Lower Paleolithic artifacts preserved on the lower fluvial terraces of Minho River near Melgaço, NW of Iberia: diversity and chronology

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1. Introduction and objectives

Lower Palaeolithic industries are known in the **Lower Minho River**, **Northwest of Iberia**, for about 100 years. The first findings of **Acheulean stone tools** were collected scattered along the river valley. Since the 1960s, attention was paid to an important Acheulean site of the right bank – Gándaras de Budiño, Galicia, Spain – with **controversial chronology**.

New research has connected such site to the Middle Pleistocene and more recently **new important Acheulean sites were discovered** in the same river bank (figure 1).

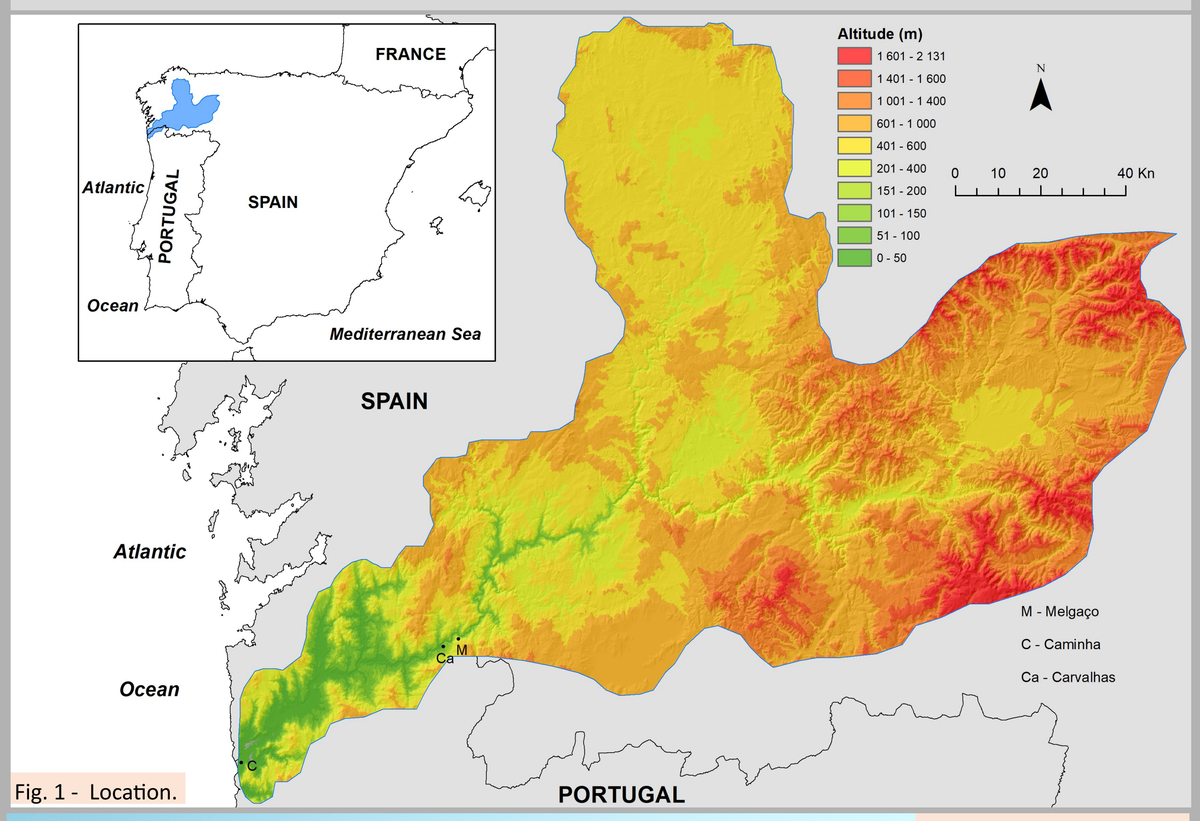

Fig. 1 - Location.

Fig. 2 - Minho River valley.

2. Methods

In 2016, 2017 and 2018 **multidisciplinary research** was carried out at **Carvalhas** (municipality of Melgaço, Portugal), an **archaeological site located in the surface of a river terrace**, with the top **20 m above the current river bed**. Such research involved **the excavation** of **three different geoarchaeological contexts, the analysis of the local geomorphology and the sedimentary architecture of the terrace and also OSL dating (figure 3).**

Fig. 3 - Geoarchaeological works at Carvalhas.

3. Results

In the last three years, archaeological work carried out in the left **bank of the Minho River (Portugal)** has also allowed to the identification of **new Palaeolithic sites**, generally associated to **ancient river deposits**, also dating from the **Middle Pleistocene**. The characteristic large cutting stone tools include **different types of handaxes, most of them made from quartzite pebbles or wide flakes removed from large cores, cleavers and as other artefacts such as cores and flakes, sometimes retouched**.

Preliminary results suggest that the **Acheulean assemblages (figure 4)** are connect to an **ancient river channel or meander,** and to a **colluvium/slope deposit**, and were produced between c**. 255 Ka and c. 335 Ka (figure 5)**. **Another assemblage,** with a significant amount **of flakes associated to a deposit with different features (figure 4I, II and 5 B),** may date from a later period and may be related eventually to the **Middle Palaeolithic** (no dates available for this context).

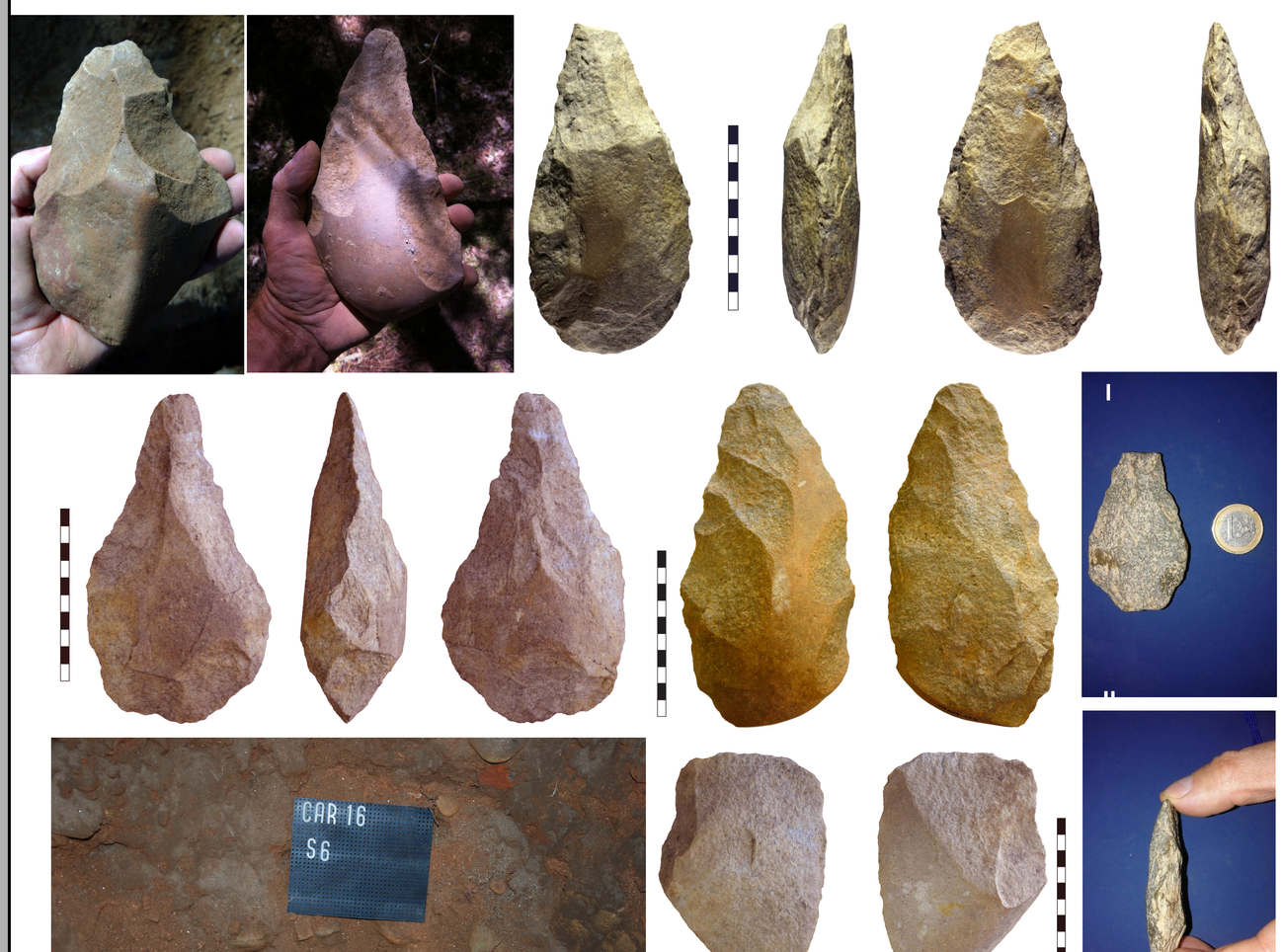

Fig. 4 - Acheulean assemblages of large cutting stone tools and a Early Middle Palaeolithic tool founded at Carvalhas site, Melgaço, Portugal.

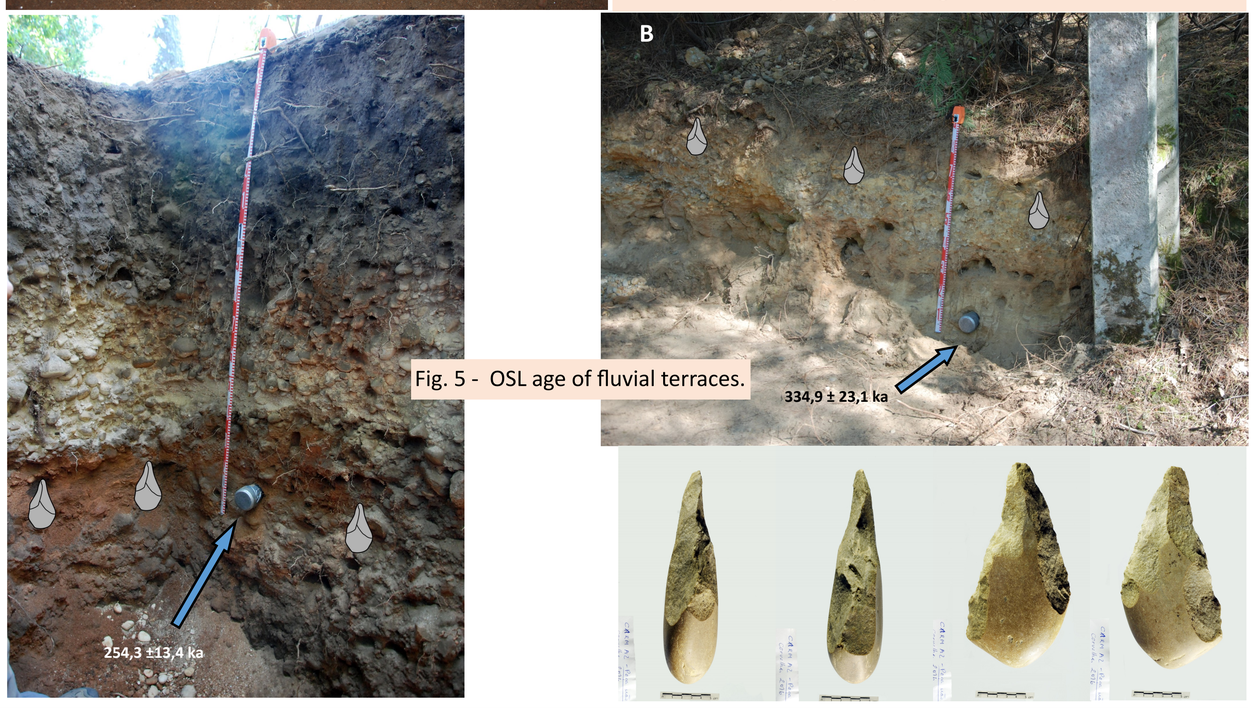

Fig. 5 - OSL age of fluvial terraces.

In conclusion, the abundance and the diversity of the lithic assemblage from Carvalhas attest to the human presence at the NW of Iberian Peninsula during the Middle Pleistocene.