



## ON THE CHRONOLOGY OF THE KALTAMINOR CULTURAL COMMUNITIES

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<b>Article history:</b>	<b>Abstract:</b>
<b>Received:</b> 26 <sup>th</sup> September 2025 <b>Accepted:</b> 24 <sup>th</sup> October 2025	The Kaltaminor cultural communities occupy a distinctive place in the study of Neolithic societies of Central Asia due to their wide territorial distribution and unique material culture. Since their discovery in the late 1930s, systematic archaeological research has significantly expanded knowledge of their economic basis, settlement patterns, and chronological development. This article analyzes the main stages of the Kaltaminor culture, its local variants, and recent radiocarbon data obtained through international archaeological expeditions. New evidence from the Ayakagytm site suggests that the origins of the Kaltaminor culture should be dated to the mid-7th millennium BCE, earlier than previously assumed. The revised chronology contributes to a deeper understanding of Neolithization processes in western Central Asia.
<b>Keywords:</b> Kaltaminor culture, Neolithic period, Central Asia, chronology, radiocarbon dating, Ayakagytm, Lower Zarafshan	

In the study of the material culture of Neolithic communities in Central Asia, the Kaltaminor historical and cultural communities hold a special position. Their importance is determined by the scale of their geographical distribution and the diversity of archaeological materials reflecting long-term adaptation to riverine, deltaic, and steppe environments.

The investigation of the Kaltaminor culture began in the late 1930s with the discovery of the Janbas-4 site in the ancient Akchadarya delta of the Amu Darya by S. P. Tolstov, head of the Khorezm Archaeological and Ethnographic Expedition. Subsequent studies by A. V. Vinogradov provided a comprehensive analysis of the material culture, while the Lower Zarafshan variant was examined by U. Islamov.

During the years of Uzbekistan's independence, research intensified through international joint expeditions, particularly the Uzbekistan-Poland and Uzbekistan-France archaeological projects. These studies produced new stratigraphic and radiocarbon data, allowing a reassessment of the chronological framework of the Kaltaminor culture.

### SETTLEMENT AREAS AND ECONOMIC BASIS

Kaltaminor communities predominantly settled near ancient river channels, lakes, and deltaic zones, occupying oasis and steppe landscapes. Their subsistence economy was based on hunting, fishing, and gathering, supported by rich freshwater ecosystems abundant in flora and fauna.

Recent archaeological findings also indicate the emergence of early animal domestication, suggesting a

gradual economic transformation within the Kaltaminor communities rather than a sudden shift.

### LOCAL VARIANTS OF THE KALTAMINOR CULTURE

Archaeological research has identified several local variants of the Kaltaminor culture, including:

Akchadarya variant,  
Lower Zarafshan variant,  
Lavlakan variant.

These variants display regional differences in lithic industries and ceramic traditions while maintaining a shared cultural and economic foundation (Vinogradov, 1981).

### CHRONOLOGICAL STAGES

A. V. Vinogradov proposed a three-stage chronological framework for the Kaltaminor culture.

**Daryalisoy Stage (Early Neolithic, 6th millennium BCE)**  
This stage includes the sites of Uchashi-131, Khojagumbaz-5, Lavlakan (phases I-II), and Beshbulaq. The lithic industry is blade-based, characterized by geometric microliths such as symmetrical and asymmetrical trapezes, scrapers, and tools with blunted edges. Pottery is poorly fired, tempered with vegetal inclusions, and minimally decorated. Bone tools are limited in number.

**Jonbos Stage (Middle Neolithic, 5th-4th millennia BCE)**  
Represented by sites such as Tolstov, Jonbos-4, Kosmola, Yalpaq, Ayakagytm, Lavlakan-26, Darvozaqir-1 and -2, and Jingeldi. The stone industry is dominated by blades and characteristic "Kaltaminor-



type arrowheads." Ceramics are made of sandy clay with rounded or pointed bases and geometric ornamentation. Bone tools and personal ornaments become more diverse.

Final Stage (Late Neolithic, late 3rd – early 2nd millennium BCE)

This stage corresponds to sites such as Ayakagytm, Jonbos-5 and -11, Tajikozgan-2, -3, -6, and -10, and Lavlakan. The lithic industry includes bifacially worked tools, while blade technology and trapezoidal forms persist. Cultural layers of this period are often poorly preserved or mixed with Early Bronze Age deposits.

### **NEW RADIOCARBON DATA**

Between 1995 and 2002, the Uzbekistan–Poland expedition conducted extensive field surveys in the Lower Zarafshan oasis. Radiocarbon samples from Ayakagytm yielded dates ranging from  $7180 \pm 20$  to  $4460 \pm 80$  BP.

Further investigations by the Uzbekistan–France expedition calibrated dates from the lower layers of Ayakagytm to 8180–8017 BP, corresponding to 6231–6068 BCE. These results significantly extend the chronological framework of the Kaltaminor culture.

### **CONCLUSION**

Recent archaeological and radiocarbon evidence requires a revision of the traditional chronology of the Kaltaminor cultural communities. The origins of the culture can now be traced back to the 7th millennium BCE rather than the 6th millennium BCE as previously assumed.

The updated chronology and new data on early domestication processes enhance our understanding of Neolithic cultural development in Central Asia and emphasize the importance of the Kaltaminor culture in regional Neolithization studies.

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