

# Review of: "Tracing genetic connections of ancient Hungarians to the 6-14<sup>th</sup> century populations of the Volga-Ural region"

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**Potential competing interests:** The author(s) declared that no potential competing interests exist.

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**Review of:** Tracing genetic connections of ancient Hungarians to the 6-14th century populations of the Volga-Ural region. doi: 10.1101/2022.02.04.478947

**Journal:** Qeios

**This review refers to the bioRxiv article (February 8, 2022).**

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The paper contains a lot of useful material for a deeper understanding of the development of mixed cultures of the Eurasian steppe/forest-steppe belt. The literary background is rich, materials and methods are clearly defined even for a non-specialist historian, and the importance of the results of genetic analyses is well demonstrated and illustrated using current visualization techniques. The conclusions are relevant to help readers and researchers on the topic under discussion. I have only one question about the method. Why does the study focus "on regions in present-day Russia that were important in the emergence of several Turkic (e.g. Bashkirs, Tatars) and Uralic-speaking groups such as the Maris, Khantys"? I think there is a small gap in the reasoning here and this phrase needs to be linked to the previous ones. Nevertheless, there are some concerns that the article will need a thorough revision of specific notions and illustrative maps before publishing it in Qeios. The text provides a complex and dynamic picture of the archaeological, cultural, geographic and temporal dimensions of the research. But the periodization given without precise clues, the spatially undefined cultures, mountains, rivers and regions, etc. severely limit a clear and easy understanding of the historical narrative. In general, more accurate periodization and spatial visualization cannot be avoided.

## Specific suggestions

### Periodization problems

#### Lacking periodization:

L65 Iron Age Sargat cultures

L66 early medieval Bakal and Potchevash cultures

L66 early medieval Bakal and Potchevash cultures

L67–68 Kushnarenkovo-Karayakupovo culture

L75 Chiyalik culture

L80–81 medieval period of Central Eurasia (...) its Iron and Bronze Age

L87 Lomovatovo and Nevolino cultures

L95 Potapovka, Poltavka, and Srubnaya cultures

L118 (6-13<sup>th</sup>) Lacking centuries

L152 Please refer to Table 1 concerning “Tankeevka”. Please refer to the fact that Tankeevka is a site or group, etc.

Please refer to Table 1, Fig. S24 and S30 in the Introduction. These table and figures are useful materials in the clarification of the spatio-temporal complexity of cultures discussed.

The article defines randomly that the periods discussed include the Common Era. Please follow the standards in this case.

### **Lacking cartographical representation:**

L63 Rivers Tobol, Irtysh, and Ishim

L64 south-western Siberia

L68 southern Ural region

L70 River Volga

L70 Black Sea

L72 Khazar Khaganate

L77 Trans-Urals

L79 Volga–Ural region

L100 Western Siberia

L115 Bashkirs, Tatars, Maris, Khantys

### **Figures**

Figure 1 has very dark background. Lacking names of the mentioned mountains, regions, rivers and seas, etc.

Figure 5 In order to interpretability, please use less dark colour instead of burgundy.

Fig. S21, S22, S23 Lacking names of the rivers and please change Cyrillic captions to Latin