

# Iron Age and Roman woodworking in the Northwest of the Iberian Peninsula

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**Summary:** This article presents data on wood-working on settlement sites and specialist production sites during the Iron Age and the Roman period in Northwest Iberia. These archaeobotanical remains were preserved in a variety of ways, including saturation by water or humidity, carbonisation, and occasionally mineralisation, as well as indirect preservation through negative impressions in clay. The artefacts consist of structural elements, domestic objects or related to specialised activities. Their study allows us to characterise the technical process of woodworking.

**Key words:** woodworking, charcoal and wood analysis, Iron Age, Roman Period, NW of the Iberian Peninsula.

## INTRODUCTION

This article discusses the artefacts and wooden structures recovered in Iron Age and Roman sites in the northwest of the Iberian Peninsula.

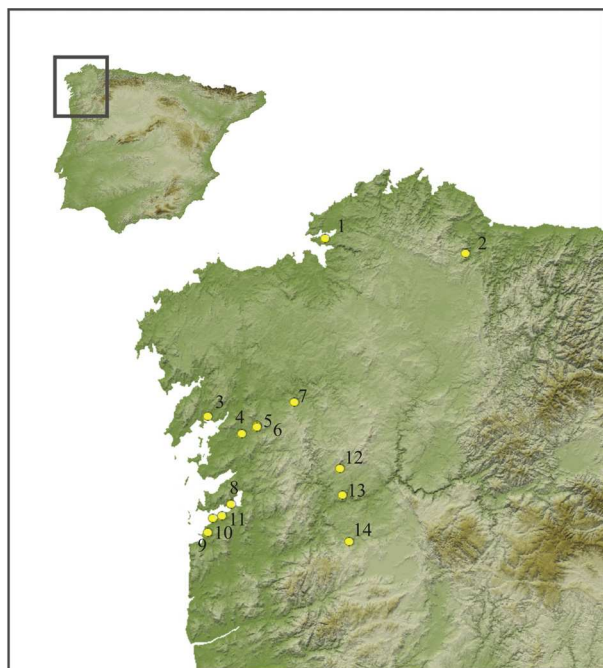


FIGURE 1. Site location. Iron Age: 2. Zoñán, 3. Neixón Grande, 5. Alto do Castro, 6. Castrolandín, 7. Castrovite, 8. Montealegre, 9. Nabás, 10. Punta do Muíño, 12. Coto do Mosteiro, 13. O Castelo, 14. Castromao. Roman period: 1. Noville, 4. Caldas, 11. Areal.

Samples from two types of sites were analyzed. Most of the sites were habitation sites, which during the Iron Age correspond to fortified settlements (*castros*), and during the Roman period to a *vicus* and a *villa*. The majority of the pieces, however, come from a site associated to specialized production: a marine saltern.

The study of these pieces of wood provides a greater understanding of how this raw material was used in the

manufacturing of products. While the preservation of these types of objects and structures is rare in archaeological contexts, wood was used in many different ways in the daily life of past societies.

## MATERIAL AND METHODS

The most common type of preservation of the analysed samples was through water or humidity saturation, followed by carbonization and occasionally mineralization. There was also indirect evidence for construction with wood from the impressions of branches in clay.

During the microscopic study the samples were first identified taxonomically, with the anatomical patterns of the wood samples identified on the three sections (cross, tangential, radial). In the case of waterlogged samples, thin sections were used, while for carbonised or mineralised samples a marginal zone was removed. The dendrological and taphonomic characteristics of the samples were observed and registered.

At the macroscopic level, the technological study of these wooden products was based on the description and registering systems used in a number of publications (Pugsley, 2003; Pillonel, 2007). A morphometric analysis was first undertaken, which included an overall description, graphic registering (photography and illustration) and measuring of the object. Following this, the different stages of the *chaîne opératoire* identifiable in the piece were described: acquisition, surface preparation, processing, manufacturing and finishing process.

## DATA AND RESULTS

Waterlogged wooden pieces corresponding to three stages of the *chaîne opératoire* were studied: manufacturing wastes, preforms and finished objects/structures. The state of conservation of the

pieces varied in relation to the type of preservation and to the contexts in which they were found.

Fragments of carbonized wood, from episodes of burning at some sites or from fuel, and a fragment of mineralised wood were also analysed, providing information on the species and techniques used in the construction and elaboration of objects.

The *chaîne opératoire* of woodworking begins with the acquisition of the raw material: the selection of the species and of the part of the plant to be used. The identified taxa used in manufacture from the Iron Age samples were: *Quercus* sp. deciduous, *Corylus avellana*, *Fraxinus* sp., *Alnus* sp., *Ilex aquifolium* and *Quercus* sp. evergreen. The samples from this period consisted of carbonised or mineralised pieces, which in the majority of cases were fragmented. The samples from the Roman period presented a greater taxonomic variability, favoured by the preservation of wood in humid contexts: *Quercus* sp. deciduous, *Castanea sativa*, *Quercus* sp. evergreen, *Quercus suber*, *Alnus* sp., Rosaceae/Maloideae, *Pinus* sp. *sylvestris/nigra*, *Fraxinus* sp., *Juglans regia*, *Prunus* sp., *Salix/Populus* and *Frangula alnus*.

The objects identified from the Iron Age were vessels made from *Alnus* sp. and *Fraxinus* sp., agricultural implements, weapon or tool handles in *Quercus* sp. deciduous and *Corylus avellana*, and the handle of an indeterminate object in *Alnus* sp. For structural elements (planks, laths, wedges, joinery pieces, etc.) the species selected were *Quercus* sp. deciduous, *Corylus avellana*, *Fraxinus* sp. and *Quercus* sp. evergreen. Manufacturing waste was of *Quercus* sp. deciduous and *Ilex aquifolium*.

At some sites branches of small diameter of certain taxa like *Corylus avellana* or *Salix/Populus* were identified. They were probably selected for the elasticity of their young branches, and used in the construction of frameworks (roofing, walls); although other shrub species, such as heather and legumes, were also being used. Obtaining long straight poles necessary for this type of construction was achieved through pruning/coppicing of the plant, although the secondary branches of trunks of high quality wood (e.g. *Quercus*) felled for the elaboration of other structural elements could also have been used.

## DISCUSSION AND CONCLUSION

The analysis of these samples provides information on the use of wood during the Iron Age and the Roman period in the northwest of the Iberian Peninsula. The analysed data reveals that species were being selected for their physical and mechanical properties responding to the necessities of the object in question, e.g. high

quality trunks for structural elements, flexible branches for frameworks, or fine-grained wood for more finely worked objects. It appears that these requirements were met by local resources, since the taxa identified were characteristic of the landscapes of northwest Iberia during the Iron Age and Roman period (Desprat *et al.*, 2003) and the use of “exotic” wood is undocumented.

The most frequent type of objects among the structural elements or those connected with construction, are planks – variable in size-, joinery pieces, and frameworks of poles. There is a degree of continuity in the wooden construction techniques during the two time periods analysed. Despite the fact that during the Iron Age iron nails used for the joining of wooden pieces have been documented, wooden joinery pieces continued to be used into the Roman period.

The wooden frameworks indicate the presence of forestry management practices related to the production of large, straight and flexible branches. The observation of the cutting season through the presence of bark on the branches indicates that felling took place during various seasons: we propose the use of green branches for their great flexibility for frameworks, discounting storage, but it could also be connected to the existence of repairs to the structure in various seasons of the year.

This type of wooden remains presents an elevated incidence of alterations like the action of entomofauna or the presence of hyphae. In waterlogged wood this could be the result of contamination after use, a result of taphonomic processes, while in the structural elements it could have occurred during its period of use through exposure to the open air or to ground humidity.

## ACKNOWLEDGEMENTS

The authors want to address special thanks to Clíodhna ní Lionáin for translating the text.

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