Los Callejones: a Roman Republican iron mining and smelting centre in the south east of the Iberian Peninsula

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ABSTRACT: An iron mining and smelting site dated of the Roman Republican period (1st century BC) has been recently discovered in Almería province, Spain. Archaeometallurgical remains consist of iron ore, smelting and smithing slags, furnace lining fragments and iron blooms. Analyses have been performed using SEM/EDAX and optical microscopy. The ore was very pure goethite. Tapped slags are fayalite-type also containing calcium and manganese, produced in small shaft furnaces of about 500mm in diameter. Calcium-rich sand was used as flux. Analytical results are reviewed in the light of late Iron Age and early Roman iron technology.

Introduction

The archaeological site of Los Callejones is located in the upper basin of the Almanzora River (Almería, Spain), a region of the south east of the Iberian Peninsula. It was discovered a few years ago during the fieldwork project Estudio del proceso histórico durante la Prehistoria y la Antigüedad en la cuenca del Alto Almanzora (Almería) [Study of the historical process through Prehistory and Antiquity in the basin of the upper Almanzora River, Almería'], authorized and funded by the Consejería de Cultura de la Junta de Andalucía (Martínez Padilla et al 1997; Román Diaz et al 1999; López-Medina et al 2001) and Poblamiento y territorio en la cuenca del Alto Almanzora desde la Prehistoria a la época Medieval: transformaciones y pervivencias [Settlement and territory in the upper Almanzora River basin from prehistory to medieval times: transformations and survivals], funded by the Ministerio de Ciencia y Tecnología (BHA2000-1228), and carried out under the direction of Catalina Martínez Padilla.

Its situation in a mountain landscape (Fig 1) is within the Sierra de los Filabres, which form a part of one of the complex of Bética Ranges called Nevada-Filabride, which are made up of limestone, degraded slate, schist, quartzite rocks and tectonic breccia of Upper Triassic age. The area offers plentiful and varied natural resources which have been favourable for human settlement since prehistory. To the existence of water sources, woods, hunting and rich grazing, several outcrops of easily-worked, high-grade copper and iron ores must be added. Toponyms such as Las Herrerías ('blacksmiths' workshops'), Las Menas ('the ores') and Barranco del Hierro ('iron gully') — this last close to Los Callejones, reflect this. The hill from which the archaeological site takes its name is formed by limestone ridges cut by impressive cliffs (Fig 2). The top is at 1,215m above sea level and 200m above the Barranco del Hierro. Archaeological evidence, archaeometallurgical analysis and thermoluminiscence dating indicate it is a place of mining and metallurgical activity dated to the 1st century BC.

However, this is not the earliest evidence for iron making in the area of the Upper Almanzora. Indications of this activity (ore fragments, slags and iron implements) have been found in almost all the sites belonging to the Iberian Culture (7th–2nd century BC).