

## ARCHAEO-METRIC INVESTIGATIONS OF AMBER FROM THE LATE BRONZE AGE AND THE IRON AGE FROM THE TERRITORY OF PRESENT BULGARIA

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**ABSTRACT.** The aim of this paper is to review investigations of the provenance of archaeological amber from the Late Bronze Age and the Iron Age in the territory of present Bulgaria, and resolve resultant problems relevant to the place of Ancient Thrace in the prehistoric model of distribution of the fossil resin.

Amber appeared in Thrace in the Late Bronze Age. It became more widely spread during the Early Iron Age and could also be found in Late Iron Age context. The presence of the fossil resin is not common after the V-IV century BC, although it reappeared in the Roman period.

Amber finds are mostly concentrated in the Western and Central Rhodope Mountains, predominantly in burials, usually mounds with inhumation, and are found together with metal artefacts – mainly ornaments, but also weapons, and sometimes pottery. It can be assumed that the fossil resin prevails in female graves but is not an exception in male and is even registered in a child's burial. The objects are commonly in the form of beads with irregular shapes probably parts of necklaces. Furthermore, amber is found incusted in the golden disc from the Valchitran treasure dated to the Late Bronze Age.

So far a provenance study of 94 archaeological amber finds from the Late Bronze Age and the Iron Age from present Bulgaria has been carried out using infrared spectroscopy (Christov, 2002; Kuleff et al., 2002; this study). All the analysed samples, except for some from Northeast Bulgaria, show the so called 'Baltic shoulder' (the characteristic absorption pattern between 1250 and 1175 cm<sup>-1</sup>) which means they are made of succinite or Baltic amber (Fig. 1).

The results of the present investigation raise the question about the mechanisms of distribution of amber to Thrace. That probably happened through cultural contacts with the neighbouring Western Balkan and Aegean regions, where the mineral had appeared earlier and in larger amount during the Bronze Age. In that way, already traced amber routes through Europe can be extended over the territory of present Bulgaria, with possible direction along the valleys of the rivers Iskar, Struma, Mesta and their feeders (Kuleff et al., 2002). Unfortunately, not all the material is found as a result of regular

archaeological excavations and as a consequence it is not possible to look for exact directions of Baltic amber penetration in Thrace.

Special attention should be paid to the poor concentration of amber artefacts in the investigated area, the presence only of finds with irregular shapes and the few archaeological sites where they can be observed. For that reason, it can be concluded that Thrace did not take a serious part in the so called 'amber trade', flourishing in Europe during the Bronze Age and the Iron Age. Nevertheless, some Baltic amber reached the aforementioned region. The presence of non-Baltic samples, however, indicates a far more complex system of contacts and exchange.

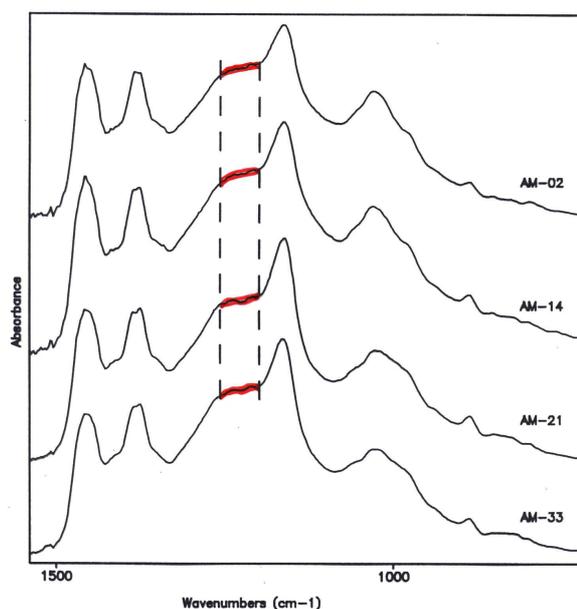


Fig. 1. Partial infrared spectra of some archaeological finds with 'Baltic shoulder'

## References

Christov, I. 2002. *Thracian Adornment Treasuries from the VII-VI c. BC*. Veliko Tarnovo (in Bulgarian).

Kuleff, I., R. Djingova, M. Arnaudov, D. Gergova. 2002. Provenance study of Iron Age amber from Bulgaria. – *Archaeometry 1998: Proc. 31<sup>st</sup> Symposium, Budapest, 1998, Vol. II*, 757-760.