

Day 1 (27 May)

17:00-18:40: lectures

Session VII - Super-long distance movement of obsidian in prehistory: why, how and what for?

17:00-17:20

Demidenko, Y. E. - Hauck, T. - Frahm, E.: “And even one warrior is in the field”: an importance of Yabrud II (Syria) obsidian artifact for understanding of EUP human dispersal events beyond the East Mediterranean Levant

17:20-17:40

Kuzmin, Y. V.: Super-long-distance exchange of obsidian in the prehistoric Arctic: current evidence from Northeast Siberia and Alaska

17:40-18:00

Vianello, A. - Tykot, R. H: Obsidian production and consumption in Yellowstone National Park, USA

18:00-18:20

Jokhadze, S.: Chikiani obsidian source and transportation routes in Neolithic-Chalcolithic period cultures of Lesser Caucasus of Georgia

“And even one warrior is in the field”: an importance of Yabrud II (Syria) obsidian artifact for understanding of EUP human dispersal events beyond the East Mediterranean Levant

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Along with a few more Levantine sites having long Early Upper Paleolithic (EUP) sequences, Yabrud II rock-shelter in Syria received many controversial industrial-chronological interpretations. Matching together our new site's archaeological interpretations and data on the site's single obsidian artifact found at layer 4, the following observations are proposed now.

Yabrud II, layer 4 with materials from layers 5, 3–2 belongs to Levantine Aurignacian A / Ksar Akil Phase 3 representing a mixture of Early Ahmarian and Aurignacian features. The EUP industry is an “industrial bridge” between Southern Levantine Early Ahmarian with some carinated burins and Levantine Aurignacian B / Ksar Akil Phase 4. The latter industry is also suggested to be a “proto-type” in local Levantine origin for Western Eurasia Proto-Aurignacian. Accordingly, Yabrud II Levantine Aurignacian A / Ksar Akil Phase 3 materials are important for Aurignacian origin considerations and its sites are not restricted to the East Mediterranean Levant. The artifact data allow comparisons with Shanidar cave, layer C (Zagros Mountains) and Kamennomostskaya cave, lower layer (north-western Caucasus). Accordingly, human dispersal events are proposed from the Levant into Middle East and south of Eastern Europe.

The Yabrud II obsidian was chemically analyzed and it matches Kömürcü obsidian outcrops of the Göllü Dağ volcanic complex (central Turkey) being separated from Yabrud II by > 700 km. A few obsidian artifacts at Shanidar cave, layer C assemblage connected to also distant (no less than ca. 450 km) but different obsidian sources allow us to discuss a possibility for a EUP network for human dispersal events in the Near and Middle East, additionally keeping in mind the S. Kuhn's data on actual absence of proper UP sites around Göllü Dağ volcanic complex.

Keywords: Levant, Early Upper Paleolithic, Kömürcü outcrops at Göllü Dağ volcano in central Turkey, human dispersal events

Super-long-distance exchange of obsidian in the prehistoric Arctic: current evidence from Northeast Siberia and Alaska

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The long-distance movement of obsidian from sources to utilisation sites is well-known in different parts of the world, including Oceania, North America, and the Near East. In the Eurasian Arctic, only after accumulation of data in 2009–2019 did it become possible to reconstruct major obsidian trade/exchange networks.

The study of obsidian distribution from the source at Lake Krasnoe [*Red Lake*] in the Chukotka region of the Siberian Arctic has allowed us to establish the extremely wide-ranging circulation of this raw material in prehistory, beginning at least at ca. 9000 years ago. At this time, obsidian from Lake Krasnoe was brought (most probably, by exchange rather than direct travel) to the Zhokhov site in the High Arctic, at a distance of ca. 1500 km in a straight line. This is an example of super-long-distance movement of obsidian in the Arctic, established by us for the first time (data by V. Pitulko, Y. Kuzmin, M. Glascock, and others). In later times (Neolithic–Bronze Age, ca. 7000–2000 years ago), the Lake Krasnoe obsidian was transported to the Kolyma River basin and beyond it, with distances often exceeding 1000 km as the crow flies. At ca. 1000–600 years ago, this obsidian was brought to Alaska across the Bering Strait, ca. 1000 km away from the source.

The phenomenon of super-long-distance trade/exchange of obsidian in the Arctic, now securely established by our informal team, deserves more research in the near future.

Keywords: obsidian exchange, prehistory, Arctic, Siberia, Alaska

Obsidian production and consumption in Yellowstone National Park, USA

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A new study of nearly 700 obsidian artifacts from Yellowstone National Park using a pXRF and encompassing several Native American prehistoric sites (ca. 10,000 BP to 1,000 BP) is revealing new patterns of source acquisition and trade of obsidian. In particular, the use of raw material from Obsidian Cliff is mapped across the park. The use of the park area in antiquity was mostly seasonal or periodic, largely due to the coldness of winters and abundance of snow, and it was shared among several tribes, as it is today. As a result, specific patterns of consumption are highly variable, but it is possible to track local procurement of obsidian vs. access to more distant sources.

Obsidian Cliff was undoubtedly the major source for obsidian, and it was traded significant distances, including to Ohio and Maine. Yellowstone Park was inserted in existing trade networks as demonstrated by the presence of different sources, and it was a place for different tribes to meet, given the periodic occupation of the land and the vast spaces available. Tracking and mapping the movement of obsidian in different areas is of great value to identify the major routes in ancient exchange systems and identify areas possibly used by different tribes, such as the Shoshone and Black Feet that are known to have frequented the area before European contact. It is also an area of great significance for insights on craft specialization among mobile Native Americans and the development of very long distance trade networks.

Keywords: Yellowstone, Obsidian Cliff, trade, exchange, sourcing, consumption

Chikiani obsidian source and transportation routes in Neolithic-Chalcolithic period cultures of Lesser Caucasus of Georgia

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Obsidian is one of the most long distance trade materials in archaeological science. After prehistoric humans found out benefits of obsidian, he had permanent connection with obsidian sources. One of the richest regions is considered to be South Caucasus, where at the very north of many sources, is located Chikiani obsidian dome. The Chikiani volcano is located in Southern Georgia, some 85 km west-southwest of Tbilisi.

At Chikiani, obsidian is abundant and easy to access from the North - passing through Tsalka Lake and from the South - through the river Paravani. Chikiani obsidian has a high-grade quality. It can be presented with black, brown, reddish or mixed colors.

Khrami river, as a second source, receives many obsidian blocks from its tributaries running down from the Chikiani slopes and carries many obsidian pebbles as far as its lower course.

According to palynological analysis of Paravani lake sediment, we can see that after Holocene in Southern Caucasus, concretely on Javakheti Plateau warm climate appears, it's thinkable that after VIII millennium in Neolithic – Chalcolithic times this territory would not be hardly reachable for the population (nowadays in winter a snow cover lasts more than six month). On lesser Caucasus between VI-IV millennium very interesting Neolithic Sulaveri-Shomu and Chalcolithic Sioni culture sites are examined (Also Tsopi, Dmanisi, Javakhi, Tsiteligorebi sites) in which the leading part in its' lithic industry takes obsidian (more than 90%). It's undoubted that population of mentioned cultures' and sites would have permanent connection with Chikiani source.

Exactly through which way/direction was obsidian distributed?

There are clearly developed river flows In Javakheti and Kvemo Kartli regions. With this point, we think that river Khrami's two tributaries and the whole river-bed of Mashavera should be considered as the obsidian's main distribution routes in Neolithic-Chalcolithic times.

Keywords: obsidian, distribution, source