H Hungary

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REFERENCES


H 8 SZENTGÁL-TŰZKÖVESHEGY, VESZPRÉM COUNTY

Katalin T. Biró

Szentgál is located in West-Central Hungary, North of the lake Balaton, along the international main road no. 8 connecting Veszprém (Székesfehérvár) with Graz, Austria. The village is at 17°44’ E, 47°07’ N longitude and latitude, respectively. The site is located in the Southern parts of the Bakony Mts., part of the Transdanubian Mid-Mountain Range, covering the hilltop till the flanks of the Tűzköveshegy (“Flint Mountain”). The area covered with worked flint debris extends over about 0.5 km², the site where traces of prehistoric flint mining were excavated is on the plateau of the hill (Fig. 1). Historical data exists on the use of the silex (radiolarite) even in the 20th century.

The raw material from the Szentgál area was mentioned by scholars of the last century (Lipp 1876). The Szentgál-Tűzköveshegy area was mentioned as a prehistoric site at the beginning of the 20th century (anon. 1912). Geological surveys of the region identified the presence of radiolarite debris without acknowledging its artificial character (Mészáros 1980). Petroarchaeological surveys conducted by József Konda, Erzsébet Bácskay and Katalin Biró in 1982 revealed its importance as a prehistoric raw material source (Biró 1984, 1986). Archaeological excavations were conducted here from 1983–1985 and in 1993–1994 (see annual reports in the series Régészeti Füzetek). Satellite settlements attached to the exploitation site were studied and excavated by Judit Regenyé and Katalin Biró (Biró and Regenyé 1991; Regenyé
Fig. 1. H 8 Szengál-Túzköveslegy. General map of the workshop area.
Distribution of the raw material was studied by Biró (Biró and Regenye 1991). The raw material exploited here is Middle Jurassic radiolarite (Bath-Kallovian period) of pelagic origin. The typical colour of the radiolarite is red, but it can vary from mustard-yellow to dark brown. The layers of the bedrock on the surface are generally covered by debris of radiolarite and porcelanite. In the layers uncovered by the excavation the position of the bedrock could be determined by dip and strike. The oblique position of the radiolarite beds allowed an easy access to the raw material.

Fig. 3. H 8 Szentgál-Tűzköveshegy. The “Great Trench” (pit no. 4) from the north.
Not very far from the mine, Lower Jurassic chert occurs which was used locally but to the best of our knowledge, not exploited in prehistory (Szentgál-Mésztelep quarry).

Following field survey in 1982, the site was excavated first by the Hungarian Geological Survey (1983–85, Biró), later by the Lackó Dezső Museum and the Hungarian National Museum (1993–94, Regenye and Biró). In the first years, no mining features were found, only evidences of intensive workshop activity could be collected. In the central parts of the distribution of the radiolarite where the

Fig. 4. H 8 Szentgál-Tűzköveshegy. Shallow cauldron-like pits in section I with two “pillars” as transect: a — humus with chipped debris; b — light coloured sterile debris; c — red clay with sterile debris; d — exploitation floor; e — bedrock pillar.
excavations were started, the surface debris was found to be very thick and it was impossible to find the top of the bedrock. Stereophotographic analysis of aerial photos of the region indicated debris several metres thick over the bedrock of the hill. Therefore, we started to detect the bedrock surface from the outer limits (Upper Jurassic Marl) with a long trench towards the central region. After locating the limits of the radiolarite and patches of workshop activity, the first real mining pits were found in 1993 (1993/1/b, see Fig. 2). In 1994, sections and archaeological trenches were planned accordingly and 5 individual mining pits were located. The shape of the pits is seemingly different indicating different mining techniques and probably difference in age. The largest pit is in fact a long trench cut along the strike of the radiolarite beds (Fig. 3). The deepest point reached is below 3 metres and the bedrock was not reached at some points. Most of the pits are more shallow (1.5–2.5 m) and their form is elongated cauldron-like. The pits were mostly refilled with barren debris.

In 1993, a series of sondages was also cut to study the limits of the area covered by traces of workshop activity. The sondage pits were dug in a double line of 10 x 10 meters along the northeastern margin of the radiolarite debris. One of the sondage pits hit a deposit of quartzite pebbles which was interpreted as a “hammerstone-depot”. Quartzite hammerstones were in fact the basic means of extraction found in the mining pits. The use of wooden wedges and fire for extraction is also supposed. Charcoal remains and traces of wedge working on the radiolarite block surfaces support this view. There is no other mining tool type found yet, and we do not have positive dating evidence. It is hoped that current charcoal finds will be suitable for dating, however, we have had discouraging experiences of dating from similar contexts (Biró and Regenye 1991:341).

The distribution of the raw material was examined in the context of Veszprém county systematically and in a wider circle within the Carpathian Basin. The quality of material and practical experience suggests that an essential part of the material classified as “Transdanubian radiolarites” comes from this area. The vivid red colour variant, termed “Szentgál radiolarite” is especially characteristic for this source. The use of this material was found to have been constant and dominant in the Northern part of Transdanubia since the Palaeolithic. Occasional import pieces were found as far away as Bylany, Bavaria (observation by D. Gronenborn) and Romania (Parta). The area of the Szentgál-Tűzköveshegy mine was not inhabited till the Late Bronze Age. The mining field was probably exploited by occasional expeditions for most periods of history. The intensive study of the area could find only one exception: at the end of the Lengyel Culture, a ring of settlements (8 individual and roughly contemporary settlements) surrounded the area, probably with economic and/or protective purposes.
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H 9 HÁRSKÚT-ÉDESVÍZMAJOR, VESZPRÉM COUNTY

Erzsébet Bácskay

The site is located at 17°49′E, 47°11′N, longitude and latitude, respectively, in the central part of Bakony mountains, part of Transdanubian Mid-Mountains. It is situated ca. 3 km to the NW of Hárskút on a gentle hill slope, covering a small area.

The site was discovered in 1970 when the Hungarian Geological Institute established a geological section there. József Konda, geologist, collected antler mining tools and identified traces of prehistoric mining activity.

At the site there is a rich sequence of Mesozoic limestone, marl and calcareous marl layers covered by (Jurassic) red radiolarite of blocky character, deposited in a bank-like formation, easy to quarry.

No archaeological excavations have been carried out on the site. According to Konda’s observations there was a loessy loose layer over the radiolaritic bedrock with slope debris and radiolarite fragments — partly traces of mining (extraction) — in which also mining tools were found. The depth of this layer was about 180 cm.

We have no positive data on the method of mining. The radiolarite was either directly quarried here or extracted by small pits.