

Identification of archaeological wood remains from the roman mine of Arditurri 3 (Oiartzun, Basque Country)

Aitor Moreno-Larrazabal¹, Mertxe Urteaga² and Lydia Zapata¹

1 Dpto. Geografía, Prehistoria y Arqueología, University of the Basque Country (UPV/EHU), F. Tomás y Valiente s/n, 01006 Vitoria-Gasteiz; aitor.moreno@ehu.es, lydia.zapata@ehu.es

2 Fundación Arkeolan, Francisco de Gaiza 3, E.20302 Irun.

Summary: *The study of the wood assemblage from the Roman mine of Arditurri 3, mining district of Oiasso, has focused on different types of materials in terms of sizes, use and mode of preservation. Bigger pieces of worked wood mostly preserved through waterlogging include Quercus, Fagus, Corylus, Acer and Fraxinus. Smaller fragments of charcoal probably related to the roasting involved in ore extraction include a bigger spectrum of taxa which may respond to a less selected and more opportunistic use of woodland resources.*

Keywords: wood, charcoal, Roman, mining.

INTRODUCTION

The mining exploitation of Arditurri in Oiartzun (Gipuzkoa, Basque Country) belongs to the Roman mining district based in Oiasso. Oiasso was mentioned in Greek-Latin sources as the polis of the furthest Vascones from the coast (Strabo, III, 4.10). It represents the border between Iberia and Aquitaine and was located at the end of the Via coming from Tarraco (Strabo, III, 4.10; Ravenna Cosmography 308.17 and 318.2). The archaeological identification of Oiasso is quite recent. J. Rodríguez Salís found in Irun the remains of the site (Rodríguez Salís and Tobie, 1971). Since then, the number of roman finds has increased and today we have the picture of a quite important urban site (ca. 10-12 ha) which included significant harbour installations and a mining district in the vicinity dedicated to the exploitation of silver, copper and iron (Urteaga, 2008a).

Arditurri, located in the metamorphic ring of the mountain massif of Aiako Harria, represents the mining outcrop which is farthest from Oiasso (6.5 km distance). The finding of the mining area happened due to the works carried out by J.A. Sein in Arditurri through royal concessions (Thalacker, 1804) when several galleries were exposed after a controlled explosion. However, archaeological works did not start until 1983 when the controversy related to the roman chronology of the galleries could be assessed (Urteaga and Ugalde, 1986).

This study focuses on the study of the wood macroremains recovered from the mine Arditurri 3 which is located in Otsamantegi valley, next to the open air quarry of Santa Bárbara (Fig. 1). Mining work here has been dated in the 1st and 2nd centuries AD (Urteaga, 2008b). It has been classified as an example of surveying gallery with passage gallery.

The wood assemblage studied here may respond to at least two main uses: 1) artifact and framework

making and 2) fuel for roasting the rocks in order to facilitate the extraction of the hardest veins.



FIGURE 1. Arditurri 3, entrance of the tilted gallery.

MATERIALS AND METHOD

Two types of wood pieces have been analyzed: 1) 224 fragments that present cuts, marks or evidence of woodworking, and 2) 382 fragments of smaller pieces of wood recovered from 14 different contexts which have been defined at the mine. The state of preservation of the wood is diverse. In general it has preserved in a waterlogged environment although some of it is charred. Charring is more frequent in the smaller fragments than in the bigger pieces that present evidence of having been manipulated. During archaeological work and after fieldwork all wood fragments have been preserved in humid conditions. Charcoal was identified following the standard procedures by hand fragmentation and anatomical observation on an incident light microscope. Non charred wood was left to dry during a few hours and small fragments were thin sectioned with a razor blade so anatomical features could be observed.

RESULTS

The results of the analysis of the pieces with woodworking evidences are summarized in Figure 2.

Five taxa have been identified: *Acer*, *Corylus*, *Fagus*, *Fraxinus* and *Quercus* subg. *Quercus*. Almost half of the pieces identified belong to the group of deciduous oaks (*Quercus* subg. *Quercus*), whereas the other half is represented by maple (*Acer* sp.), hazel (*Corylus avellana*) and beech (*Fagus sylvatica*, Fig. 3) with percentages that range between 14% and 23%. Ash wood (*Fraxinus* sp.) is less abundant (4%).

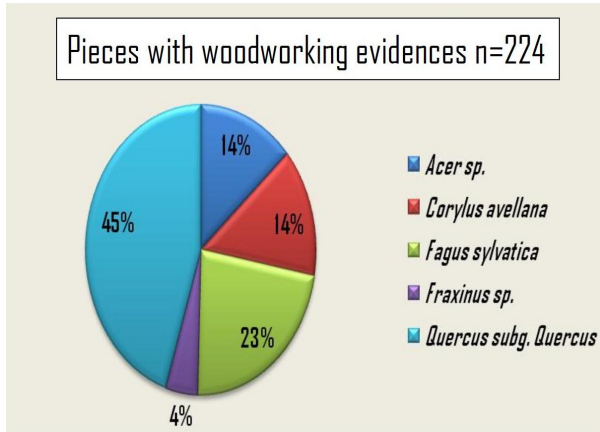


FIGURE 2. Identification of pieces of wood with cuts or evidence of craftwork.



FIGURE 3. Shovel made of beech wood (*Fagus sylvatica*).

As we can see in Figure 4, the smaller fragments which are mostly preserved through charring show a higher diversity of taxa: *Acer*, *Corylus avellana*, *Fagus sylvatica*, *Fraxinus*, *Ilex aquifolium*, *Quercus* subg. *Quercus*, *Quercus ilex/Q.coccifera*, *Salix*, *Ulmus*, Rosaceae and Fabaceae. The best represented wood is beech (*Fagus sylvatica*) and the group of the deciduous oaks (*Quercus* subg. *Quercus*) although it is significant

the important presence of holly (*Ilex aquifolium*), maple (*Acer* sp.) and hazel (*Corylus avellana*). In smaller percentages ash (*Fraxinus* sp.), willow (*Salix* sp.), elm (*Ulmus* sp.) and the group of the woody legumes are also present.

CONCLUSIONS

The study of the Arditurri 3 Roman wood assemblage gives us information on the use of woods for crafts and for fuel in a mining exploitation. In the first case, woods with woodworking evidence and used for artifacts show a higher selection of taxa, whereas woods used as fuel, probably in the context of ore extraction, are more diverse and might respond to a more opportunistic exploitation of woodland resources in the vicinity.

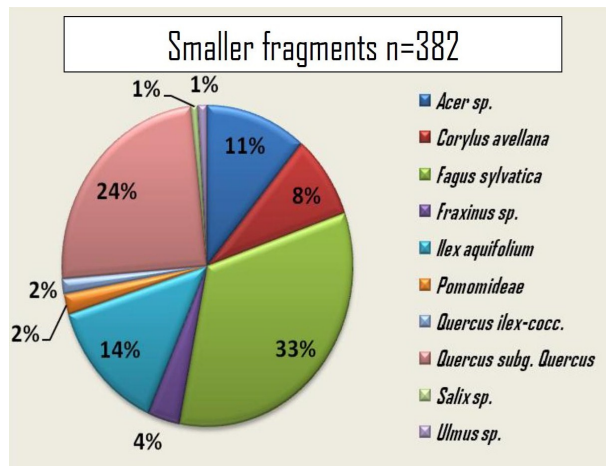


FIGURE 4. Identification of smaller wood fragments.

REFERENCES

- RODRÍGUEZ SALÍS, J., TOBIE, J.L., 1971. Terra Sigillata de Irún. *Munibe* 23, 187-221.
- STRABO, 1992. *Geografía Universal (Libros III-IV)*. Biblioteca Clásica Gredos 169, Madrid.
- THALACKER, J.G., 1804. Noticias y descripción de las grandes explotaciones de unas antiguas minas situadas al pie de los Pirineos y en la provincia de Guipúzcoa. *Variedades de Ciencias, Literatura y Artes* IV, 201-215 and 256-273. Madrid.
- URTEAGA, M., UGALDE, TX., 1986. Indicios de minería romana en Arditurri (Oyarzun). *Munibe* 38, 107-117.
- URTEAGA, M., 2008a. El asentamiento romano de Oiasso (Irun); red viaria, puerto y distrito minero. *Actas del IV Congreso de las Obras Públicas en la Ciudad Romana, Lugo-Guitiriz*, 303-329.
- URTEAGA, M., 2008b. El Vasconum Saltus y Oiasso. *Boletín Arkeolan* 15, 173-188.