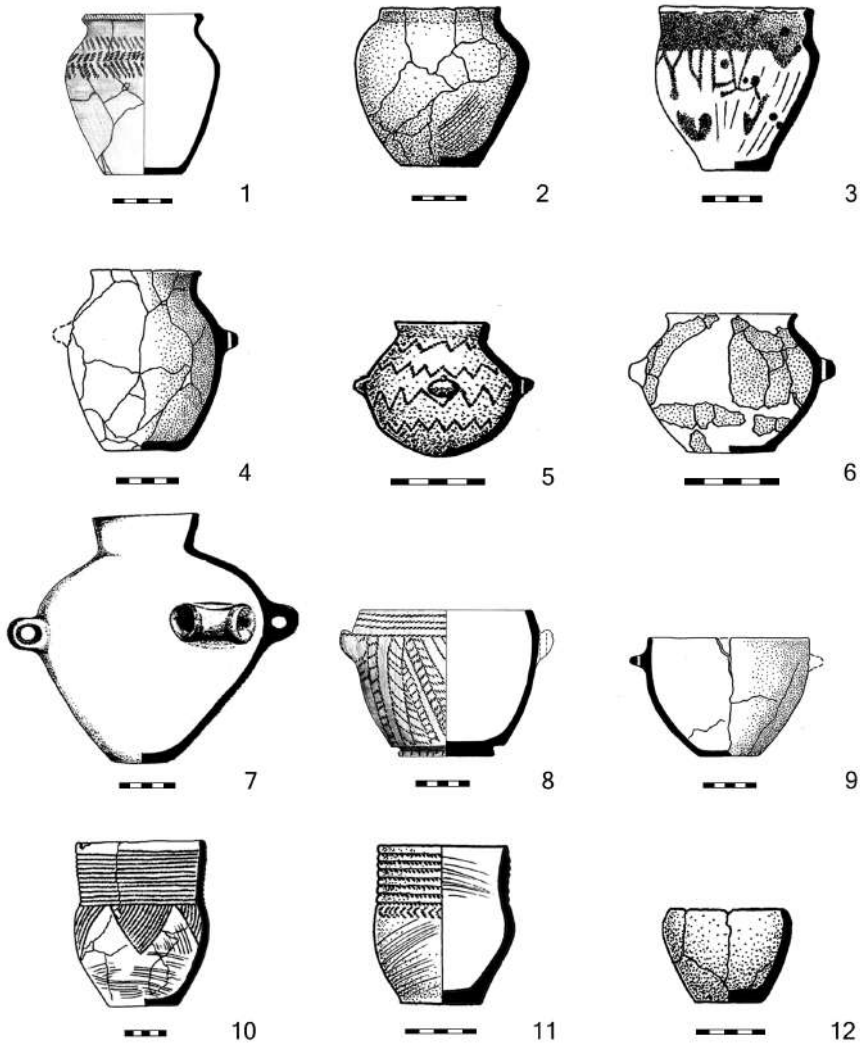
The information obtained as a result of many years of excavations of barrows in the North-Western Pontic Region allows the definition of Budzhak culture as a unique structural entity within the Yamna cultural-historical area (Fig. 1). But also it is a mobile community opened to “cultural dialogue” and capable of long-distance migrations. To a large extent, it is pottery that allows the identification of the directions of the Budzhak tribes’ relations and contacts. Some vessels have parallels in terms of their shapes and styles in various cultures of the late Eneolithic – Early Bronze Age in south-eastern and central Europe.



**Fig. 1.** Cultural-historical Yamna community (=Yamna culture) and Budzhak culture diffusion. GAC = Globular Amphore culture; CWC = Corded Ware culture.

**Fig. 1.** Difuziunea culturală a comunității cultural-istorice Iamnaia (= cultura Iamnaia) și a culturii Bugeac. GAC = Cultura Amforelor Globulare; CWC = Cultura Ceramicii Șnurate.




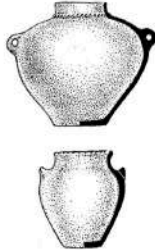









**Fig. 2.** The main forms of vessels of Budzhak culture. 1. Sychavka 1/10; 2. Baranove 1/9; 3. Katarzhyno 1/9; 4. Revova 3/7; 5. Baranove 1/9; 6. Kurgan "Lyubasha" 2/3; 7. Gorodne, kurgan 1; 8. Sychavka 1/15; 9. Revova 3/7; 10. Holodna balka 1/13; 11. Trapivka 6/20; 12. Baranove 1/9 (after Ivanova 2021).

**Fig. 2.** Principalele forme de vase din cultura Bugeac. 1. Sychavka 1/10; 2. Baranove 1/9; 3. Katarzhyno 1/9; 4. Revova 3/7; 5. Baranove 1/9; 6. Tumulul „Lyubasha” 2/3; 7. Gorodne, tumulul 1; 8. Sychavka 1/15; 9. Revova 3/7; 10. Holodna balka 1/13; 11. Trapivka 6/20; 12. Baranove 1/9 (după Ivanova 2021).

Ceramics is the predominant category of the grave goods of Budzhak culture, accounting for more than 40% of the total number of finds (**Fig. 2**). Before they can be studied systematically, they must be sorted into recurring types based on shared characteristics, i.e. to create their classification.

“Classification is the initial means through which we impose a degree of order on the enormously diverse remains of the human past. As such, it is probably the single most basic analytical procedure employed by the archaeologist. Excavation yields an enormous diversity of materials that are not self-labeling; they must be endowed with identity and meaning by the excavator or the analyst. This is done in the first instance through classification” (Adams 2001).

Class 1 - vessels with neck				
Pots and pot-like vessels	Amphorae and amphora-like vessel	Beakers and beaker-like vessel	Jugs	Askoses
 <p>a</p>	 <p>b</p>	 <p>c</p>	 <p>d</p>	 <p>e</p>
Class 2 - neckless vessels				
Jars	Bowls	Dishes	Mugs	
 <p>f</p>	 <p>g</p>	 <p>h</p>	 <p>i</p>	

**Fig. 3.** The main types of Budzhak culture ceramics.  
**Fig. 3.** Principalele tipuri de vase ceramice din cultura Bugeac.

The main types of vessels that characterise the ceramic complex are identified (Fig. 3). In total, we used data from 467 vessels from the tumuli of the North-West Pontic region. The technique of making pottery is traditional: by hand, using chamotte, limestone, or sand. The colour of pottery ranges from light ochre to dark grey. Their colours may vary according to the firing conditions. There are numerous smoothing modes for the surface of a vessel (using fingers, grass, fabric, leather, and wooden or metal tools). The surfaces of some categories of vessels were covered with engobes.

### **Classification principle**

On the one hand, according to Leo Klejn, there are no universal principles for classifying archaeological artifacts yet (Klejn 1979, p. 55; 1991). However, there are theoretical works substantiating the basic principles of typology and classification, including pottery, in which the cornerstone is the concept of type as a system characterised by a stable combination of features.

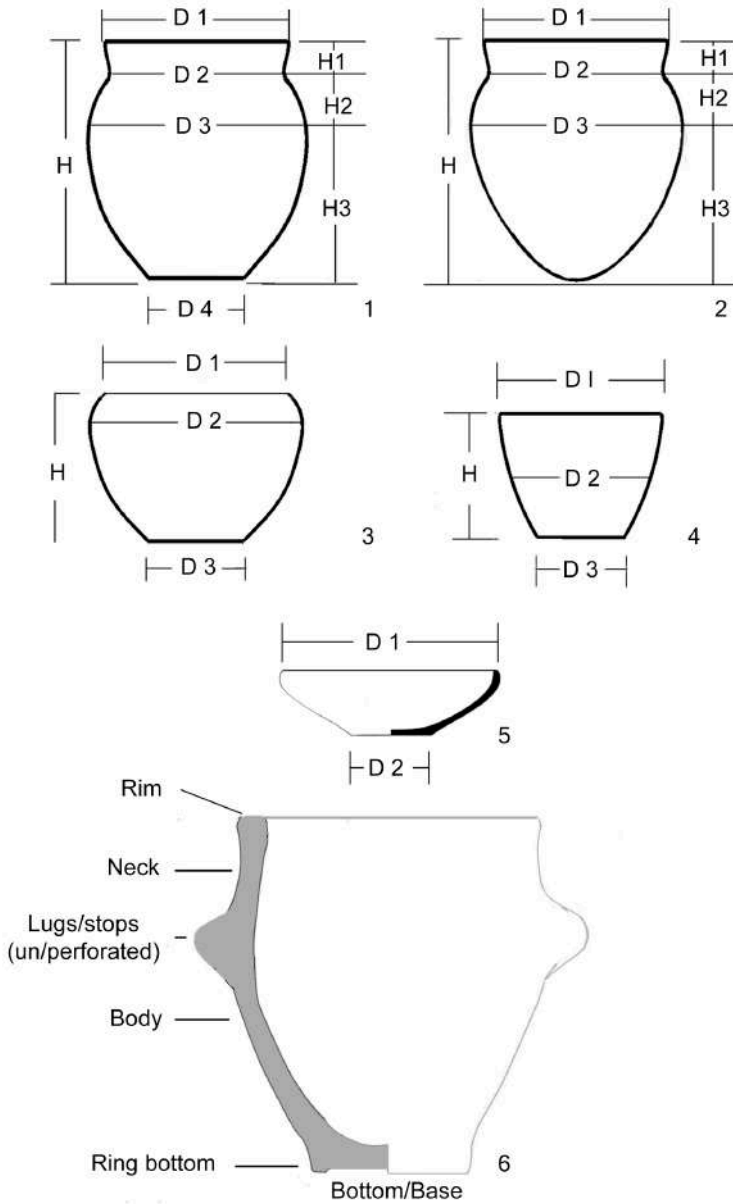
Rather often archaeological classification is understood as a hierarchy of classes. However, this is only one of its variants, for which there is a special term “taxonomic classification”. The typology of the term “archaeological classification” is quite diverse, covering various aspects of this concept (Bochkarev 1991, p. 9-23).

The identification of this or that type of vessel should be based, first of all, on the creation of its structural scheme, i.e., on the selection of its discrete features connected with each other (Sher 1966, p. 260).

Pottery classification in different archaeological cultures may be diverse owing to the different sets of vessel types. However, even for one culture (including the Budzhak culture of the North-West Pontic Region), different researchers have made different classifications and typologies of ceramics. Therefore, it is important to identify common principles for objectively distinguishing between different types of vessels and for their comparative analysis.

Our classification is based not only on the formal typological method (traditional in archaeology)<sup>2</sup>, but also on the use of elements of system analysis. Each type of pottery has a certain structure manifested in the system of elements, that is, the components of the vessel. Depending on the purpose of the research the number and character of the features included in the classification can change; their choice is associated with the understanding of the integrity of the studied object (vessel) as a functional unit, which consists of interrelated components (Bokovenko 1991, p. 258).

<sup>2</sup> Morphological typology based on the general shape of objects.



**Fig. 4.** Elements of vessels and their parameters.

1-2. Vessels with neck; 3-6. Neckless vessels.

**Fig. 4.** Elemente ale vaselor și parametrii acestora.

1-2. Vase cu gât; 3-6. Vase fără gât.

“By classifying the parts of the profile, the complete vessel is classified... approach to do so is a hierarchical segmentation of the profile into rim, wall, and base by creating segmentation rules based on expert knowledge of the archaeologists and the curvature of the profile” (Kampel, Sablatnig 2007, p. 743).

For our study, it is sufficient to distinguish the basic elements of the vessel as the base, body, neck, and rim; their different forms and sizes, being united in the system, are the structural scheme of the type of vessel (**Fig. 4**). However, hand-made ware demonstrates a wide variety of traits, almost every vessel is individual, and morphological characteristics are often unstable (Mochalov 2008, p. 27). Therefore, it is irrational, although possible, to distinguish a more detailed gradation. The body of the vessel is considered the dominant part, as the main function and purpose of the vessel is to be a container; the rim, neck, and base are of secondary importance. An additional element is the handles, as they are not present in all vessels.

The form of the vessel and its structure are interconnected. Consideration of the structure, that is, the combination of different morphological features characterising a vessel, is the basis of a systematic approach in the construction of different types of classifications of Eneolithic and Bronze Age ceramics in different territories. This applies to western (Czebreszuk 1996, p. 11-33; Szmyt 1999, p. 18-25, fig. 4-6; Manzura 2001-2002, p. 467-481; Hübner 2005, p. 165-310; Włodarczak 2006, p. 13-20; Przybyl 2009, p. 96-96, tab. 10-11), as well as oriental (Mochalov 2008, p. 28, table 5, p. 47-48, table 14; p. 107, table 28) regions. This is also true for the morphology and stylistics of the vessels. In the North-west Pontic region, the system approach was applied by Vladislav G. Petrenko to classification of pottery and ornamentation of the Usatovo culture (Patokova *et alii* 1989, p. 35-38, 105-109).

In our study, we applied a hierarchical scheme of systematisation of ceramics (from highest to lowest): class – category – type – feature group – feature. The system approach in combination with a similar scheme is approved for the analysis of not only Yamna ceramics, but also ware of other cultures of the Bronze Age in the Volgo-Ural region (Mochalov 2008, p. 28).

First, the ceramics are divided into two large groups based on the design of their upper parts. Thus, Class 1 includes vessels with a neck, and Class 2 includes neckless vessels. The next level in the construction of the classification is the allocation of different categories of vessels based on morphological features. In our classification, we used the common names of the vessel forms (Yarovoy 1985, p. 82-89; Dergachev 1986, s. 42-54).

There are rare ceramic forms represented by single specimens, for example: rectangular vessel (incense burner), “vessels with a spout”, clay funnels, imported

vessels of unusual types: beaker with handles under the rim, so-called “craters”, biconical bowls. However, these vessels were not considered in this classification (Fig. 12).

### Classification

**Class 1** – vessels with neck and **Class 2** – neckless vessels can be differentiated.

In **Class 1** (vessels with neck), the following categories are distinguished: pots and pot-shaped vessels, amphorae and amphora-shaped vessels, beakers and beaker-shaped vessels, jugs, and askoses.

In **Class 2** (neckless vessels) the following categories are distinguished: jars, bowls, dishes, and mugs.

The next level of classification is an allocation of types within each category of ceramics based on a set of features related to the shape of the main elements of the vessel: neck, body, and base (bottom). Each element has several characteristics (groups of features), and their various combinations within the types of each category of ware are the basis for building a typology.

We use two typological schemes to classify the ceramics that characterise the two selected classes, each of which used a different group of morphological features associated with the profile of the vessels and their proportions (Fig. 3, 4). For the convenience of systematisation, different features are marked with different symbols: uppercase and lowercase letters of the Latin alphabet, Roman, and Arabic numerals. The combination of different morphological features is the structural scheme of the vessel, and serves as the basis for the identification of the type in the framework of the systematic approach.

### Classification of the main categories of ceramics

#### Class 1. Vessels with neck

**Categories:** pots and pot-shaped vessels, amphorae and amphora-shaped vessels, beakers, jugs, and askoses.

**Feature group 1** (defining criteria are body and base shapes).

Features:

A – vessels with a flat base, spherical body, and gently convex shoulders. The bodies can be more or less squat or tapered. This type of vessel has a short neck or no neck at all, and the rounded rim turns outwards more or less sharply. This is the most common type of pot. They have a body diameter approximately equal to, or slightly greater than, the total height of the vessel ( $H_2 : D_3 = 0.9-1.1$ );

B – vessels with a flat base, short neck, or no neck at all, and oval elongated body; shoulders are high and convex. The height of the body is greater than the diameter of the rim ( $H : D3 = 1.2-1.3$ );

C – round-bottom vessels. The small number of such vessels allowed us to combine them into one common type regardless of body proportions.

**Feature group 2** (defining criteria are body proportions).

Features:

I – the greatest width of the body is in its upper third, that is, the shoulders ( $H3 > H2$ );

II – the greatest width of the body is in the middle part of the vessel ( $H3 = H2$ ).

**Feature group 3** (defining criteria are the shapes of the neck).

Features:

a – straight cylindrical neck ( $D1 = D2$ );

b – everted outwards neck  $D1 > D2$ );

c – neck of S-shaped form (with an outwardly bent edge).

**Feature group 4** (defining criteria are the heights of the rim).

Features:

1 – high neck ( $H1 : H = 0.3-0.4$ );

2 – short neck ( $H1 : H = 0.1-0.2$ ).

## **Class 2. Neckless vessels**

**Feature group 1** (defining criteria are body and base shapes).

Features:

A – vessels with a flat base and spherical or “pear-shaped” body;

B – vessels with a flat base and conical body;

C – vessels with a flat base and biconical body;

D – vessels with a flat base and cylindrical body;

E – vessels with a rounded base.

**Feature group 2** (defining criteria are body proportions).

Features:

I – the greatest width of the body is at its mouth; these are the so-called “open vessels” or wide-mouthed vessels ( $D1 > D2$ );

II – the greatest width of the body is in its upper third, that is, the shoulders ( $H3 > H2$ );

III – the greatest width of the body is in the middle part of the vessel ( $H3 = H2$ );

IV – the diameter of the mouth is approximately equal to the diameters of the body and base, or the diameter of the base is slightly smaller ( $D_1 = D_2 = D_3$ ).

**Feature group 3** (the defining criterion is the ratio of the diameter of the mouth to the height).

Features:

a – vessels of medium proportions ( $H : D = 0.9-1.0$ );

b – vessels of high proportions and elongated forms ( $H : D = 1.1-1.3$ );

c – vessels of squat proportions ( $H : D = 0.7-0.8$ ).

**Feature group 4** (the defining criterion is the presence or absence of annular thickening at the base).

1 – with annular thickening;

2 – without annular thickening.

The ornamentation is a stylistic feature of ceramics. It is only on part of the vessels and differs in the techniques of decoration and ornamental composition. Both relief ornamentation (rolls, addition of lugs/stops) and deep ornamentation (corded, stamped) can be observed. Budzhak ceramics are often decorated with cord impressions, sometimes combined with circular depressions (hollow tube stamp or bird's bone?). Among the main motifs are horizontal rows of lines in the upper part of the vessel (along the rim or near the mouth), often in combination with oblique lines, zigzags, triangles, filled inside with cord impressions and chevrons. Occasionally, the surface of the vessel is divided into several horizontal strips. The decorations were created by wrapping them with a rope during the process of forming the vessel. Incisions or finger-impressed rim tops are quite common.

Some types of ornamentation are associated with certain categories of ware. For example, cordlike is more typical for jars and amphora-shaped vessels, overlapping rolls – for amphorae, and incisions or finger-impressed rim tops – for pots. In some cases, these vessels have an incised decoration on the shoulder.

## II. Analysis of ceramics of Budzhak Culture

Based on the described general principles of classification, we can analyse the ceramics of the Budzhak culture.

### Class 1. Vessels with neck

**Pots and pot-shaped vessels** are the most numerous – 161 specimens (or 34.5% of all pottery), and they vary in proportions and profiles. Flat-bottom vessels prevail, and approximately ten round-bottom vessels are known. More than half of them



are concentrated on the right bank of Southern Bug, pointing out connections with the Southern Bug variant of the Yamna culture.

The following types of pots could be noted (**Fig. 5**):

1) medium proportions, with oval elongated body, well-defined shoulder and high neck, straight, bent outside, or S-shaped (27.4%) – AIa1, AIb1, AIC1;

2) medium proportions, with oval elongated body, well-defined shoulder and low neck, straight, bent outwards, or S-shaped (35.4%) – AIIa2, AIIb2, AIIc2;

3) medium proportions with spherical body (maximal diameter is in the middle part of body) and high neck, straight, bent outwards, or S-shaped (17.8%) – AIIa1, AIIb1, AIIc1;

4) medium-sized pots with spherical body and not very high, bent outwards, or S-shaped neck (9.7%): AIIb2 and AIIc2;















5) pots of high proportions, often with well-defined shoulders and not very high, straight, or bent outwards neck (9.7%): BIa2, BIb1 and BIb2.

A short neck of different profile is more typical for vessels with enlargement in the upper third of the body (with well-defined shoulder). A high neck is more common in pots with an enlargement of the middle part of the body. In general, flat-bottom pots with well-defined shoulders and short necks, bent outwards prevail in this category of vessels. Pots with a straight (cylindrical) neck are not numerous in all types; and squat-shaped pots are rare. Round-bottom pots have different body and neck shapes, united by rounded bottom shapes. Vessels with well-defined shoulders predominate, and the profile of the neck varies (CIa1, CIb1, CIb2): a high, straight neck (or a bent neck); a bent outside rim.

Variants with ornamentation were distinguished in some types of pots, but slightly more than a dozen vessels were ornamented (**Fig. 5**). Usually, these are incisions or cord impressions on the shoulder or under the rim, and sometimes herringbone compositions or semi-ovals. Six specimens were found to have pea-shaped appliques on them, and the surfaces of the individual vessels were decorated with incised ridges, smoothed. Incisions, fingernail prints, or cord impressions along the edge of the rim are widespread: approximately one-third of the pots were decorated in this way.

In addition to medium and large specimens, there are a few small specimens, up to 10 cm in height.

***Amphorae and amphora-shaped vessels*** – 87 specimens (18.6%). We define an amphora as a large vessel with a wide body, narrow throat, and two handles. In contrast to the ancient period, vessel size, throat width, inclination of the neck, and width of the body varied in the Eneolithic and Bronze Ages. The standards typical for later periods were either not very strict or were completely absent. We considered it possible to distinguish three types of vessels within this category: amphorae, amphora-shaped vessels, and amphorae of Globular Amphora culture.

	a1	a2	b1	b2	c1	c2
AI						
AII						
BI						
BII						
CI						
CII						

**Fig. 6.** Classification of amphorae from the burials of Budzhak Culture.

**Fig. 6.** Clasificarea amforelor din mormintele atribuite culturii Bugeac.

The *amphorae* (21 specimens) are 20 to 40-50 cm high. Because of their small number, they do not form a significant series (Ivanova, Koško, Włodarczak 2013). It is possible to split three types: with spherical body AIa1, AIa2, AIIa1, AIIa2, with oval elongated body AIIc2, BIc2, BIIc1, BIIc2 and an intermediate type BIb1, BIIb1, CIb1 (**Fig. 6**). Amphorae usually have cylindrical necks (less frequently outwardly deflected) and predominantly flat bottoms. The amphora of burial 26, kurgan 5 near Yassky, is unique and has an ovoid, unstable base. The only analogy to this unique amphora is an amphora from Belozirka, Kherson region (Aleksieva 1992, p. 70, fig. 16, 4). Uncommon is an amphora from Cazaclia 3/13, with a painting in the form of irregular stripes applied in brown paint (Dergachev 1986, p. 46).

Loop-shaped band handles, sometimes with cannellure, are most commonly found in the broadest part of the amphora's body and sometimes below. The most typical elements of the decoration of amphorae are the rollers that pass from the handles to the body (five examples) and look like "whiskers" or "horns" (bucrania?). Less frequent are the rolls around the neck (three specimens) and the rolls connecting the base of the neck with the handles (two specimens). Of the 21 specimens, only five lacked ornamentation.

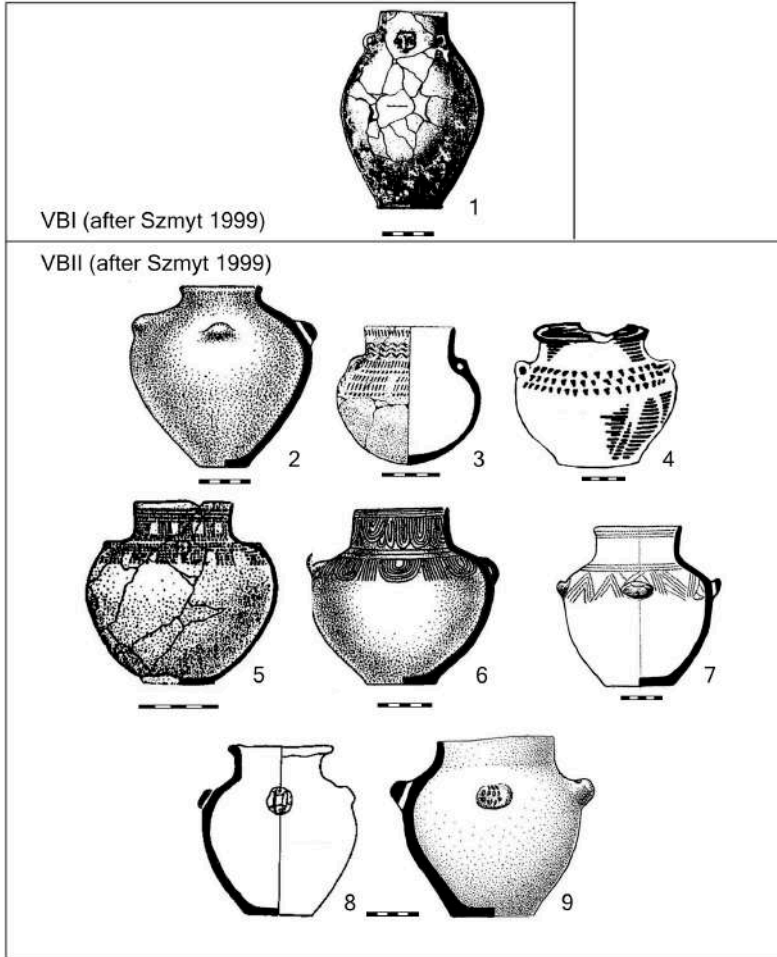


Fig. 7. Classification of amphorae with parallels in the Globular Amphorae Culture.  
 Fig. 7. Clasificarea amforelor cu analogii in Cultura Amforelor Globulare.

Amphorae of the Globular Amphora culture (nine specimens) are vessels with convex bodies and peculiar ornamentation, with analogies in the ceramic complex of the Globular Amphora culture (Fig. 7). There are also unornamented amphorae. There are amphorae with two or four handles placed on the shoulders. All amphorae are divided into two types according to Marzena Szmyt's classification (Szmyt 1999, p. 126-127, fig. 37, 38).

*Amphora-shaped vessels* (57 specimens) are small-sized (up to 20 cm high) and have diverse configurations. Some of them repeated the types of pots or beakers, differing only in the handles attached to them. Nevertheless, according to the

definition of the features of amphorae, they should be attributed to this category of ceramics.

Most amphora-shaped vessels have rounded or egg-shaped bodies, cylindrical or curved necks, and flat bases, although some specimens have rounded or ovoid bases. The paired handles are attached to the maximum diameter. More rarely, there are four handles, in a single case there are five.





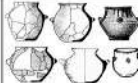
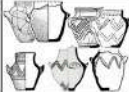








Most are conical, pyramidal, or flattened paired knobs, each with one or two vertically punctured holes. Pseudo-tunnel and loop-shaped handles are less common, “ear-shaped” handles with horizontal holes are rare too, and “arch” handles are known on one vessel only.

A significant series of vessels cannot be distinguished owing to the wide variety of body shapes. However, these types can be specified (**Fig. 8**):

1) with spherical or squat body, high cylindrical or slightly bent neck: AIa1, AIb1, AIIb1, AIIc2;

2) with elongated oval body and high neck, straight or slightly bent outwards: BIa1, BIb1, BIIb1, BIIc1.

There are types in which the ornamentation of the body is traditional and types in which it is absent.

	a1	a2	b1	b2	c1	c2
AI						
AII						
BI						
BII						
CI						
CII						

**Fig. 8.** Classification of amphoroidal vessels from the burials of Budzhak Culture.  
**Fig. 8.** Clasificarea vaselor amforoidale din mormintele atribuite culturii Bugeac.

Some amphora-shaped vessels are decorated with cord ornamentation along the neck and shoulders or along the whole body. The ornamentation corresponds with that known on the jars: zigzags and triangles, but the compositions, for the most part, appear simpler. Some vessels have a polished reddish-brown surface, and Budzhak vessels mostly do not undergo such surface treatment. There was a single amphora-shaped vessel with large loop-shaped handles, connecting the edge of the neck and the body – Kovalivka VIII, 1/24 (Shaposhnikova, Fomenko, Dovzhenko 1986, p. 121, fig. 43.3).

**Beakers and beaker-shaped vessels** – 38 specimens (8.1%). They vary in shape and size (Fig. 9). Vessels with rounded or elongated bodies and high, bent outside (or straight) necks traditionally belong to this type; in one case, the neck is bent inside. More frequently, beakers have slender, tall proportions; rounded, with ribs or squat bodies. The neck of the beaker is always at least one-third of the vessel’s height. The following two types can be distinguished based on the shape of the body:

- 1) maximal diameter is in the upper third of the body – AIb1;
- 2) maximal diameter is in the middle part of the body – AIIa1, AIIb1.





	a1	a2	b1	b2	c1	c2
AI						
AII						
BI						
BII						
CI						
CII						

Fig. 9. Classification of beakers from the burials of Budzhak Culture.  
 Fig. 9. Clasificarea cupelor din mormintele atribuite culturii Bugeac.

Most beakers are of medium size, up to 20 cm high, and there are specimens of greater and lesser height. Some beakers have been ornamented with cord impressions in the form of parallel lines along the neck, hatched triangles with their tops turned down on the shoulders, zigzag lines, “herringbone” lines, and “tree-shaped” impressions. Occasionally, incisions were made on the neck. One beaker was decorated throughout the vessel with parallel horizontal lines – Kamenka, kurgan 1 (Alekseeva 1992, p. 32, fig. 17.1).

**Jugs – 9 specimens (1.9%)** do not have a standard shape; what they have in common is a single loop-shaped handle (**Fig. 3/d**). One fragmented specimen is decorated with cord impressions. Two jugs have a decorative appliqué on the opposite side of the handle. It is possible that a pointed ornamented vessel from the burial in Răscăieții Noi 1/4 should be considered a pitcher, but its neck was not preserved, and the author of the excavations attributed it to be a beaker (Yarovoy 1990, p. 13, fig. 3.5).

**Askoses – six specimens (1.3%)**. This type of vessel is also quite rare and is almost unknown east of the Southern Bug. The vessels have a slightly asymmetrical body; the rim looks as though it was cut off slopes towards the handle (**Fig. 3/e**). The funnel-shaped neck sharply differentiated from the body. The handle rising above the neck connects it to the body. They do not have a base but are flattened at the bottom. Two specimens were not ornamented, and two have a pea-shaped applique at the junction of the neck with the body. Another specimen had nail-shaped incisions at the junction of the body and the neck. An askos from a destroyed barrow near the Matroska village has a classic form (**Fig. 12/9**).

### **Class 2. Neckless vessels**

**Jars – 84 specimens (18%)**. These vessels have truncated-conical or hemispherical forms with paired handles (**Fig. 10**). They are a “distinctive mark” of Budzhak ceramics; and the term “Budzhak jars” is applied to them. Medium-sized jars dominate (up to 20 cm high) and some are small (up to 10 cm high). Most often, vessels are covered with engobe, and the colour varies between orange and pink shades, and grey. Ornamented and unornamented specimens were also found. These jars have symmetrical handles on top of their bodies. There are three versions of these handles:

- 1) elongated knobs or tongue-shaped handles with one or two vertical holes pierced;
- 2) conical handles, also with one or two holes pierced;
- 3) vertical pseudotunnel handles, which in turn could be single or paired, and in the latter case double or separated from each other.

There are two types in this category of vessels: with ring bottom and with flat bottom (prevailing).

	a1	a2	b1	b2	c1	c2
AI						
AII						
AIII						
BI						
BII						
D, E						
	DIV			DIV EII		

**Fig. 10.** Classification of jars from the burials of Budzhak Culture.  
**Fig. 10.** Clasificarea borcanelor din mormintele atribuite culturii Bugeac.
















*Jars with ring bottom* (32 specimens) are characterised by medium to high proportions; their shape is distinguished by the spherical body variant: AIa1, AIc1, AIIa1 and truncated-conical body variant: BIa1, BIb1. In the first case, the top of the rim is often bent inward. Several specimens have a cylindrical shape body: DIVa1.

This type of jar is ornamented more frequently and more diversely than jars with flat bottoms (ornamentation is present on 2/3 of these vessels). They are decorated with cord impressions. The compositions were applied in the cord impression technique and using a hollow tube or bird bone stamp. In addition to the traditional zigzag pattern, there was a herringbone ornament and horizontal repeating friezes of triangles. Often the ornamentation below the handles is different from the main composition; sometimes the ornamentation was on the “tongue”-handles (even an unornamented body).

*Jars with flat bottom* (52 specimens) differ in their proportions, sizes, and configurations. Truncated-conical jars of medium-sized predominate: BIa2, BIb2, and BIc2, whereas spherical jars are less common: AIc1, AIIa2, AIIb2, and AIIc2. Among these jars, there are vessels with and without cord ornamentation,

and unornamented specimens are more common. The ornamentation decorates the entire vessel or only the upper part and is quite diverse. The simpler variants are parallel horizontal cord impressions (or tree-shaped compositions). On other vessels, the ornamentation was more complex: multi-row zigzags, rhombuses, and chevrons. In addition to the cord, a hollow tube was used to create the ornament.

**Bowls** – 55 specimens (11.8%). There are spherical: AIa2, AIIIa1, AIIIa2), conical: BIa1, BIa2, and cylindrical: DIVb1 bowls, the latter type being the least numerous (**Fig. 11**). The top of the rim can be rounded or angular, straight, or slightly bent inside. The bottom is flat, in single cases rounded, the height varies between 5-15 cm.

	a1	a2	b1	b2	c1	c2
AI						
AII						
AIII						
BI						
BII						
C,D, E		EI  EIII 	DIV  CII 			

**Fig 11.** Classification of bowls and dishes from the burials of Budzhak Culture.  
**Fig. 11.** Clasificarea bolurilor și vaselor din mormintele atribuite culturii Bugeac.

Among the spherical bowls, two stand out, occupying an intermediate position between bowls and jars. Their shape, size, and ornamentation are similar to those of jar vessels, but they lack handles, which is why they were included in this category of vessels. Medium proportions of vessels predominate. There are also rare forms



with widening in the upper third of the body. The bottom of the bowls is slightly marked. The surface is usually well-smoothed.

**Dishes** – 13 specimens (2.8%). The vessels identified as dishes are wide-mouthed and squat (**Fig. 11/c2**). They have a rim diameter 1.5 to 2.5 times that of the vessel's height, and a truncated-conical and hemispherical form. They can be divided into vessels with “open” and “closed” mouths. A large part of the dishes is not ornamented; there is a pair of punctured holes on three of them. Ornamentation was found on three dishes: in two cases, they were ornamented with a cord impression, in another one with a stamp of the “bird's feather” type.

**Mugs** are represented by two specimens (**Fig. 3/i**). They are squat, cup-shaped vessels with a single handle in the middle part of the body. The cross-section of the handle is round.

**Rare forms** (**Fig. 12**). These include two “crater-shaped vessels”, in the terminology of the author of the excavations from Taraclia 14a/2 and Cazaclia 8/5 (Agulnikov 1995), decorated with incisions and small handles. Their surface is polished and olive-coloured (**Fig. 12/1-2**). One specimen from Taraclia 14/16 represented a goblet with an elongated neck and miniature handles at the edge of the rim, decorated with incisions along the shoulder and under the neck (**Fig. 12/3**). Two clay funnels and one small fragment from a third one were found in barrow Novogradkivka. The funnels are unornamented, they have paired asymmetrical holes, their edge is slightly smoked along the entire diameter of their base. They may have been used as incense burners (**Fig. 12/4**). Another incense burner is a rectangular vessel with 12 holes for hanging and cord ornaments on the outer surface. The inner surface was strongly smoked (**Fig. 12/11**).

It is unique not only for Budzhak culture; this type of vessel is quite rare in the entire Yamna culture region. A carelessly produced vessel in the form of a flask with a narrow neck is also known in only one copy – Kovalivka IV, 1/11 (**Fig. 12/5**). In burial Nerushaj 9/49, a small collarless vessel with a rounded bottom was found; it was ornamented with thin cord impressions and was slightly polished (**Fig. 12/6**). Vessels with a spout are represented by two specimens, one of which has a pair of handles. Traditionally, vessels with a spout have been interpreted as drinkers; however, the specimen from Bilolssya 3/15 (**Fig. 12/7**) is distinguished by its sufficiently large size. It is known that the holes in the vessels served to put them on a long handle (Nikolov 2012) for the convenience of placing the vessel in the fire, but the soot on this particular vessel is absent. There is also a known example of a ladle with an ornament under the rim and on the shoulders in Olaneshty 1/28 (**Fig. 12/8**). Two biconical bowls (Kurchi 3/8 and Svetlyi 1/10) were decorated with cord ornaments in the form of seven-point stars (**Fig. 12/10**).



**Fig. 12.** Rare forms of pottery from the burials of Budzhak Culture. 1. Taraclia 14/1 (after Agulnikov 1995); 2. Cazaclia 8/5 (after Agulnikov 1995); 3. Taraclia 14/16 (after Agulnikov 1995); 4. Novogradkivka 1/10 (after Subbotin *et alii* 1986); 5. Kovalivka IV, 1/11 (after Shaposhnikova, Fomenko, Dovzhenko 1986); 6. Nerushaj 9/49 (after Shmagliy, Chernyakov 1970); 7. Belolissya 3/15 (after Ivanova 2021); 8. Olaneshty 1/28 (after Yarovoy 1990); 9. Matroska, kurgan 1 (after Ivanova 2013); 10. Kurchi 3/8 (after Toshchev 1992); 11. Grigorovka 1/8 (after Agulnikov, Popovich 2010).

**Fig. 12.** Forme rare de ceramică din mormintele atribuite culturii Bugeac. 1. Taraclia 14/1 (după Agulnikov 1995); 2. Cazaclia 8/5 (după Agulnikov 1995); 3. Taraclia 14/16 (după Agulnikov 1995); 4. Novogradkivka 1/10 (după Subbotin *et alii* 1986); 5. Kovalivka IV, 1/11 (după Shaposhnikova, Fomenko, Dovzhenko 1986); 6. Nerushaj 9/49 (după Shmagliy, Chernyakov 1970); 7. Belolissya 3/15 (după Ivanova 2021); 8. Olaneshty 1/28 (după Yarovoy 1990); 9. Matroska, kurgan 1 (după Ivanova 2013); 10. Kurci 3/8 (după Toșciiov 1992); 11. Grigorovka 1/8 (după Agulnikov, Popovich 2010).

The proposed classification provides possibilities for comparative analysis of the ceramic assemblage (**Fig. 13**).

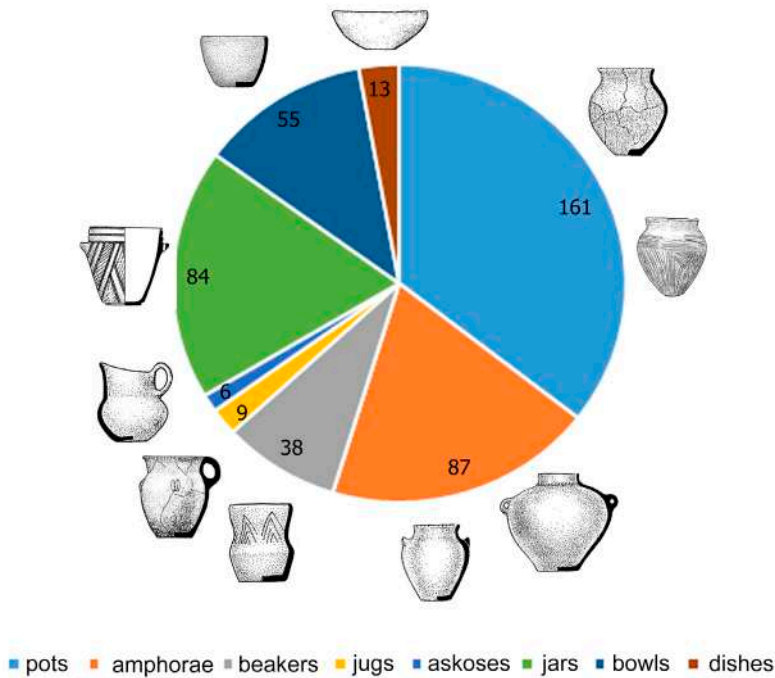


Fig. 13. Quantitative ratio of the main forms of ceramics in the burials of the Budzhak Culture.

Fig. 13. Raportul cantitativ al principalelor forme de ceramică din mormintele atribuite culturii Bugeac.

### Conclusions

Based on a systematic approach, the classifiable and statistical characteristics of ceramics are the most acceptable for the integrated consideration of ware made without a potter's wheel. The handmade ware of Budzhak culture, even from a single barrow group, has certain individual differences. Using a systematic method enables us to approach the comparative characteristics of ceramics based on objective criteria, and based, first of all, on the creation of the structural scheme of the vessel. Foreign cultural influences are most often manifested in the shape and ornamentation of ware. Therefore, the analysis of ceramic materials becomes important when considering the problems associated with the reconstruction of cultural and historical processes.

The next stage in the study of ceramics may be the comprehensive approach, taking into consideration barrow stratigraphy and absolute dating, revealing

imports and imitations, which will allow clarification of the chronology and periodisation of Budzhak culture. The comparative analysis of a pottery complex executed based on a comparative-typological method of synchronous cultures will provide the opportunity to define potential communication among the people of Budzhak culture.

These problems make it important to find a unified classification and typology of pottery.

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