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The Late Chalcolithic Ceramics of the Volga Forest-Steppe

Chalcolithic pottery from the eastern Volga area was subjected to a technological and typological analysis. Three types are described: Chekalino, Gundorovka, and vessels “with an inner rib”. Chekalino vessels have gently curved profiles, are tempered with crushed shells, and are decorated with short and moderately long comb imprints and pits. Gundorovka vessels are either pot-like or have gently curved profiles, are tempered with crushed shells and feathers, and are decorated with moderately long comb imprints and those of a cord. Vessels “with an inner rib” are pots and jars tempered with crushed shells and feathers, and decorated with imprints of a fine-tooth comb or a plain stamp, hatching, and pits. The Chekalino-type ceramics are paralleled by the Chalcolithic pottery of the forest and forest-steppe Volga and Kama. The Gundorovka vessels reveal similarities to the collared Chalcolithic vessels of the forest-steppe, and to the Volosovo ceramics of the Middle Volga forests. Vessels “with an inner rib” show some resemblance to those of the Sredni Stog, Altata, and Turganik forest-steppe. The Late Chalcolithic ceramics date to 4250–3500 BC. Chekalino is related to Late Neolithic combed ceramics of the Middle Volga. Gundorovka originates from the collared Chalcolithic pottery of the Lebyazhinka III type. Ceramics “with an inner rib” derive from those of the forest-steppe Middle Chalcolithic.

Keywords: Late Chalcolithic, chronology, ceramics, forest-steppe, Volga basin, radiocarbon date, ornamentation.

Introduction

It became possible to speak of the Chalcolithic of the Volga forest-steppe region after studying the Syezzheye and Khvalynsk burial grounds, and also the Alekseyevka and Staro-Elshanskaya sites in the 1970s. On the basis of these complexes, two stages, Mariupol (the earlier) and Ancient Pit Grave (the later), have been distinguished (Vasiliev, 1978). The later stage is represented by the finds from sites with mixed cultural layers. These are paralleled by artifacts belonging to the forest cultures of the Volga and Kama regions. Somewhat later, on the basis of collections from the sites in the Tok River basin, N.L. Morgunova identified the Tok and Turganik types (1995). Some Late Chalcolithic materials discovered in the Sok River basin were associated with the Volosovo

and Novoilyinskoye cultures of the forest Volga and Kama regions. Also, ceramics of Repin and Alekseyevka steppe cultural types were recorded at these forest-steppe sites. Notably, many characteristics of the Tok and Turganik types were similar. Descriptions of specific complexes were inconsistent with characteristics of the pottery of the main culture area. Owing to the lack of radiocarbon dates, the chronological attribution of the majority of complexes was determined by comparison with materials from adjacent territories. The Late Chalcolithic of the Middle Volga forest-steppe zone was considered a period of rather prolonged co-existence between cultures of various origin (Vasiliev, 1990; Vasiliev, Ovchinnikova, 2000; Ovchinnikova, 2006). In recent years, a special type of Late Chalcolithic ware, ceramics “with an inner rib”, was distinguished (Korolev, Ovchinnikova, 2009).

Characteristics of complexes

There are 14 sites that contain Late Chalcolithic materials in the Volga forest-steppe region. These are located in the basins of the Sok and Samara rivers, and also near the Tok River, the Samara's tributary (Fig. 1). All the sites contain not only Late Chalcolithic artifacts, but also materials belonging to other epochs. This makes it difficult to identify stone tools pertaining to the Late Chalcolithic, and forces us to place particular emphasis on the ceramic inventories. Most representative series of the Late Chalcolithic pottery are available in the collections from the Gundorovka, Ivanovo, Bolshaya Rakovka II, and Chekalino IV sites. The Ivanovo Late Chalcolithic complexes of the Tok and Turganik types have been addressed comprehensively in a number of studies by N.L. Morgunova (1989, 1995, 2011). Therefore, it is reasonable to focus on the materials from the Gundorovka, Chekalino IV, and Bolshaya Rakovka II sites, which fall into three groups in terms of their technological and typological characteristics.

The first pottery complex is represented by materials from Chekalino IV and Bolshaya Rakovka II. Small amounts of this pottery have also been found at Chesnokovka II, Popovo Ozero, and Lebyazhinka IV. The ware has a gray-brown color. The paste was tempered with crushed shells. The inner surfaces often show traces of comb imprints. The vessels have closed, straight, or cauldron-like profiles. The rims are thickened on their inner and outer sides, straight, or weakly- or moderately-folded outward. There is a single T-shaped rim. The bottoms are rounded or flattened. The patterns are formed by comb, honeycomb, crescentic, or plain imprints, or pits of various shapes. Ornamental motifs include the following types: horizontal zigzag and oblique and straight rows of stamp imprints; combination of horizontal rows of oblique short, moderately long, or long comb imprints; rows of pits and horizontal rows of oblique stamp imprints; horizontal bands and horizontal rows of oblique or straight stamp imprints, etc. (Fig. 2). The most abundant, second pottery complex is related to

the Gundorovka settlement. Certain vessels of this type are available in the collections of Bolshaya Rakovka II and Lebyazhinka IV. The pottery is of brown, gray or dark gray color. It is tempered with crushed shells and feathers. The vessels have ovoid, cauldron-like, and pot-like shapes. The last-named predominates. The rims are straight, thickened on the outer side, open, variously folded outwards, and L- or T-shaped. Weakly everted rims are most abundant. The bottoms are rounded or flattened. Ornamentation is dominated by comb imprints. Grid stamp design, cord imprints, and pits are also encountered. Horizontal rows of oblique and straight stamp imprints, horizontal rows of pits, non-contoured rhomboids, and stepping comb are the most popular designs (Fig. 3).

The third pottery complex (vessels “with an inner rim”) is richly represented in the collections of Chekalino IV and Gundorovka. Certain vessels of this type occur in collections from Lebyazhinka IV, Chesnokovka II, Bolshaya Rakovka II, and Vilovatoye. The ceramics are gray or brown. Paste contains crushed shells and feathers. Traces of combing are observed on the outer and inner sides. The vessels have pot-like or jar-like shapes. The rims are straight, or folded outward. At the place of folding, there is often an inner rib. The ceramics are decorated with imprints of fine-tooth comb, plain stamp, hatching, or small pits of various shapes. There are also unornamented vessels. Designs include horizontal rows of oblique and straight comb imprints, oblique and straight rows of stamp imprints, horizontal zigzags formed by comb stamp imprints, horizontal lines of plain stamp imprints, horizontal bandlets of comb imprints, “lattice”, cross-hatched triangles, etc. These combinations of motifs are often present on the same vessel (Fig. 4).

Cultural and chronological attribution

Vessels of the first complex from the sites of Chekalino IV and Bolshaya Rakovka II show the greatest resemblance in their shape, texture, paste admixtures, elements, and ornamental motifs to the pottery from Elshanka XI on the Sviyaga River (Viskalin, 2008), Barskiye Kuzhery III on the Ilet River (Nikitin, 1991), Dubovaya Griva II and Igimskaya in the Ik-Belaya interfluve (Shipilov, 2012), Mullino (Matyushin, 1982: 196–215),

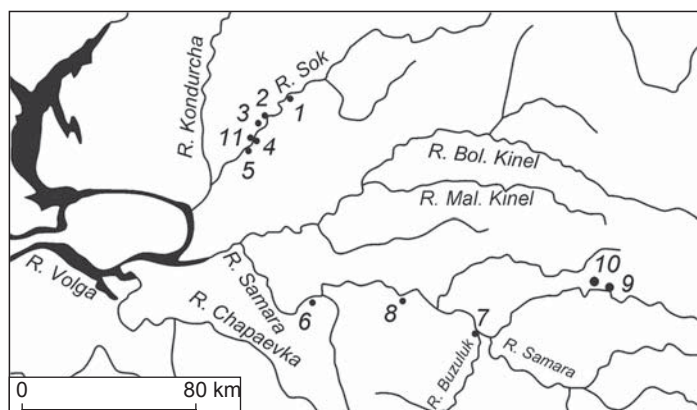


Fig. 1. Late Chalcolithic sites of the Volga forest-steppe.

1 – Chekalino IV; 2 – Chesnokovka II; 3 – Popovo Ozero; 4 – Lebyazhinka IV, VI; 5 – Bolshaya Rakovka II; 6 – Maksimovka site; 7 – Staro-Elshanskaya II site, Staro-Elshanskaya coastal site; 8 – Vilovatoye; 9 – Ivanovo settlement; 10 – Turganik site; 11 – Gundorovka.

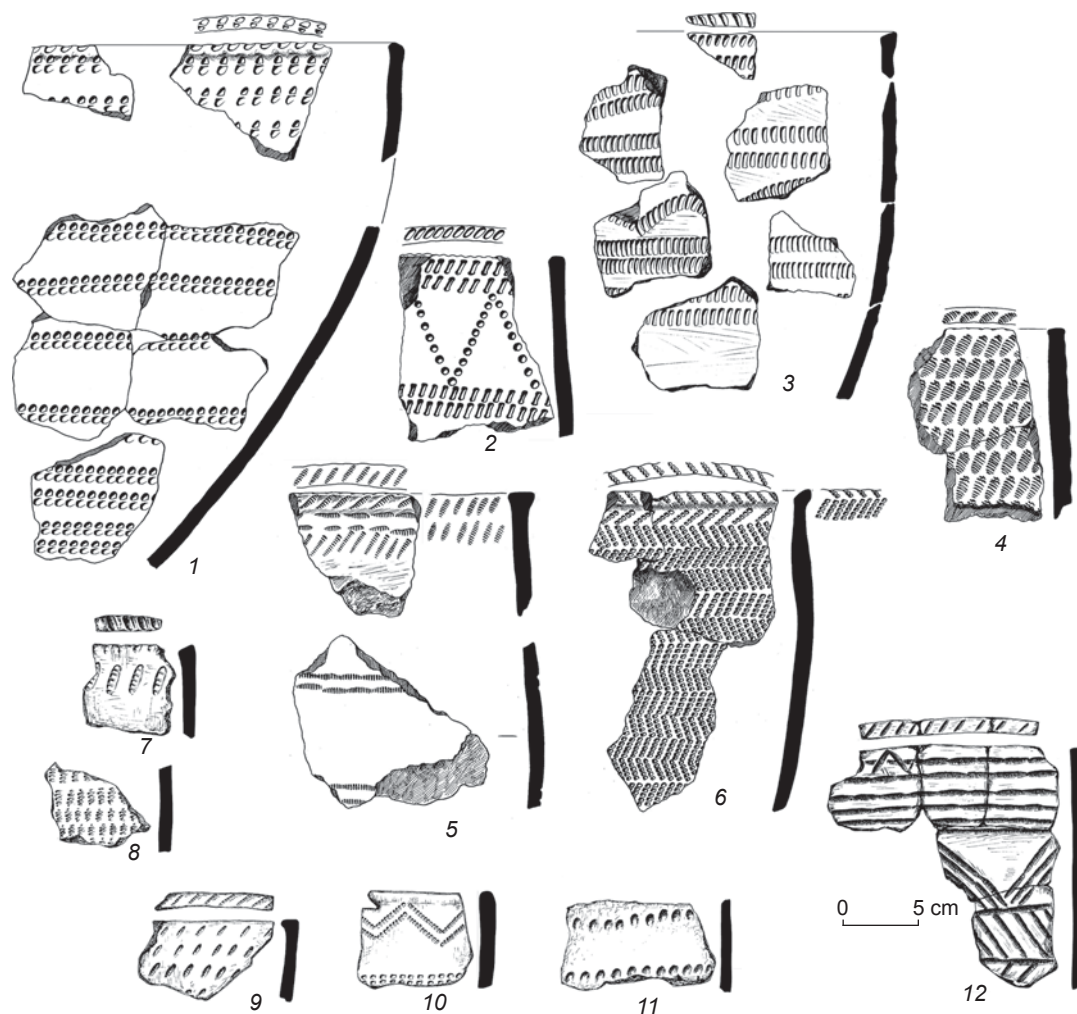


Fig. 2. Late Chalcolithic ceramics of the Volga forest-steppe.

1–6 – Chekalino IV (Korolev, 2011: Fig. 3–5); 7–11 – Bolshaya Rakovka II; 12 – Chesnokovka II.

Srednyaya Oka (Morozov, 1982) in Cis-Urals, and Ivanovo on the Tok River. This puts materials from Chekalino on a par with those from the said sites.

The vessels of the second (Gundorovka) complex have common features with the Middle Chalcolithic forest-steppe Volga pottery from the Lebyazhinka III site (Ovchinnikova, 1995), but also with the Volosovo materials of the Middle Volga forest zone (Tokareva (Khalikov, 1960: 50), Rutka, and Akhmylovo settlements (Nikitin, 1991)). The Gundorovka vessels reveal similarities to the Lebyazhinka III collared pottery in admixture of feathers and shells in paste, the shapes of items, dominance of comb ornamentation, stepping-comb design, horizontal rows of stamp imprints, etc. Such features as paste admixture, T- and L-shaped rims, ornamentation in the form of grid stamp, crosses, and non-contoured rhomboids are common to both Volosovo and Gundorovka ceramics.

Ceramics of the third complex (vessels “with an inner rim”) are similar to the Sredni Stog pottery from Moksha region (Korolev, Stavitsky, 2006: 9–25), and partly to the Pshenichnoye ceramics collection attributed to the Altata culture (Yudin, 1989: 152–154), in the following traits: pot-like shapes of vessels, neck type, traces of combing on surface, use of short or moderately long narrow comb ornamenting tools, plain stamp, and decoration with small pits. Ceramics “with an inner rib” are close to the Turganik vessels in their shapes and ornamentation including horizontal lines, zigzags, rows of oblique and straight imprints, cross-hatched triangles, and rows of oval and rounded pits. However, vessels “with an inner rib” do not entirely resemble either of the said pottery complexes in their traits. Thus, ceramics “with an inner rib” represent a unique cultural phenomenon of the Chalcolithic forest-steppe Volga region.

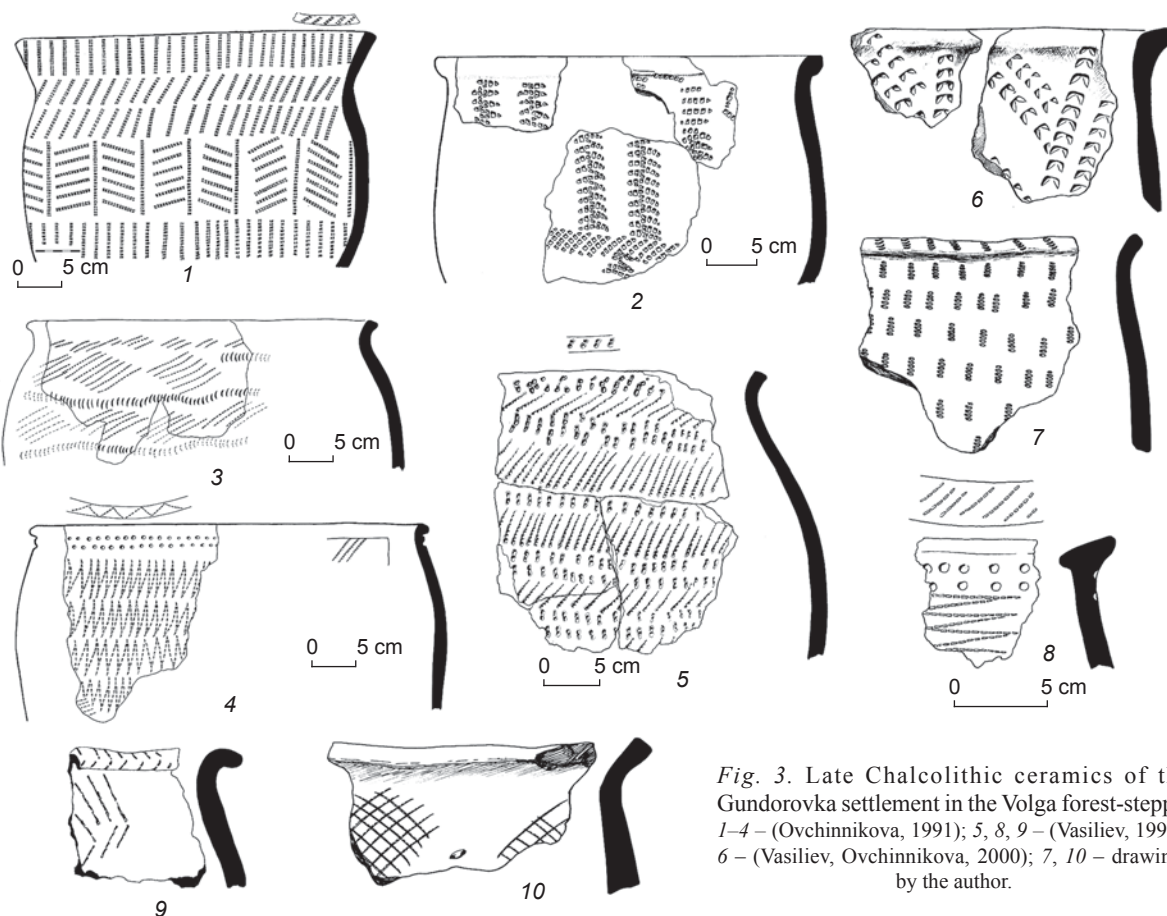


Fig. 3. Late Chalcolithic ceramics of the Gundorovka settlement in the Volga forest-steppe. 1–4 – (Ovchinnikova, 1991); 5, 8, 9 – (Vasiliev, 1990); 6 – (Vasiliev, Ovchinnikova, 2000); 7, 10 – drawings by the author.

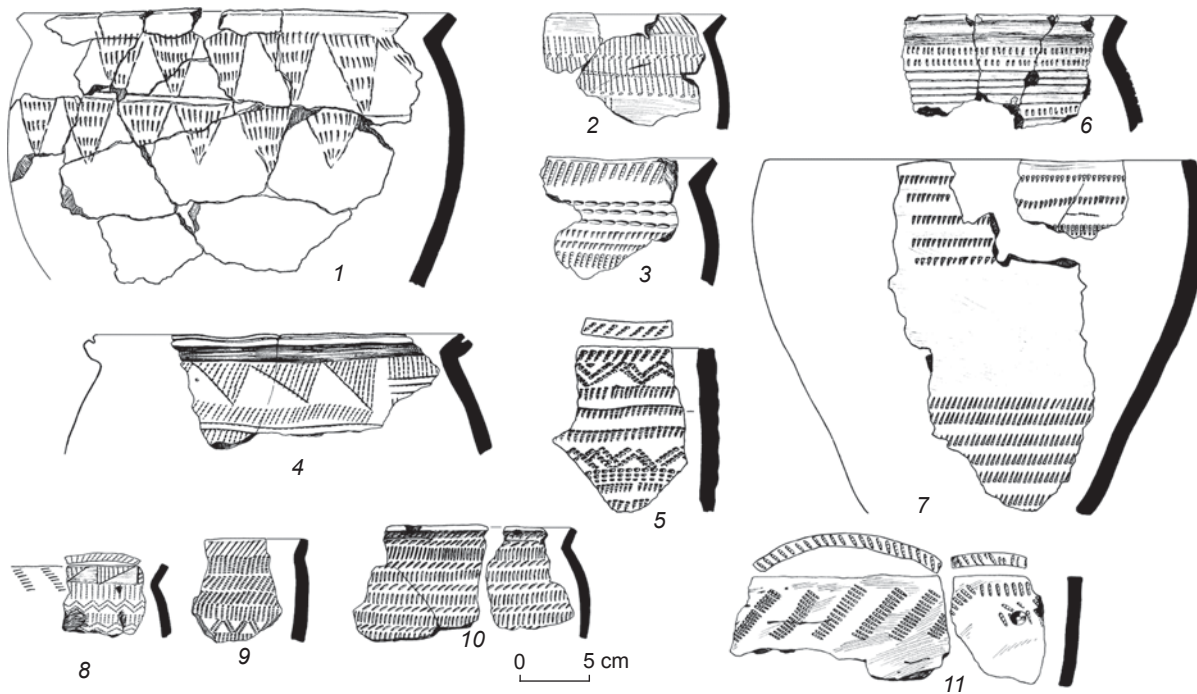


Fig. 4. Late Chalcolithic ceramics of the Volga forest-steppe. 1–7 – the Gundorovka settlement (Vasiliev, Ovchinnikova, 2000; Korolev, Ovchinnikova, 2009); 8–11 – Chekalino IV (Korolev, 2009).

**Radiocarbon dates of the pottery complexes from the Late Chalcolithic sites
of the Volga Forest-Steppe**

Site	Laboratory code	¹⁴ C-date, years BP	Pottery type	Source
Chekalino IV	Ki-14572	5270 ± 80	"With an inner rib"	(Korolev, Shalapinin, 2014)
	Ki-14573	5320 ± 80		
Gundorovka	Ki-16280	5290 ± 70	Gundorovka	
	Ki-16278	5270 ± 80		
	Ki-16279	5380 ± 70		
	SPb-772	5412 ± 100		
	SPb-767	5035 ± 100		
	SPb-768	5230 ± 100		
	SPb-769	5488 ± 200		
SPb-766	5300 ± 100			
Chekalino IV	Ki-15775	6620 ± 80	Chekalino	
	Ki-14571	5840 ± 80		
	Ki-16440	5050 ± 80		
	Ki-16439	5065 ± 70		
	Ki-14574	5240 ± 80		
	Ki-15774	5470 ± 140		
Chesnokovka II	SPb-1056	5024 ± 120		
Ivanovo settlement	Ki-15069	4860 ± 80	Turganik	(Morgunova et al., 2010)
	Ki-15088	4790 ± 80		
	Ki-14515	5920 ± 80		
	Ki-15068	4930 ± 80	Tok	
	Ki-15089	4940 ± 80		
	Ki-15070	5070 ± 80		
Turganik settlement	Ki-14517	5830 ± 70		

At present, there are 24 radiocarbon dates obtained for the Late Chalcolithic of the Volga forest-steppe. The results of dating were repeatedly analyzed (Morgunova et al., 2010; Morgunova, 2011; Korolev, Shalapinin, 2014; Mosin et al., 2014) (see *Table*). The late stage of the Chalcolithic of the Volga forest-steppe can be assigned to 4300–3700 BC with a probability of 68.2 %, or to 4450–3500 BC with a probability of 95.4 %.

**Origin of the Late Chalcolithic
in the Volga Forest-Steppe**

Radiocarbon dates obtained for the Volga forest-steppe finds precede the earliest ¹⁴C-determinations for the Middle Volga forest region materials (Korolev, Shalapinin, 2010). Therefore, the appearance of Chekalino and Gundorovka artifacts in this area cannot be associated with the Volosovo or Gari population that migrated from north. According to I.B. Vasiliev, the Tok pottery tradition was developed in the local forest-steppe (1990: 67). Thus,

the origin of Chekalino ceramics can also be considered in this way. For example, the late radiocarbon dates of the combed complexes from Lebyazhinka IV (5420 ± 80 (Ki-14082), 5360 ± 90 (Ki-14121)) (Vybornov et al., 2008: 104) are almost coincident with the ¹⁴C-determinations of the Chekalino ceramics. Certain traits of Chekalino pottery (straight profile; bandlets of pits under the rims; dense ornamentation by a comb stamp; design combining imprints of short and moderately long comb stamps, etc.) also occur on the artifacts belonging to the comb complexes of the Middle Volga.

Finds from Lebyazhinka III are of primary importance for addressing the issue of the Gundorovka complex's origin, since both collections have common features. Notably, the Gundorovka collection includes a series of collared ceramics identical to the Lebyazhinka pottery (Korolev, Shalapinin, 2008). The latter, in turn, is close to the main Late Chalcolithic complex of this settlement (admixture, shape of vessels, ornamentation). The Gundorovka ceramics have certain features that differentiate them from the classic Volosovo specimens,

namely: pot-like shape, bandlet of pits under the rim, stepping-comb decoration. The origin of these features is related to forest-steppe complexes. Among the Middle Volga Volosovo materials, especially clear distinctions from the Gundorovka ceramics are demonstrated by early vessels from the Maidan group of sites: these have exclusively straight profiles, and are ornamented with short oval and moderately long comb imprints, etc. (Nikitin, 1991). Thus, formation of the Gundorovka assemblage pertains to the Chalcolithic of the Volga forest-steppe region.

The issue of the origin of the vessels “with an inner rib” is the most complicated. According to A.I. Korolev, these appeared with the arrival of Sredni Stog population from the Don (2009). However, sites containing the ceramics “with an inner rib” are located far away from the Sredni Stog cultural area. No Sredni Stog sites have been found eastward of the Moksha basin, in the Sura region. The typological similarity between the Turganik-type ceramics and vessels “with an inner rib” cannot be explained by the presence of the Sredni Stog component in both of them. Therefore, the hypothesis as to the influence of migrants from the western Middle Volga on local population requires further elaboration. An idea about the local origin of the Turganik ceramics has been raised in the literature (Morgunova, 1995: 77). A.I. Korolev and N.V. Ovchinnikova conceded that the “inner rib” ceramics could have been developed under the influence of Ivanovo and Khvalynsk traditions (2009: 303). Some Khvalynsk and Ivanovo vessels have each an inner rib and dense horizontal-zonal ornamentation, which is often located only in the upper portion of vessel. Also, there are some similar ornamental motifs, such as horizontal incised lines, bandlets of shallow pits, oblique rows of imprints, horizontal zigzags, cross-hatched triangles, etc. Some rims of the “inner rib” ceramics show collars.

Conclusions

The Late Chalcolithic of the Volga forest-steppe is represented by several pottery complexes. The first one comprises Chekalino materials recorded near the Sok River, and Tok materials from the Samara River basin. The origin of these complexes is associated with the late Middle Volga combed ceramics. The second complex (Gundorovka ceramics) is localized in the lower Sok River, and originates from the collared Chalcolithic materials of the Lebyazhinka III type. The third complex is represented by Turganik materials from the Samara River, and vessels “with an inner rib” from the Sok River. These trace their origin to the Chalcolithic forest-steppe cultures. The Late Chalcolithic of the Volga forest-steppe region is dated to 4250–3500 BC.

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