

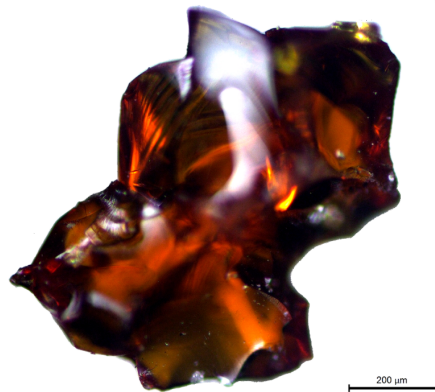
Universidad de Granada

Researchers identify the oldest pieces of Baltic amber found on the Iberian Peninsula: imports began over 5,000 years ago

17/10/2023

Research news

A team of scientists from the Universities of Granada and Cambridge, as well as the Government of Catalonia, have identified the oldest pieces of Baltic amber on the Iberian Peninsula. This material, used in jewelry, is the oldest ever found in the world and was already being imported more than 5,000 years ago.



The research was led by UGR lecturer Mercedes Murillo-Barroso and involved the collaboration of Marcos Martín-Torres of the University of Cambridge and Araceli Martín Còlliga of the Government of Catalonia. According to Murillo-Barroso, the work “allows us to say with confidence that the arrival of Baltic amber on the Iberian Peninsula occurred at least in the 4th millennium BC, more than a millennium earlier than we thought, and that it was probably part of wider trade networks linked to the south of France”.

Trade is one of the many mechanisms through which we establish social relations, and often the objects that are exchanged are not necessarily consumer goods needed to live, but rather decorative, luxury or symbolic objects. Sometimes, especially in adverse conditions, having trade networks means having a network of mutual support, but these trade networks can also generate social inequalities and relations of dependency, especially if not all the community enjoys equal access to the networks or if the objects exchanged are unequal.

In prehistoric times, amber, a fossil resin, was certainly not a raw material necessary for the development of daily life, but it was highly valued and was exchanged via the extensive trade networks that were established. The use of the multiple amber deposits on the Iberian Peninsula since the Upper Palaeolithic has been documented and, thanks to research carried out by archaeologists over the years, we know that from the 4th millennium BC onwards Sicilian amber began to reach the Iberian Peninsula through Mediterranean trade networks. However, until now it was believed that Baltic amber did not reach the Peninsula until the 2nd millennium BC, at which point it would become the primary raw material, replacing other types of amber such as Peninsular or Sicilian amber.

Regarding their research article, published in the prestigious journal *Nature*, Mercedes Murillo-Barroso affirms: "we present the standard infrared spectroscopy analysis of an amber bead of Baltic origin found at the Cova del Frare site in a context dated between 3634-3363 cal BC".

"The site, which is truly exceptional, illustrates the transition between the Middle Neolithic of the 'Sepulcrand the Late Neolithic of Véraza", explains Araceli Martín Cólliga, director of the excavations at the site.

"As there are no written documents from prehistoric times, the only way to study human activity is through archaeological remains. To study the transport and exchange of materials, we use very precise analytical techniques, such as infrared spectroscopy, which give us a kind of fingerprint of the amber deposits and objects," says Mercedes Murillo-Barroso.

Based on a large amount of data and this type of analysis, combined with other bodies of archaeological information, the study confirms that Baltic amber arrived in the northeastern Iberian Peninsula as early as the Neolithic, which is "something that must be understood in the context of trade during this period of transition and change, either by agents of a declining 'Sepulcres de Fossa' culture, or by those who would set new cultural trends at the end of the Neolithic, led by the Véraza groups of Catalonia and southern France, and not necessarily as direct contact with northern Europe". In fact, there is currently no evidence of Baltic amber crossing the Ebro at such an early date into the southern Iberian Peninsula, where the use of Sicilian amber

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was predominant as a result of the Mediterranean networks.

The Baltic region is home to what is perhaps the best amber in the world for use in jewellery. Indeed, it was highly sought after in classical Rome and now sustains a whole industry, for example in Poland. We now know that it began to arrive in Iberia as early as the 4th millennium BC, and that it gradually replaced Peninsular and Sicilian amber.

"This finding undoubtedly has important implications for our understanding of early exchange networks of exotic materials and their influence on social structures," explains University of Cambridge professor Marcos Martín-Torres.

Bibliographic reference:

Murillo-Barroso, M., Cóllica, A.M. & Martín-Torres, M. The earliest Baltic amber in Western Europe. *Sci Rep* 13, 14250 (2023). <https://doi.org/10.1038/s41598-023-41293-0>. The article is available at: <https://www.nature.com/articles/s41598-023-41293-0>

Contact details:

Mercedes Murillo-Barroso

Department of Prehistory and Archaeology at the Faculty of Arts of the University of Granada

Email: @email

Translated version: This text has been translated into English by the Language Services Unit (Vice-Rectorate for Internationalization) of the University of Granada.