

## New samples of wood charcoal from Cabeço da Amoreira (Muge, Portugal)

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**Summary:** We present data on the ongoing analysis of plant macroremains from the site of Cabeço da Amoreira, a Mesolithic settlement which integrates in the Muge shellmiddens in Portugal. Available data so far point to an extensive use of conifer wood.

**Key words:** anthracology, Muge, Pinus, Mesolithic, Cabeço da Amoreira.

### INTRODUCTION/BACKGROUND

Cabeço da Amoreira is a shellmidden, part of the Mesolithic complex of Muge, Santarém, in central Portugal dated to ca. 8000 and 7500 cal BP.

The settlement's size, its length of occupation, diversity of cultural material and presence of burials are factors that point Cabeço da Amoreira as a residential and semi-permanent site during its first phase of occupation (Bicho *et al.*, 2010, 2011). Its strategic localization, near the Tagus River, and the access to inland resources such as woods, permitted the exploitation of different and rich natural resources, as the estuary and surrounding forests.

Since the discovery of the Muge shellmiddens in 1883, Cabeço da Amoreira and other settlements were excavated by different teams. These previous studies from the 19th century till our days provided a diverse set of archeological data allowing extended studies in different areas of investigation (Ribeiro, 1884; Mendes Corrêa, 1933; Roche, 1972; Rolão *et al.*, 2006; Rocksandic, 2006; Wollstonecroft *et al.*, 2006).

With the intention of having a complete image of the settlement area of occupation, the present research team recovered various batches of sediment samples from different exposed earlier cuts in various parts of the site. From this sampling, the north profile has provided stratigraphic information, radiocarbon dates and plant/archeobotanical macroremains. The latter are presented in this study.

### DATA AND RESULTS

The results presented here are from samples collected in the main area of excavation left by Jean Roche, in field work developed between 1952 and 1973. The samples were collected during the 2010 excavation season by Bicho's new team, within the project "The last hunter-gatherers in the Tagus valley - the Muge shellmiddens".

The wood charcoal comes from 22 shell and sediment layers retrieved from the stratigraphic profile.

The sediment has been dry sieved with 1 mm mesh. Wood macro remains were present in most layers.

All charcoal > 2 mm (ca. 750 fragments) has been selected for anatomical identification at the University of the Basque Country (UPV/EHU). Present results point to a significant use of pine wood (Mediterranean pine: *Pinus* cf. *pinaster*, *Pinus* cf. *pinea*) as fuel by the inhabitants of the site. The presence of other taxa, such as *Quercus* sp. *ilex/coccifera*, *Quercus* sp. *Quercus*, is documented, but considering the total results, their percentage forms quite a minor part of the assemblage. Adjuvant results exist from earlier archeobotany studies for Cabeço da Amoreira (Wollstonecroft, 2006).



FIGURE 1. Plant of Cabeço da Amoreira showing previous and present work. The north profile is marked in the black circle (Bicho *et al.*, 2010).

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