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Excavations at Pecica Șanțul Mare, Arad County, Romania

2005–2010



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For the past five seasons the Museum of Art and Archaeology has been part of a collaborative project, the excavation of the major Middle Bronze Age tell of Pecica Șanțul Mare in western Romania (Fig. 1).¹ The site occupies a strategic location in the Middle Bronze Age landscape of Eastern Europe (Fig. 2). Located on a high bank above the Mureș River in Arad County, it straddles routes both for ores coming down the Mureș from sources in the Carpathians and for movement of goods and livestock from the south and east entering the Alföld, or Great Hungarian Plain.² Further upstream the terrain is increasingly rough, and the foothills of the Carpathians are visible in clear weather from the highway near the site. Downstream, the floodplain of the Mureș becomes swampy (particularly before large-scale drainage projects undertaken in more recent times), making the stretch of the river commanded by Șanțul Mare on the high north bank particularly important.



Fig. 1. Pecica Șanțul Mare with an observation tower on the tell's summit.

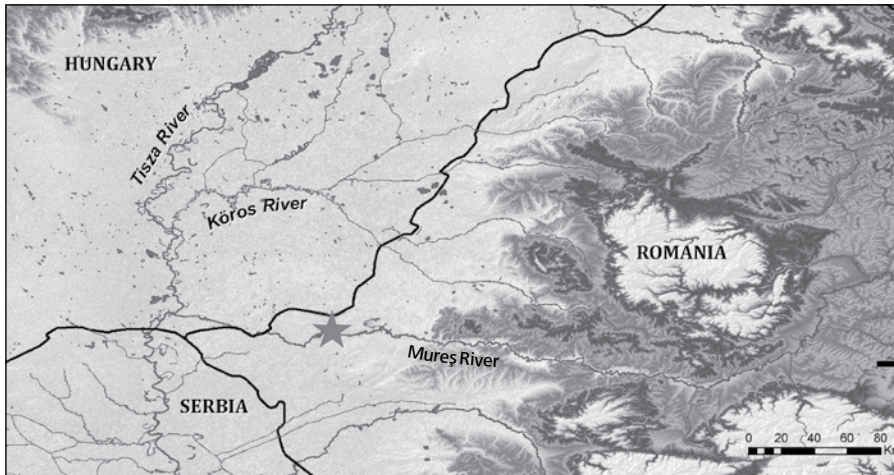


Fig. 2. Location of Pecica Șanțul Mare along the Mureș River in western Romania, near the Serbian and Hungarian borders.

In 2004, John O’Shea and Alex Barker visited a series of sites dating to the Neolithic period through the Bronze Ages. At that time the site of Șanțul Mare had abundant evidence of looting in the form of irregular pits dug into the surface of the tell; the looters were likely searching for medieval Hungarian graves and the metal goods they sometimes contain. The pits revealed intact strata, including burned lenses, confirming the results of earlier excavation at the site, which had documented a deeply stratified set of occupational layers including floors, thermal features, and storage pits dating from the Bronze Age (and possibly earlier) through medieval times. The largest of these earlier excavations, conducted in the 1960s by Ion Crișan, had focused on later Dacian layers but had exposed intact Bronze Age strata below the Dacian occupation (Fig. 3).

The 2005 field season was focused on excavating two deep stratigraphic trenches (Figs. 3, 4 and 5). The aim was to better document the site’s stratigraphy and to assess whether block excavations in a given area would yield meaningful results or whether different areas of the tell had witnessed such distinct patterns of usage as to render interpretations from a single large block suspect. In order to minimize damage to intact cultural stratigraphy, we excavated through Crișan’s backfill down to the intact Bronze Age strata below and then excavated a narrow strata trench through Bronze Age horizons (Trench 1).

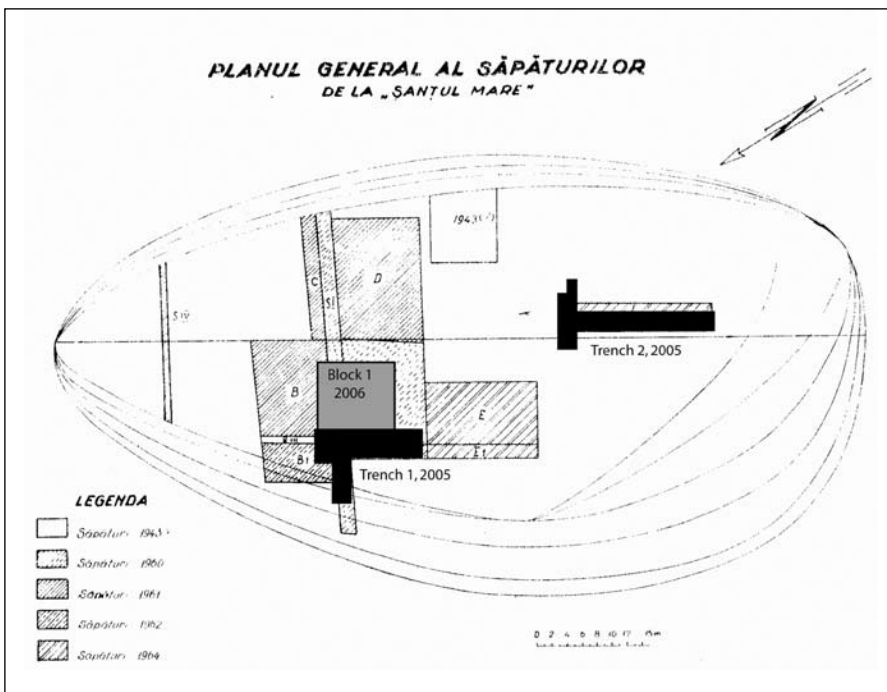


Fig. 3. Locations of earlier trenches and block excavations conducted by Ion Crișan at Pecica Șanțul Mare and University of Michigan–Ann Arbor and Museum of Art and Archaeology trenches.



Fig. 4. Alex Barker and crewmember Paul Duffy discussing stratigraphic relationships in Stratigraphic Trench 1 during excavation in 2005.



Fig. 5. Stratigraphic Trench 2 during excavation in 2005. The floodplain of the Mureș River is visible in the upper left.

We also reopened one of Crișan's deeper soundings to expose the Bronze Age strata he had profiled, with relatively less disturbance of intact strata (Trench 2) (Fig. 5).

As a result of the investigations of the 2005 season, we began excavation in 2006 of a 10-meter square excavation block adjacent to stratigraphic Trench 1 (Fig. 3). Individual 2-by-2-meter squares were excavated, generally in rows working from west to east from the stratigraphic trench and following identified cultural layers across the block (Fig. 6). All excavation was conducted by hand, and the total volume of excavated deposit was recorded. Within each 2-by-2-meter square, 10 percent of the soil removed was dry sieved through screens with a mesh size of 0.65 cm, and two 10-liter samples from every level within each square were collected for flotation to ensure maximum data recovery. Sediments recovered from site features were either floated or screened. The flotation samples served not only to recover floral remains but also to document micro-debitage and allowed sampling of very fine-scale remains across all areas



Fig. 6. Field excavations in progress in Block 1; crewmembers are working back from Stratigraphic Trench 1, peeling back a cultural layer across the remainder of the excavation block.

of the site. All culturally diagnostic items—worked bone, metal artifacts, decorated or diagnostic pottery, and features—were mapped in three dimensions with a total station (electronic theodolite with integrated electronic distance meter), as were the starting and ending elevations of each unit. This allowed the physical volume of layers revealed through mapping to be compared with the excavated volume of deposits recorded through volumetric recording of the soil removed, indicating the degree of layer compression and compaction. Daily three-dimensional maps of the excavation were constructed, and each unit was photographed at the completion of every layer. These images were then combined into photomosaics showing each layer in succession.

The overall site chronology is based on a series of forty-nine radiocarbon determinations supplemented by a separate set of archaeomagnetic samples. The archaeomagnetic series suggests some degree of compression of the radiocarbon suite from the site and indicates that occupations at Pecica were contemporary with those at the site of Klárafalva-Hajdova in nearby Csongrad County, Hungary.



Fig. 7. Project geoarchaeologist Sarah Sherwood documenting a thermal feature in Stratigraphic Trench 2, likely an oven or small furnace.

The latest Bronze Age occupation documented through our excavations (Phase 1) occurs at the base of the Layer B strata, immediately below what Crișan had previously identified as the lowest Dacian layer. A thick, homogeneous deposit of windblown sediments, this heavily bioturbated³ layer may represent a period of drought and environmental degradation in the Mureș region immediately after abandonment of this and other Middle Bronze Age sites in the area at ca. 1600 B.C.E. A visually similar layer overlay the Middle Bronze Age layers at the contemporary site of Klárafalva-Hajdova. The Bronze Age occupation represented at the bottom of this layer is relatively scattered and of light intensity. No identifiable structures were observed in this period, although fragments of architectural debris and pits were recorded (Fig. 7).

The next latest phase, Phase 2 (Fig. 8) (ca. 1650–1600 B.C.E.), is associated with a series of relatively well-defined cultural features, including fragmentary houses and thermal constructions, presumably ovens. This phase comprises the



Fig. 8. Locations of structures identified by phase in Excavation Block 1. Figure from John M. O’Shea, Alex W. Barker, Laura Motta, and Alexandru Szentmiklosi, “Archaeological Investigations at Pecica Șanțul Mare, 2006–2009,” *Analele Banatului*, Muzeul Banatului (Timișoara, forthcoming).

upper levels of Layer C and includes remains of at least two possible houses. One of these was recognized at the time and excavated as a structure (designated Structure 1), while the other (designated Structure 0) was in an area heavily disturbed by previous excavation and was recognized in hindsight based on characteristics of more complete and well-preserved structures encountered later. Both structures were fragmentary, and Structure 1 was associated with evidence of burning (Fig. 9).



Fig. 9. Florin Drașovean cleaning a fragmentary thermal feature by using a vacuum to remove dust and loose soil before photo documentation.

The preceding phase of occupation, Phase 3 (ca. 1750–1650 B.C.E.), is associated with rich midden deposits in the lower levels of Layer C as well as a series of architectural features in the upper levels of Layer D (Fig. 8). This phase of occupation included at least two structures, Structures 2 and 4 (upper), in the western half of the excavation block, as well as a large and somewhat anomalous, thick (up to 65 cm) platform formed from thermally altered redeposited fill across the whole of the eastern half of the block, and based on coring tests extending beyond it for a considerable distance, with approximate dimensions of 22 by 14 m. While analyses are not complete, it is believed that the deposits forming the platform were burned and then burned again once in place, with the

contact between the base of the platform and the underlying irregular Layer E deposits marked by black scorching. The relatively flat surface of the platform was compact and exhibited a number of postholes. While some of these were shallow and represented the downward continuation of posts from later layers, a significant number of posts appear to have originated at the surface of the platform and may suggest the presence of one or more structures on it. It is not clear whether there were stable surfaces within the platform fill or whether the platform was constructed all at one time. Some areas of the western margin of the platform did not exhibit scorching, and there may have been a ramp to the platform in this area, but later Dacian-era storage pits have severely interrupted this portion of the surface, precluding any firm conclusions.

Before the platform was formed, an earlier phase, Phase 4 (ca. 1800–1750 B.C.E.), included two additional structures, or houses, each underlying one of the structures identified from the preceding phase. Separation of this phase from the succeeding one is somewhat tentative, but from an analytical standpoint it is easier to consider the underlying structures separately from those above. Structure 3 was partially covered by Structure 2, and Structure 4 (lower) was immediately beneath Structure 4 (upper). Structures from this phase had architectural details that contrasted with the structures above them and confirmed them as distinct constructions, although there may be occupational continuities in both locations. These houses appear to immediately pre-date the construction of the large platform to the east. Building one house on top of another may not necessarily reflect rebuilding of a continuously occupied structure; there is evidence for settling of fills, and prepared plaster floors of previous houses may have provided a more stable base for later ones even without continuous occupation.

Phase 5, the earliest phase documented in these block excavations (ca. 2000–1800 B.C.E.), is associated with Layer E levels. Comprised of a series of fragmentary house floors and related thermal features (designated Structures 5, 6, 7, and 8) their form and orientation are not entirely clear. Structure 5 was found in the southwest corner of the excavation block and was overlain by Structure 3, while Structures 6, 7, and 8 were found beneath Structure 4 (lower) (Fig. 8).⁴

Most buildings throughout the sequence were rectangular with plastered floors, wattle and daub walls, and a relatively light thatch or reed roof. Some used wall posts, while others employed wall trenches with a horizontal piece of wood at the base of the trench to support the wall, presumably to avoid

subsidence. The presence of large, horizontally oriented animal bones placed at the base of several larger wall posts in Structure 4 (upper) further supports this inference.

Analysis of ceramics, faunal and floral materials, metal objects, and slag is still underway, as are further analyses of the architectural sequence and history of the site. A separate contract of collaboration between the Muzeul Banatului and the University of Missouri will support study of obsidian from this and other sites in the region, and a preliminary report on obsidian from Pecica has already appeared in a previous edition of *Muse* (volume 43, 2009).

NOTES

1. The project was under the overall supervision and permit of Pascal Hurezan of the Museum of Arad. The principal Romanian contributors were Drs. Florin Drașovean and Alexandru Szentmiklosi of the Muzeul Banatului and Dr. Peter Hugel of the Arad Museum. The principal American contributors were Drs. John O'Shea of the University of Michigan and Alex Barker of the University of Missouri. The project was funded by parallel research grants from the National Science Foundation to Alex Barker (exploratory season 2005, BCS-0512115, and excavation seasons 2006–2009 and study season 2010, BCS-0618307) and John O'Shea (exploratory season 2005, BCS-0512162, excavation seasons 2006–2009 and study season 2010, BCS-0620147). We gratefully acknowledge this support as well as ongoing support provided by the University of Missouri Research Council.
2. This region lies along the Romanian/Hungarian/Serbian frontier, resulting in multiple names for sites, locations, and cultural sequences. For simplicity, the Romanian names are used throughout (e.g., Mureș rather than the Hungarian Maros, Pecica Șanțul Mare rather than Pecska Nagy-Sanc, Timișoara rather than Temesvar, etc.).
3. As a note to the general reader, bioturbation is the reworking or restructuring of sediments by living organisms, especially by boring, burrowing, or other movement.
4. Fragmentary Structure 7, which also underlay Structure 4, is not shown in this figure.

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