Stone tools features from the Late Neolithic settlement Chavdarova Cheshma – Simeonovgrad, Bulgaria

Характеристика на скални инструменти от къснонеолитно селище Чавдарова чешма – Симеоновград, България

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The site is situated in the Chavdarova Cheshma locality, in the eastern outskirts of the town of Simeonovgrad, at the right bank of the ancient Maritsa riverbed. Since the first trench excavations in the late 60-ies of the 20th century until now materials and structures from the Early and Late Neolithic, Chalcolithic, Bronze and Iron ages, Roman and Medieval periods have been attested. A large part of the site was studied during rescue excavations in 2014 and 2015 (Boyadzhiev et al., 2016).

The best preserved and studied is the Late Neolithic settlement. It covers an area of more than 200 decares. Five stratigraphic phases have been distinguished, which attest the prolonged life of the settlement. The pottery complex is dated to the phases III and III/IV of the Karanovo culture – the second half of the 6th millennium BC.

During the excavations in 2014–2015 almost 330 ground stone tools and 260 chipped stone artifacts were found, most of them from the Late Neolithic layer. The ground stone objects represent mainly the basic types of Neolithic tools, with a significant dominance of grinding stones, followed by hammer-stones, polishers and adzes. Axes, chisels, mortars, whetstones and others are presented by a small number of artifacts. The chipped stone artifacts present both different stages of the production chain and finished tools: cores, flakes, blades, scrapers, burins, trapezes.

Most of the stone artifacts have been analyzed petrographically in order to establish the provenance of the raw-materials and the possible connection between the suggested function of the artifacts and the characteristics of the materials used to produce them. Most of the grinding stones are built of granitoids, but single instruments of sandstones, intermediate lavas, green coloured micaschists and gneisses are also found. A strong material specialization is established for the hammer-stones (Fig. 1a, b) that are made mostly from quartz cobbles and just a few are built of intermediate and mafic volcanic rocks, granitoids, jaspers and sandstones. The polishers (Fig. 1g) are made mostly from granitoids and mafic to intermediate lavas, but also from metamorphic rocks (sericitic schists, amphibolites, gneisses), quartzites and sandstones. The basalts are the most used material for the adzes (Fig. 1c, d, e) along with siltstones, silicified tuffs, welded ignimbrite, rhyolite, sandstones, intermediate and basic lavas, gabbro and sandstone. Only 3 chisels (Fig. 1f) are studied and two of them are made from metabasites while the other is made from diorite porphyry. One mortar is made from sandstone and most of the whetstones (Fig. 1h) are made from variable by grain size sandstones. The chipped stone artifacts (Fig. 1i–k) are made mostly from flint but a few materials like opal, jasper and rhyolite were also used.

The Chavdarova Cheshma settlement is located in the Neogene Thrace sedimentary basin. It is situated just to the north of the Paleogene Eastern Rhodopes basin (filled with a volcano-sedimentary succession) and to the south of the Srednogorie Tectonic Zone (built of metamorphic basement, cross-cut by Variscan plutons and Cretaceous igneous, both plutonic and
volcanic, rocks). Directly to the east of it the Sakar–Strandzha Tectonic Zone is situated, where high-grade metamorphic rocks, ultrabasites, metabasites and Variscan plutonic (granitoid) rocks (e.g. Sakar pluton) are outcropped. Most of the studied materials used by the artifacts can be found in the direct vicinity or in the near-by territories. Many of the grinding stones, hammer-stones and polishing tools are reworked by a river flow, so they are most probably taken from the river beds. The nearest flint-bearing rock sites of Yabalkovo and Karanovo are situated just to the west (30 km) and to the north (50 km) respectively, while the opal, jasper and rhyolites are most probably taken from the Eastern Rhodopes.

As a conclusion it could be stated that the stone materials used for producing the tools in Chavdarova Cheshma settlement are local and easy to approach, but local trading is also not excluded. Obviously the ancient craftsmen knew the qualities of different stone materials quite well and preferred special materials for tools with certain function.

Reference