

## PETROGRAPHIC ANALYSIS OF LITHIC ARTEFACTS FROM LIMBA (ROMANIA) TO CONFIRM NEOLITHIC TRADE PATTERNS

CRANDELL, O.N.

Department of Geology, Babeş-Bolyai University, 1 Kogălniceanu Str., RO-400084 Cluj-Napoca, Romania

E-mail: otis.crandell@ubbcluj.ro

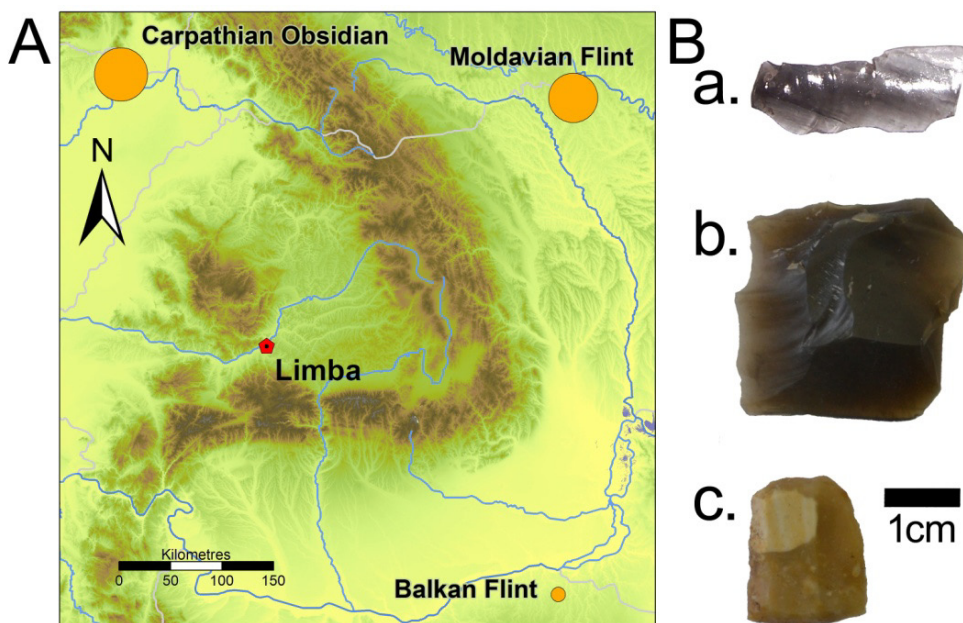
An important question in prehistoric archaeology is the inter-settlement and intercultural interactions of settlements. Trade and procurement can often give us insights into the economic aspects of interaction. For this study, 440 knapped lithic artefacts from the Early to Middle Neolithic settlement site near Limba (Alba County, western Romania) were analyzed to help to verify their sources and thereby to determine the intensity of trade with different regions. Within and adjacent to the Transylvanian Basin, there are three main knappable materials that are considered as high quality and were imported in large quantities during the Neolithic. These are the “Carpathian obsidian”, “Moldavian flint” and “Balkan flint” (Fig. 1). Within a day’s travel by walking or by boat from Limba there are also materials of various quality that are suitable for knapping. The Criş and Vinča cultures, that occupied the Limba settlement, were extended to the south in the region of the Danube. Since two of the high quality materials i.e. Moldavian flint and Carpathian obsidian are outside of their cultural territory and the third i.e. the Balkan flint is within, this is an ideal assemblage for the analysis of intra- and intercultural economic interactions.

The entire set of artefacts was compared macroscopically with material samples from potential source outcrops. Thirty of the artefacts were analysed petrographically and compared by thin sections with raw material samples. Obsidian was not analysed under microscope, but can be clearly distinguished from microcrystalline quartz and other studies indicate that its

source was correctly identified. One artefact based on macroscopic assessment was considered as Balkan flint and two were considered as local, however these were not proved by petrography. In other cases, the petrographic analyses supported the macroscopic categories.

Although there are numerous local and near-local sources of lithic material, a large portion of the artefacts appear to be made from non-local materials. Only 38% of the artefacts came from sources within a day’s travel distance from the settlement. Regarding to the imported materials, 24% of the whole assemblage is Moldavian flint, and 26% is Carpathian obsidian. Contrary, only 7% is Balkan flint. This suggests more economic contacts with the North, outside of their cultural territories. The results of this study indicate that economic contacts and interactions were not limited to the given culture. In fact, it is likely that there were other more important factors involved in choosing trade partners. The large proportion of imported material suggests that trade routes may have already existed in the Neolithic.

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**Fig. 1.** A) Location of main sources for knappable material discussed in the text. Circle size is proportionate to the percentage of material from that source; B) Images of lithics made of Carpathian obsidian (a), Moldavian flint (b), and Balkan flint (c).