

## C. A MOLECULAR AND SPECTROMETRIC APPROACH FOR TRACING THE ORIGIN OF ANCIENT IVORY

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**Abstract format:** Poster

The remains recovered from ancient shipwrecks are a unique cultural, historical and archaeological heritage. The Horta Bay shipwreck (site BH-001), located at Faial Island, Azores archipelago, Portugal, was partially excavated between 2008 and 2012 and became of particular interest to scientists due to the quantity and diversity of artefacts recovered, with special emphasis to a vast elephant tusks collection of unknown origin. Named as “Ivory’s Shipwreck,” a preliminary study of the artefacts suggests that it was a merchant ship operating in the Atlantic in the early eighteenth century, with possible English origin. This assumption needs to be supported by a full study of these rare items, resorting to a modern multi-analytical approach.

The analysis of artefacts through advanced analytical chemistry and molecular biology techniques may provide information about the geographical origin of the ship, the route, its cargo, and a better understanding of the strategic importance of the Port of Horta in the 17th and 18th centuries.

The artefacts recovered from the BH-001 site cover a wide variety of materials and an extraordinary collection of about one hundred ivory elephant tusks. The material analysis of these samples can provide information about the Asian or African origin of the elephants. Although the African source of the BH-001 ivory cargo is the most probable, analytical confirmation would provide higher reliability.

In this work, we present the preliminary results obtained from the BH-001 archaeological site, using DNA-based methods for species identification (mitochondrial DNA barcoding) and spectroscopic methods, like Fourier transform infrared spectroscopy (FTIR) and X-ray Fluorescence (XRF). Important information was obtained for elephant species identification by optimizing DNA extraction methods, however, data confirmation must be performed using a larger number of samples from the “Ivory’s Shipwreck” cargo and, if possible, samples obtained from other wrecks of the same chronological period.

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## 242 FORGOTTEN BODIES, INVISIBLE HISTORIES: ADDRESSING OVERLOOKED HUMAN NARRATIVES IN THE ARCHAEOLOGICAL RECORD

**Session theme:** 4. People of the Present – Peopling the Past

**Session organisers:** Casna, Maia - Hall, Rachael (Leiden University) - Jackson, Veronica (Vrije Universiteit Brussel) - Sandoval, Elena (University of Bristol) - Tutwiler, Alex (Leiden University)

**Session format:** Regular session

Over the last few decades, several conceptual, epistemological, and philosophical advances have permeated archaeological practice and theory, bringing to light the fact that, despite our best efforts, much of human history remains undiscovered. While several of our limitations in the understanding of the human past are often caused by issues such as preservation, under-representation in archaeological assemblages, and lack of funding, many others can be attributed to investigator biases shaped by popular ideas and stereotypes built around our vision of the past.

Following this, many archaeologists have been actively working to expand on those previously overlooked narratives, such as the study of women and children, economic inequality and social marginalization. The result of such efforts is that our present understanding of the past is more detailed, complete, and accurate than ever before. Yet, while some narratives are now commonly explored by archaeologists (e.g., gender, children, socioeconomic disparities), many