

---

# Borownia upon the River Kamienna (Poland) - a prehistoric mine of striped flint in the light of the first excavations

Jacek Lech<sup>\*1,2</sup>

<sup>1</sup>Muzeum Archeologiczne i Rezerwat Krzemionki (Krzemionki pl) – Sudol 135a, 27-400 Ostrowiec Swietokrzyski, Pologne

<sup>2</sup>Uniwersytet Kardynała Stefana Wyszyńskiego w Warszawie (IA UKSW) – Pologne

## Résumé

**Jacek Lech** with collaborators

Cardinal Stefan Wyszyński University in Warsaw, Institute of Archaeology, and Archaeological Museum & Reserve at Krzemionki

### **Borownia upon the River Kamienna (Poland) – a prehistoric mine of striped flint in the light of the first excavations**

The Borownia prehistoric mine of striped flint is situated in central Poland on the right side of the Kamienna River, a left tributary of the Vistula, 7 km south-east of the Krzemionki Opatowskie flint mine site, several metres above the River Kamienna floodplain. In this area 3.7 ha are covered with deep hollows, remnants of prehistoric flint mine shafts. The Borownia mining field is one of the best preserved prehistoric mining fields in Europe.

The site was discovered in 1921 by S. Krukowski and J. Samsonowicz during field surveys of flint sites in the valley of the Kamienna River; at the time it was described as "campignien". The discovery a year later of the striped flint mine in Krzemionki led to the recognition that Borownia was also a prehistoric mine. Before 2017 the site was studied by many archaeologists using non-destructive methods (both traditional, such as surface collection of artifacts and new, e.g. geophysical prospecting, Airborne Laser Scanning), and was dated to the Early Bronze Age.

In 2017, the first excavations were conducted in order to collect charcoal samples for dating. The main cross-shaped trench was cut in the NW part of the mining field, near the Kamienna valley. The second, smaller trench was dug in the SE part of the site, at a distance of c. 500 m.

The upper parts of several shafts were explored and numerous charcoal samples were collected for analyses, both radiocarbon (concluded) and palaeobotanic (still underway). Single snail shells and bone fragments were sent for specialized analysis.

More than six thousand flint artifacts indicate that bifacial axe head roughouts were produced, of a type known from a nearby Mierzanowice settlement and cemetery, lying ten

---

\*Intervenant

kilometres from the mine. There is strong evidence that the settlement was connected with the mine.

The results of the <sup>14</sup>C dating point to the exploitation of the mining field at Borownia in the period between 2300 and 1500 BC, which is roughly the end of the Neolithic and the first periods of the Bronze Age. Most of the dates correspond to the times of the Mierzanowice culture, whose communities are associated with the late phase of striped flint exploitation.

**Mots-Clés:** flint mining, settlement system, shafts, chipping floors, flint artifacts, Late Neolithic, Bronze Age