

# Revealing Bronze Age Landscapes of the Balkans

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## Bronze Age Landscapes

### Introduction

The paper will focus on three selected areas in Serbia and Bosnia with archaeological traces of Bronze Age communities involved in different economic activities with diverse burial traditions. The presented study is a part of larger project “Visualizing the unknown Balkans” hosted by the Institute for Oriental and European Archaeology- OREA of Austrian Academy of Sciences and funded by the Innovation Fond of Austrian Academy of Sciences. The aim of the project is to put spotlight on the regions of Balkans by assembling the results of cross-border and diachronic archaeological research with the use of responsive, wide-ranging visualization tools. The presented digital reconstruction of sites and ancient landscapes combine the results from geophysical prospections, airborne prospection, surveys and archaeological excavations. The basis for the feasibility of the project are the cooperations of the OREA Institute as one of the very few archaeological institutions worldwide with a strong focus on the prehistory of the Balkan Peninsula.

### Bronze Age Metallurgy in East Serbia

The aim of the case study in Eastern Serbia is to present and reconstruct a prehistoric society with mining and copper ore smelting as a main activity (B. Jovanović, 1995). The first results of geophysical and airborne prospection in the area around the city of Bor indicated an existence of several mutually connected settlement sites with smelting activities and nearby cremation burial places (Kapuran and I. Jovanovic, 2013). The first archaeological results and radiocarbon dates point to the start of an extensive copper production around 1900 BC. The airborne prospection indicated the existence of slag heaps and mining spots that will contribute to reconstruct the interaction with the surrounding environment. To point out is also the fact that all of the investigated settlement sites were not fortified or protected, although located on higher positions in the landscape. The highlight of hitherto conducted actions in Eastern Serbia is the discovery of burial place Hajdučka česma with numerous urn graves (ca. 90) in circular stone constructions (Fig. 1).

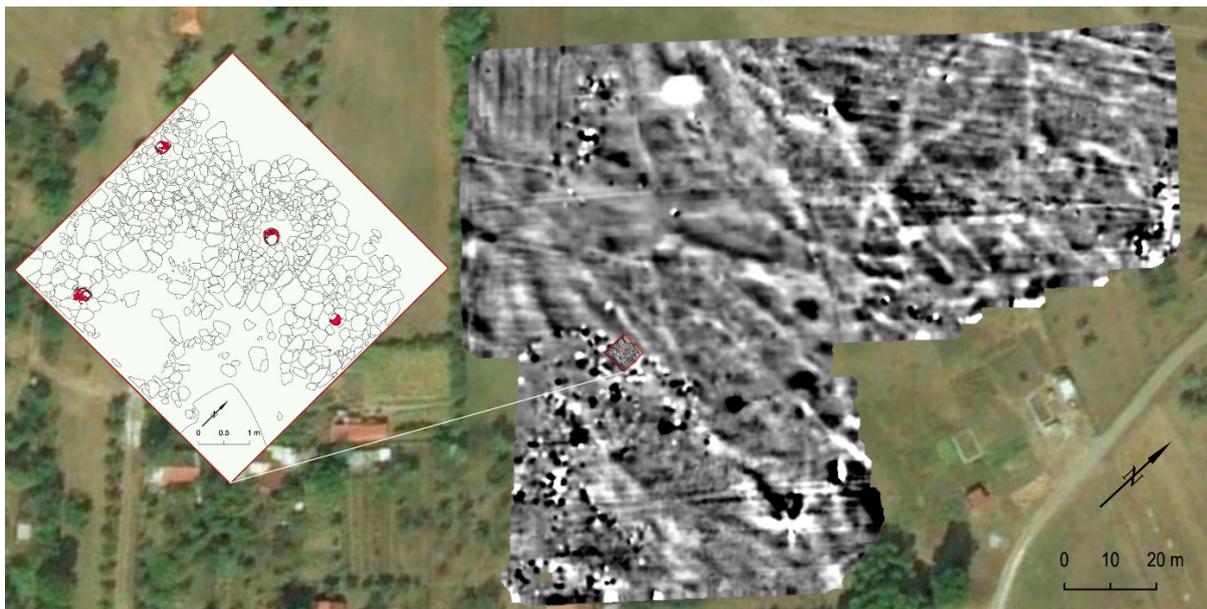
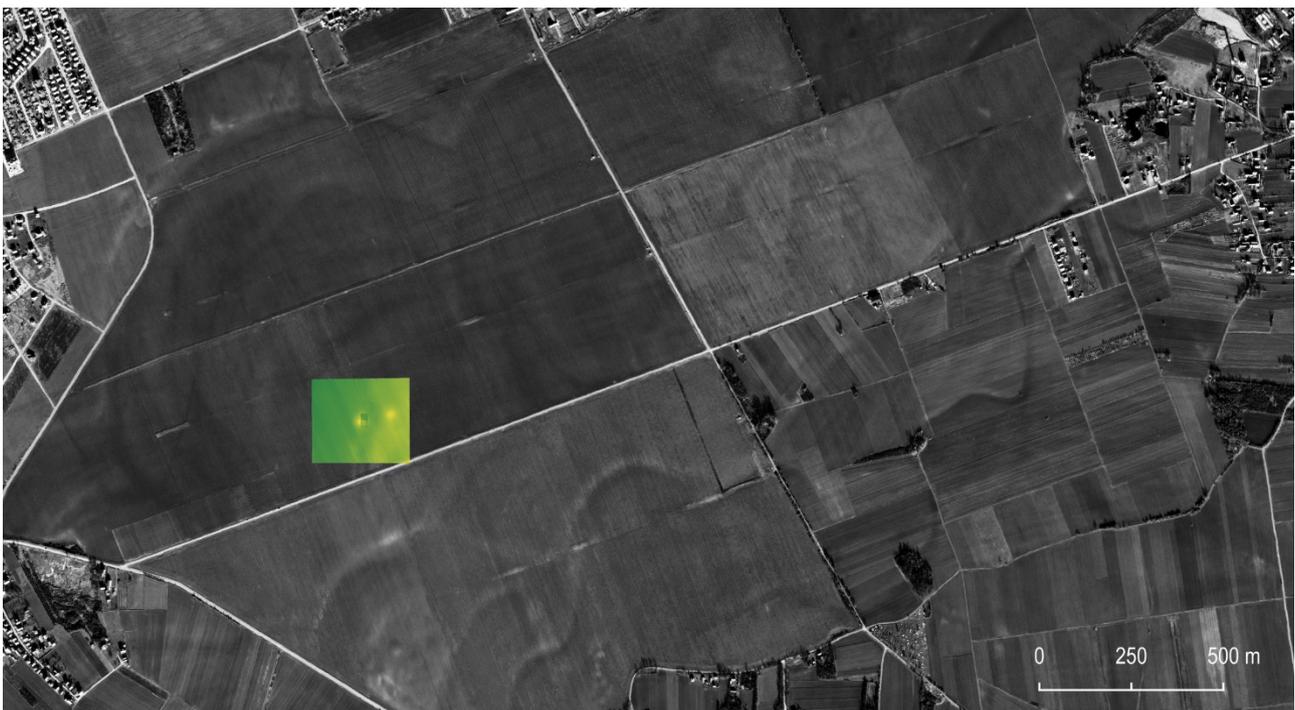


Fig. 1. Hajdučka česma, Geophysical prospection and orthographic photo of trench 1 with four excavated tombs at Hajdučka česma, Serbia (© OREA/ÖAW and Eastern Atlas, base map: Bing Satellite © Microsoft)

## Prehistoric burial tumuli in northern Bosnia

One of the most fascinating monuments of the Balkan prehistory are Bronze and Iron Age tumuli. Many of them were used as burial places throughout later history and even until recent times. They represent a perfect example of a cross-border cultural heritage in the Balkans that has yet not been properly assessed in terms of visualization and communication. However, a number of tumuli is not visible on the surface due to destruction and only geophysical screening and intensive surveys can detect them. Within the scope of the project, the focus is on large earth made tumuli in northeastern Bosnia that represent one of the earliest monuments of this kind in the region. The geophysical prospection of an area of 4,5ha around two still visible mounds in the flatlands between Drina and Sava confirmed the intensive use of elevated terrain with a well recognizable enclosure of unusual shape. The subsequent excavation on the site Novo Selo near Bijeljina in November 2018 brought evidence of a multi-phased use of the burial place with first activities dating to the Copper Age (3000 BC) and additional burials to Middle Bronze Age (1700 BC), Late Bronze Age (1200BC) and Middle Age (1200AD). Although only a part of the mound was excavated, it is obvious that this burial place took advantage of natural elevation. The satellite photos from 2018 during low vegetation show that river channels and wetlands dominated the surrounding of elevated burial places. It is thus to assume that burial places represented distinctive landmarks in the flatlands within the Drina river estuary. One further result of intensive prospection and documentation (Structure from Motion) during the field works was the confirmation that in the immediate vicinity of the excavated mound another elevation exists.

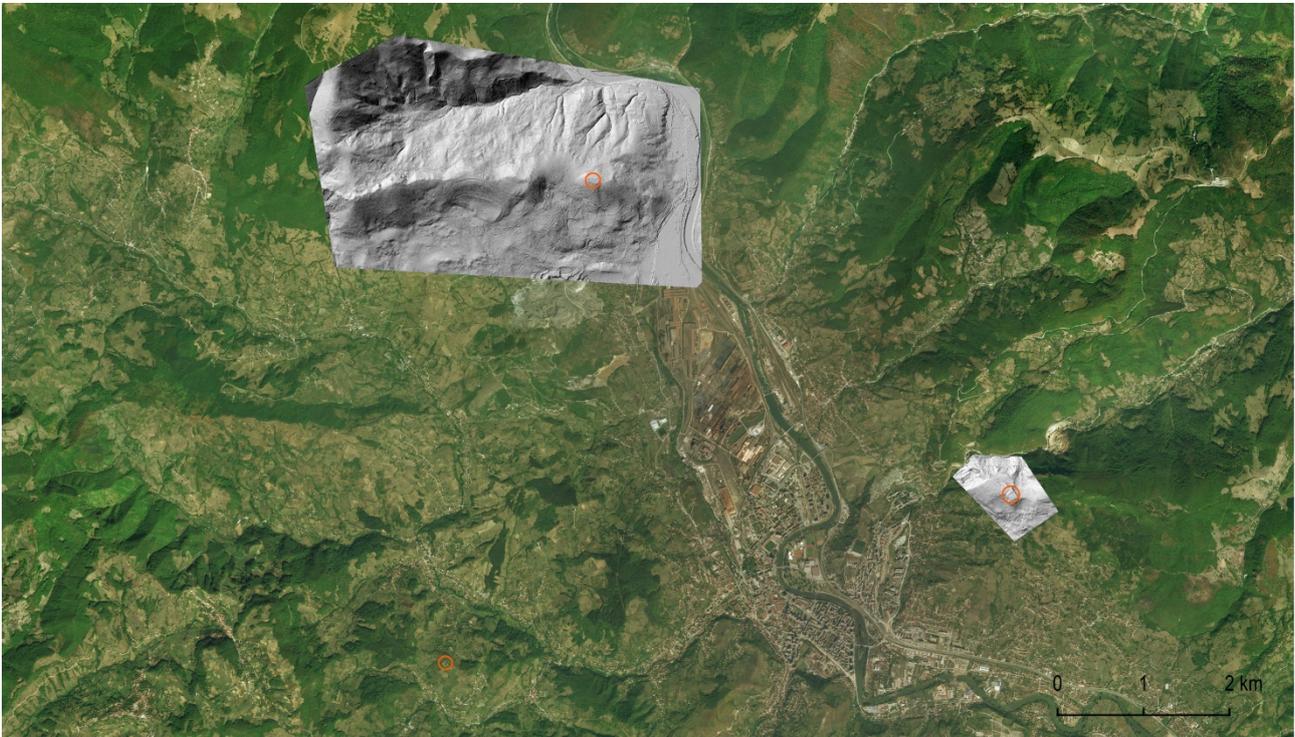


*Fig. 2. Bijeljina, Digital elevation model of the tumulus excavation Novo Selo 2018 including a potential neighboring tumulus, at least one more tumulus and several paleochannels of the river Drina visible on satellite photo from 7.1.2018 (© OREA/ÖAW, base map: Google Earth © Google)*

## Bronze Age communities in central Bosnia

The Bronze Age occupation of the mountainous area in central part of Bosnia, with hillforts located on dominant strategic position overlooking small river valleys and basins represents a perfect example of human adaptation strategy and interaction with natural environment (Gavranović and Sejfuli, 2018). One striking example of such settlement pattern is the Zenica Basin along the River Bosna with sites Kopilo, Gradišće and Gradac, all situated on high plateaus (700 – 900 m above sea level) and all in line of sight to each other. The airborne prospection of the ridge located at the north entrance into the Zenica Basin (Gradišće) exposed a settlement complex of three fortified sites located on plateaus on the ridge and a number of stone mounds between the settlements. Included in airborne and geophysical prospection was

also the hillfort Kopilo on the opposite side of the river valley as well as site of Gradac in the southwest corner of the Zenica Basin. The results of geophysical prospection indicated that most of the structures within the fortified settlement areas are located along the ramparts and fortifications, while the central parts of the plateaus are vacant. Excavations in summer 2019 will bring further important information on this Late Bronze Age landscape.



*Fig. 3. Zenica, Three Bronze Age settlements in line of sight to each other in the Zenica basin in Bosnia and Herzegovina, LIDAR data (Gradišće and Kopilo), geophysical prospection (Gradišće, Kopilo and Gradac Čajdraš) (© OREA/ÖAW and Eastern Atlas, base map: Bing Satellite © Microsoft)*

## References

- Jovanović, B. (1995). Continuity of prehistoric mining in the Central Balkans, in Jovanović, B. (ed.) Ancient mining and metallurgy in Southeast Europe: international symposium, Donji Milanovac, May 10–25, 1990, Belgrade, Bor, pp. 29–35
- Каруран, А. and Јовановић, И. (2013). Археолошка истраживања праисторијских локалитета у околини Бора у 2012. и 2013 (translation: Archaeological research of prehistoric sites in the vicinity of Bor in 2012 and 2013). Години, Зборник радова музеја рударства и металургије и Бору 13-15, Bor, pp. 1-6.
- Гаврановић, М. and Сејфули А. (2018). The Early Iron Age in Central Bosnia – overview and research perspectives. In: Јаšаревић, А. е.а. (eds.), Perspectives on Balkan Archaeology – The Early Iron Age: Methods and Approaches. Proceedings of the conference held in the National Museum in Sarajevo, 8th–9th April 2016. Godišnjak Centra za balkanološka ispitivanja, 48, Sarajevo, pp. 27-45.