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Author

Voytek, Barbara

Publication Date

2012-09-09

Supplemental Material

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ANALYSIS OF CHIPPED STONE TOOLS
FROM THE TISZA CULTURE SITE OF
HODMEZOVASARHELY-GORZSA, HUNGARY 2011, 2012

Stahl Field Report

Archaeological Research Facility, UC Berkeley

09 September 2012

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Barbara Voytek, Ph.D.

Archaeological Research Facility, UC Berkeley

bvoytek@berkeley.edu

The site of Hodmezovasarhely-Gorzsa is a Tisza culture tell site (Late Neolithic, ca 4000 BC). It was excavated by Ferenc Horvath (Mora Ferenc Museum, Szeged) during the 1980's. He has published several articles about the settlement and currently is preparing a monograph with funding from the Hungarian Scientific Research Fund (Hungary's equivalent of NSF). Since 1998, I have been able to spend time in Szeged, analyzing the chipped stone assemblage and publishing, Preliminary Results of the Multidisciplinary Study of the Chipped Stone Assemblage from the Tisza Culture Site of Tell Gorzsa, in *The Lengyel, Polgar and Related Cultures in the Middle/Late Neolithic in Central Europe* (Krakow 2007). The co-author of that work, Elisabetta Starnini, Ph.D. University of Genoa, and I spent some weeks in Szeged in 2011 and 2012, continuing the analysis which had been interrupted in 2000 due to lack of funding.

The research entails traditional typological classification of the stone tools as well as functional analysis based on a study of the microwear traces. In addition, we document the nature of the raw material and measure and weigh all pieces. Drawings are made of all tools that show evidence of use (Fig. 1). The study is conducted in the guest apartment of the Mora Ferenc Museum in Szeged which also served as our lodging (Fig. 2).

The site of Gorzsa lies at the confluence of the Tisza and Maros rivers (Fig. 3). In this region there are several tell settlements, including some with on-going study such as Szegvar and Tape-Lebo. The layers of the settlement formed a sequence that was 2,60 to 3,00 m thick and contained remains from the Late Neolithic to the period of the Sarmatians. The thickest layer dates to the Late Neolithic, periods II-V of the Tisza culture. In terms of comparative chronology, the main phases of the development of the Tisza culture (Phases II-V) are considered contemporary with the Proto-Lengyel and Lengyel I-IIIa cultures. In terms of absolute chronology, calibrated dates place the occupation of the tell roughly between 4970 and 4380 BC.

The name of the archaeological culture itself comes from the Tisza River, being centered in the middle Danube region, east of the river. Both tell and horizontal settlements are known. Among the characteristics of the culture are anthropomorphic vessels and pottery with what

appear to be incised basketry designs (Fig. 4). There is a wide variety of forms including footed vessels and bowls with pedestals. Excavations have uncovered evidence of extensive cereal production and storage as well as cattle husbandry. The Tisza culture is a regional variant of the three Late Neolithic cultures that are frequently grouped together, namely, the Tisza-Herpaly-Czoszhalom archaeological cultures.

Although the research is not yet completed, we have found a variety of tasks were performed in the settlement. This, of course, is not surprising. The most common tool and usage were endscrapers, particularly on wood (Fig. 5). Hafting was commonly witnessed on tool edges as well as extensive resharpening. Blades have been used as sickles and also for cutting some type of vegetation but not as tools for harvesting. Further experimentation might help narrow the categories of worked materials. The analysis of the raw materials, assisted by the LithoTeca in Budapest, has shown several types of radiolarites and flints whose sources are located to the southeast, northwest and southwest, extending into zones associated with the Lengyel culture. In addition to our study of the potential provenance of the raw material, we expect to examine the choices made by the toolmakers and tool users in terms of raw material, tool type and use – e.g., were certain raw materials preferred for certain tasks and/or tools? Were certain raw materials chosen for resharpening more often than other materials? These are just a few of the questions that we hope to use the data to answer.

A preliminary attempt to answer the first of these questions was carried out in 2012 by studying possible correlations between raw materials and use. A small sample was chosen, mainly due to the fact that only a small sample of the tools has been assigned confidently to phases within the Tisza culture. Much of the material unfortunately comes from pits which are difficult to place chronologically. The excavator/director of the project is working on that issue. Within the small sample, we found little evidence that specific raw materials were chosen for certain functions. There were indications that the most common raw material, radiolarite, had been used for a variety of tasks, a fact which reflects the nature of the sample as well as the prehistoric choices. We hope that in the future, with an expanded sample, we might be able to provide more than preliminary results. Publication of this initial study is underway as, E. Starnini and B. Voytek, “Post” Transformation: Preliminary Research into the Organization of Technology during the Neolithic, *Interdisciplinaria Archaeologica Natural Sciences in Archaeology (IANSa)*, vol. III, 1/2012, pp. 47-63, (Issue in Memory of Marek Zvelebil).

The author is grateful to the Archaeological Research Facility and the Stahl Endowment Fund for helping to fund this research as well as providing support to all affiliated scholars and students.

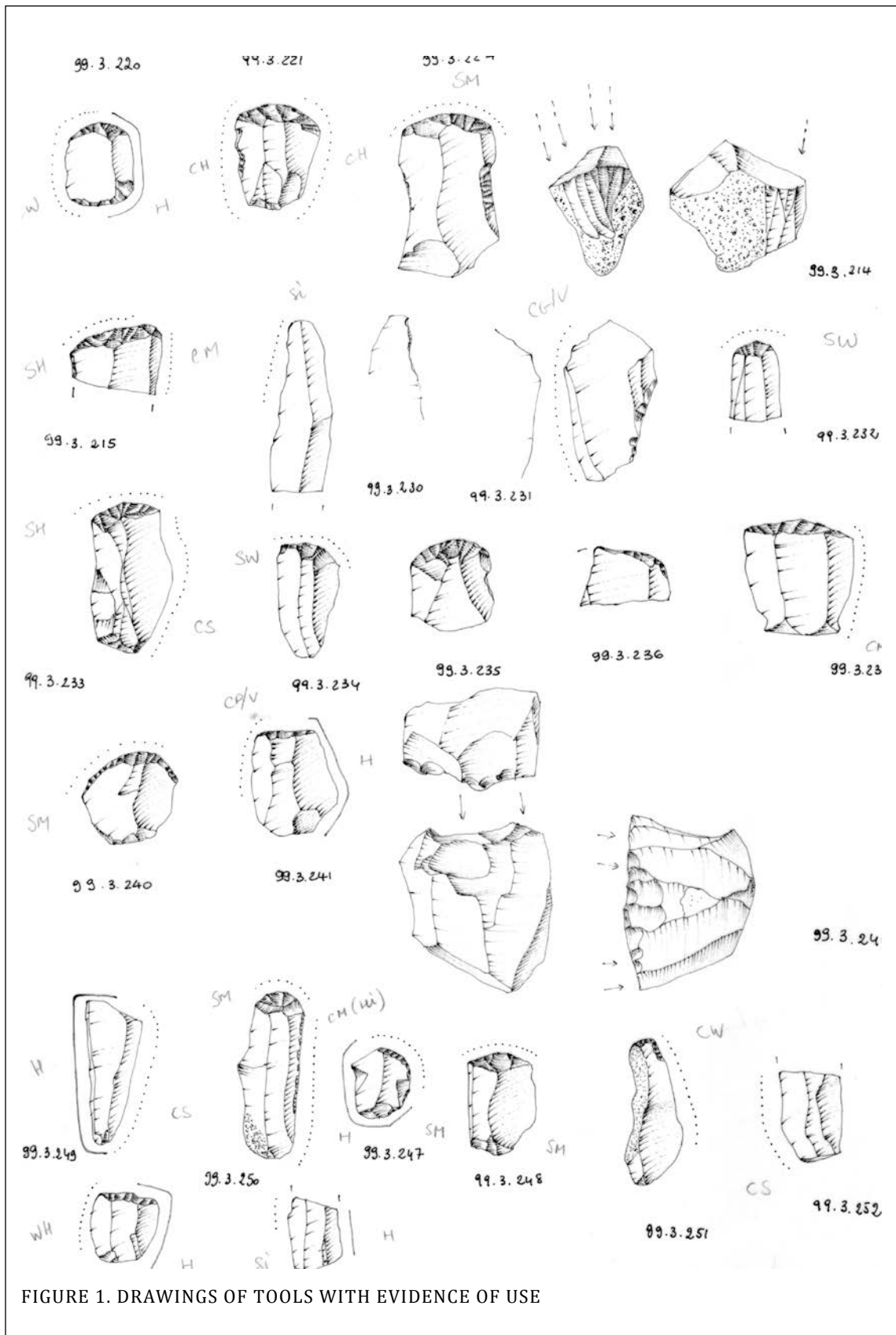


FIGURE 1. DRAWINGS OF TOOLS WITH EVIDENCE OF USE



FIGURE 2. ANALYSIS IN SZEGED.

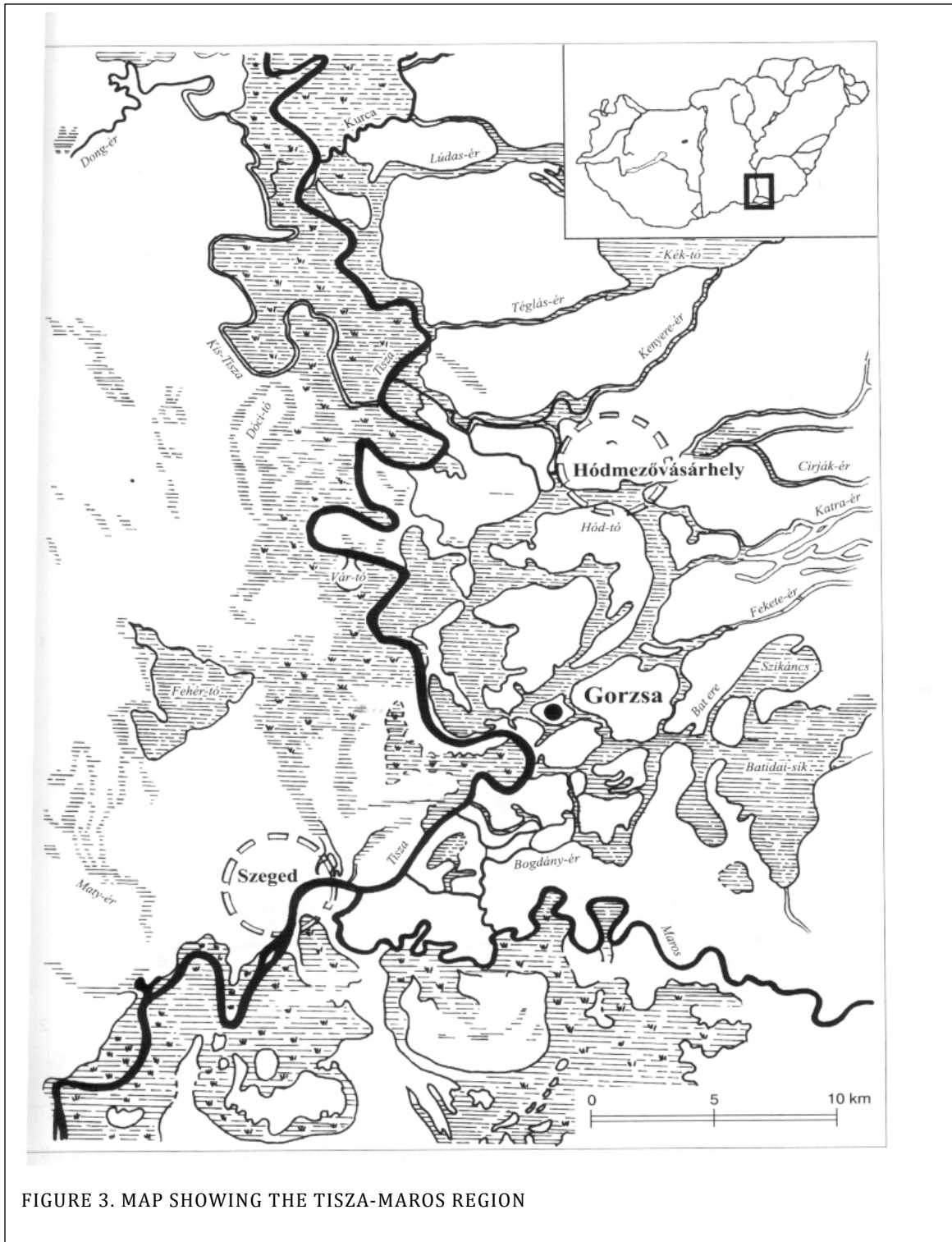


FIGURE 3. MAP SHOWING THE TISZA-MAROS REGION



FIGURE 4. TISZA CERAMIC.

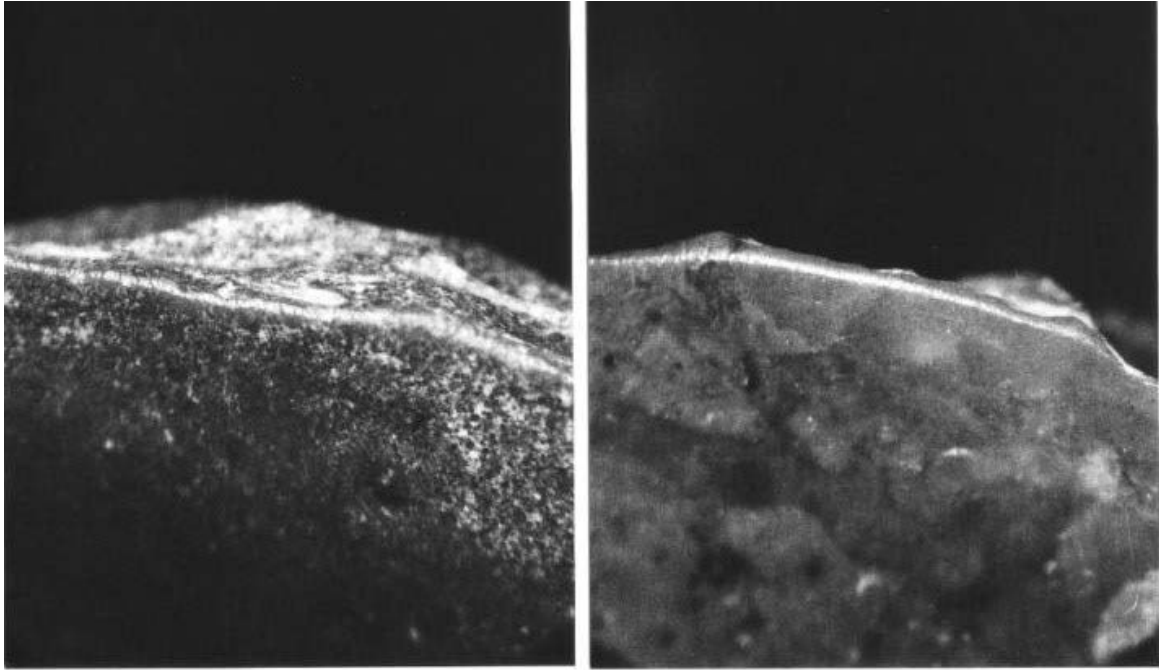


FIGURE 5. MICROWEAR IMAGES.