CEREALES FOR THE CARPETANIANS: ARCHAEOBOTANICAL RESEARCH IN EL LLANO DE LA HORCA (SANTORCAZ, MADRID, CENTRAL SPAIN), A LATE IRON AGE OPPIDUM

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INTRODUCTION

El Llano de la Horca is an important oppidum located at the eastern part of Madrid (central Spain) 40 km. far from eponymous capital. This site is on the top of a hill (at 900 m. above sea level) offering a strategic defensive location circa 10 Ha. High mountains and plateaus with abrupt slopes and corniches, plains, platforms and bottom of valleys are the main trends of the landscape (Image on the left). Vegetal landscape is open and degraded with some disseminated Juniperus thurifera, Quercus ilex, Q. faginea and Pinus pinaster clumps, each one associated with their own shrubs curtosis.

This settlement was occupied by Carpetanians, the prerroman people who were living in Central Spain between the end of the third century and early decades of first century BC. Urban planning is a complex one with rectilinear streets and blocks of rectangular houses. Extended dig is nowadays concentrated in a huge area with 1500 m² (Sector I) placed at the northwestern part of the oppidum, where several houses have been excavated. The scheme of this houses is a tripartite structure: first an entrance or a hall, then the main room with a central hearth and a laterally working area and, finally, the back room with storage and other possible functions as sleeping and services zone.

Diggings of Departments 19 and 13-A (Image on the right), one house and one back room of another house, both located by the NW part of Sector I, have provided abundant charred vegetal remains disseminated along their respective surface excavation area.

Two big archaeological layers have provided charcoal and seeds remains in Department 13-A: 11331 and 11346 (Image on the right down). This place could be a cereal storage area whose top roof and walls were fallen in a certain moment. After this collapse they levelled the floor with all what was stored and fallen (11331). 11346 is a clapsy level related with this mentioned levelling process. Although Department 19 has not been entirely excavated, it back room seems to be a storage area too (Image on the left down). Stratigraphic units 11920, 11932 and 11935 are pit fillings and 11921 is a deposit cut by the pits.

VEGETAL ENVIRONMENT AND THE EXPLOITATION OF THE LANDSCAPE

Vegetation reconstruction derived from pollen analysis show an open landscape resulting mainly of deforestation processes as indicated by Gromus continuous amounts. Pinus, Juniperus, Ascaracea, Chenopodiaceae, Poaceae and some Quercus (evergreen type) occurrences define the installation of dry mediterranean climatic conditions. Nevertheless the ill human occupation phases were developed under higher water resources availability as noticed by river banks vegetation formations where Corylus and Juglas could have developed. Aquatics plants could be related both to the presence of temporary swamps soils and also to its use for the manufacture of some artifacts as baskets.

Antropic signal always overlaps climatic one as indicated by development of nitrophilous taxa: Ascaracea, Boraginaceae, Rumex, Artemisia, Urtica, Plantago, Rubiaceae, Chenopodiaceae, as well by Fabaceae, Brassicaceae, Apiaceae, that define a different use of the landscape carried out by Carpetanians. A serie of phases in the land use can be observed: Zone I-III livestock activities are dominant; phase III is characterised by the exploitation of small cultivated fields; Lastly in phase IV livestock activities took place again.

WOODBED EXPLOITATION

Correlations between charcoal and pollen analyses confirms an open landscape dominated by Juniperus, the low amounts of pines (Pinus sylvestris-stricta, P. pinaster-pinea) as well as the presence of other vegetation communities indicating the management and exploitation of different woodland formations. Presence of Quercus azarae is also noticeable.

Charcoal study from department 13-A partially reveal the presence of charpenter wood related to the mentioned collapse event. Quercus ilex and Q. faginea have been employed as beams while Pinus pinaster-pinea, Pinus sp. have been employed as stakes, according to some charcoal identifications coming from other departments excavated.

Fragmentation of samples and the taxonomical variability of charcoal suggest nevertheless a mixture of wood categories (charpenter and woodfire) occurred at the moment of levelling of the ground, made with all re-used materials.

PLANT SEEDS

The general analysis of plant macroremains have revealed the predominance of naked wheat with hulled barley minor amounts. Hulled wheat is also noticeable besides no relevant presences of Fabaceae and Weeds remains. Caryopses from R-13-A area show a better conservation degree in relation to those from R-19 area.

The cereal storage structure was probably made in perishable material (no pottery fragments associated have been found). The carpological analysis in each UUSS show a different distribution of barley remains, specially in R-19 contexts. The seeds remains, retrieved in the different archaeological contexts, show a large use of naked wheat and barley probably as flour and beverage, according to chemical analysis of residues.

The results draw a picture of a subsistence based in cereal agriculture and crop processing activities, with evidences of deforestation in order to gain space for crop fields attending the necessities of a growing community probably in the order of many hundreds inhabitants.

CONCLUSIONS

The integrated archaeobotanical analysis in El Llano de la Horca site, shed new light on Carpetanian landscape use and the relationship with natural environment. In particular an articulated exploitation of natural resources was highlighted by pollen and carpological analyses, related to woodland and cereals fields.

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Triticum aestivum/durum 10x R-13 A US 11331 (left) Hordeum vulgare 10x R-19 US 11921 (right)

15th Conference of the International Work Group for Palaeoethnobotany in Wilhelmshaven, Germany, May 31 - June 5, 2010