DETERMINATION OF SOURCES OF RAW MATERIALS: RESULTS OF A FIELD SURVEY IN THE BURHAN RIVER VALLEY (REGION OF ANTALYA, TURKEY)

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INTRODUCTION

In 1993, field survey continued in the area near Öküzini and Karain caves. Exploration focused on sediments of the Burhan river that flows in the valley of Termessos (Fig. 1). The Burhan river is seasonal and conducts waters only in winter and spring. Sediments filling up the valley were tested in three profiles (Fig. 1).

Outcrop 1

This profile represents old sediments of the Burhan river, present in the form of terraces (Fig. 2). The terraces are built of two types of sediments. The upper part is composed of fine pebbles (gravels) mixed with terra rossa redeposited from the limestone massif bordering the valley. The bottom of the profile is composed of coarse, well-rounded pebbles up to 1.0 m in diameter

The stratigraphy of the sediments suggests that the upper part is Holocene and the lower part Pleistocene. Both types of sediments contain limestone pebbles (about 85%) and rounded fragments of various radiolarites (up to 15%).

All types of radiolarite observed have also been observed at Karain and Öküzini caves.

Outcrop 2

This outcrop is located 5 km up from site 1 vis-à-vis Termessos (Fig. 1). The Burhan river valley sediments are here cut in four generations of river terraces (Fig. 3). The younger, upper terraces are composed of a mixture of small rounded limestone and radiolarite pebbles and redeposited terra rossa. The lower sediments are represented by coarse river gravels up to 1.5 m in size. Petrographic analyses of these sediments showed that they are composed of limestones and various radiolarites.

The upper, reddish sediments contain rare, chipped artifacts in various states of preservation. Some are in secondary position but others are local and only slightly moved from their original place.

Outcrop 3

This site is located at the place where a small stream meets the Burhan river (Fig. 4). Four generations of river terraces are composed of gravels mixed with terra rossa. The deepest part of the valley is filled up with coarse limestone and radiolarite gravels. Chipped implements have been found on the surface of terraces II and III (Holocene?).

CONCLUSIONS

1. Field survey showed that sediments of the Burhan river contain plenty of radiolarite pebbles. Most of them have also been found in the lithic assemblages of Öküzini and Karain caves. River, during the transport selected rocky material, so, in the sediments one can only find siliceous material of best quality for chipping.

2. The beds of the Burhan river contain an admixture of chipped implements. Part of this material is present in secondary position and was eroded from sites present in the valley. Some artifacts are probably *in situ*. This suggests the presence of open-air sites on terraces along the Burhan river. Determination of these sites should be done in future fieldwork.

3. The relationship between the radiolarites of the Goksu river to lithic material found at Öküzini and Karain caves shows clear procurement of raw material from the sediments of this river. Additionally, one can observe a process of selection of the most beautiful radiolarites for tool production.

4. Observations made on the terraces of the Burhan river, particularly the size of transported gravels, suggest that during the Pleistocene the amount and force of the river waters were much higher than during the Holocene. This phenomenon confirms observations from sediments at Öküzini cave

which indicate that, in the tested area, the end of the Pleistocene was much wetter than during the Holocene.

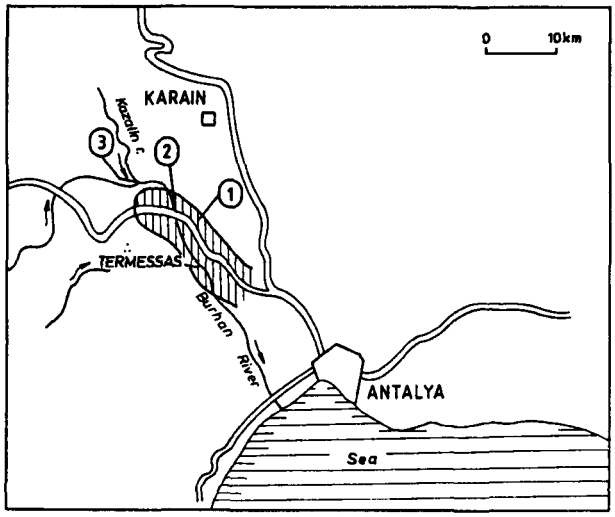

Figure 1. Localization of the Burhan river valley. 1-3: tested outcrops. Marked field: area containing chipped radiolarites.

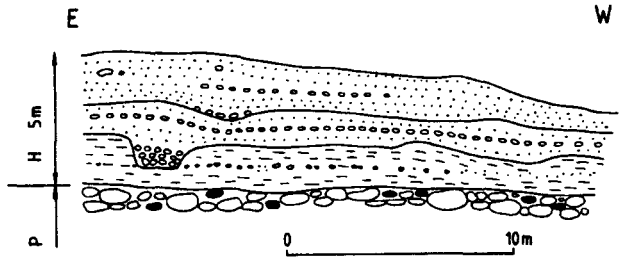

Figure 2. Profile of outcrop 1. H: Holocene terraces composed of redeposited terra rossa mixed with limestone and radiolarite gravels, P: Pleistocene, containing big rounded limestone and black radiolarite blocks.

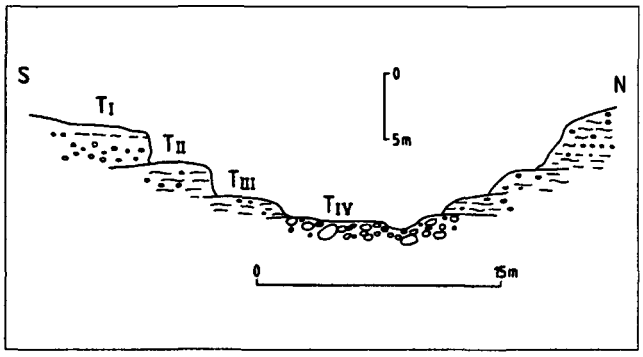

Figure 3. Schematic cross-section of sediments filling up the valley at outcrop 2 (vis-à-vis Termessos).

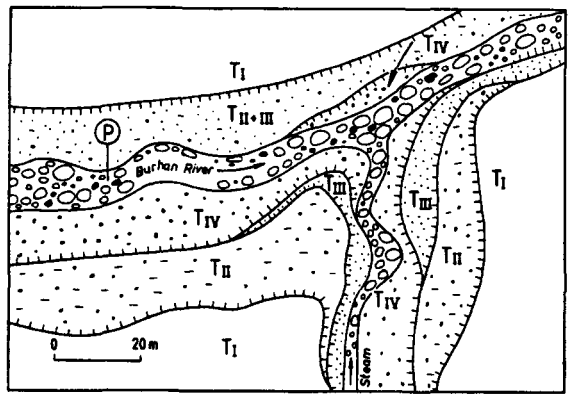

Figure 4. Map of the Burhan river terraces at outcrop 3, at the confluence of a small stream with the Burhan river.