

Metallography of Hallstatt flat-and-lugged axes from the Czech territory

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Abstract

Hallstatt flat-and-lugged iron axes belong to tools/weapons encountered in the broader Central European area, including – besides the territory of today's Czech Republic – Saxony, Poland, Austria etc. In recent years, a few metal-detector finds have been documented from the Czech territory, some of these surprisingly well preserved and not affected by cremation, which makes them very suitable for metallographic examination. Obtained results are important especially for understanding technological standards and traditions within the period from circa 750 to 500 BC. Up to date, a total of fifteen flat-and-lugged iron axes were examined across Europe, of which four come from the Czech territory. The results indicate that we cannot reject the possibility that in general up to half of flat-and-lugged axes had a cutting edge provided with quenched steel. When steel was revealed in a cutting edge, traces of quenching were very often documented as well. Collected data thus suggest that heat treatment of Hallstatt-period forgings could be a rather common practice.

Keywords: Hallstatt Period, flat-and-lugged axe, Bohemia, metallography, ancient ironwork