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Chemical characterisation of Islamic glass from Silves' Castle (Portugal)

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Field of interest: archaeometry, archaeology, Islamic Iberia

Abstract

Archaeological excavations conducted by one of us (RVG) since 1984 at Silves' Castle (Portugal) yielded a significant eleventh- to thirteenth-century glass assemblage. A representative cross-section of different artefact types from different well-stratified contexts was selected for LA-ICP-MS analyses. We present the analytical results as a function of the different vessel types (goblets, bowls, jugs, jars and small flasks) and different colours.

Keywords: Silves' Castle, Islamic glass, Gharb al-Andalus, Medieval fortifications

Introduction

The excavations of the early medieval fortifications of Silves' Castle produced substantial glass finds (Gomes, 2003). Typological evidence suggests that some of the glass objects might have been produced on the Iberian Peninsula, whereas others might have been imported from Syria and Egypt (Gomes, 2015). This raises the possibility that Silves was well integrated into the commercial networks of al-Andalus and connected via long-distance trade to the eastern Mediterranean.

A series of glass vessels from different contexts have been analysed for major, minor and trace elements in order to establish the chemical characteristics of the glass finds and to elucidate the relationship between vessel types and base glass composition. This will allow us to explore the geographical and chronological dimensions and key developments in the use of glass in late Islamic Silves.

Methodology & Results

The glass fragments were analysed by laser ablation inductively coupled plasma mass spectrometry (LA-ICP-MS) at the Centre Ernest-Babelon of the IRAMAT (Orléans, France), using an Element XR mass spectrometer (ThermoFisher) and a RESolution M50e ArF excimer laser probe ablation device (Resonetics) as described in Gratuze (2016) and Schibille et al. (2016).

The analytical results will be compared to compositional data of glass from other Iberian sites such as Cordoba, Murcia, Pechina and Vascos (Duckworth et al., 2012; García-Heras, 2008; Jiménez Castillo 2000 & 2006; de Juan and Schibille, forthcoming). This will significantly improve our understanding of the chemical characteristics of principal glass groups in circulation on the Iberian Peninsula during the Islamic period. A high chronological resolution of the glass finds will enable us to refine the temporal developments of glass production in Iberia and its relationship to Palestinian and Egyptian glass manufacture.

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