

# Dynamics of vegetation cover and exploitation of wood resources in Central Anatolia during the early Neolithic period: anthracological study of Aşıklı Höyük (Cappadocia, Turkey)

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## Introduction

The **Anatolia**, which location form a bridge between Europe and Middle East, is a **rich and complex territory** for its geography, its environment and as well as for its human history.

**Aşıklı Höyük** (IX<sup>th</sup>-VIII<sup>th</sup> mil. cal. BC.), which is the first sedentary settlement known in Central Anatolia, is a major archaeological site for the understanding of the **neolithisation of the region, as long as** for the way of life and the environment of this community.



Location in Anatolia



Neolithic tepe



Charcoals in archaeological contexts

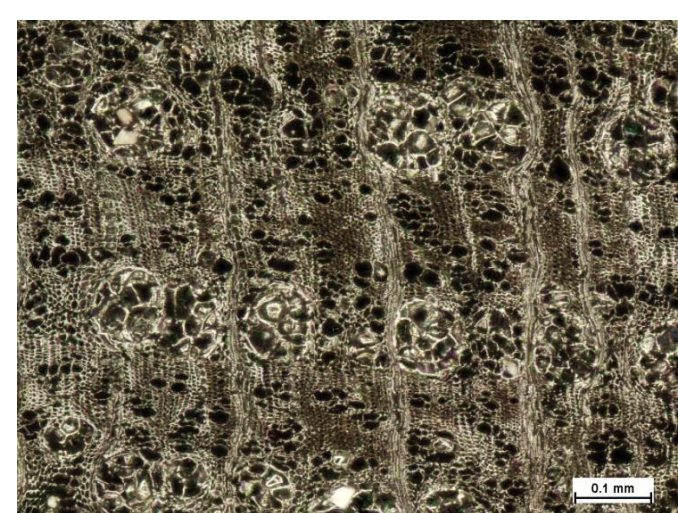
**Anthracology** (study of charcoal) is complementary to other archaeological and environmental sciences. However, in Central Anatolia, the studies are few and unequal. This study has two main objectives:

- 1) the reconstruction of the **vegetation cover around the site** and the analyze of its evolution
- 2) the exploration of the different aspects of the **exploitation and the use of wood resources**

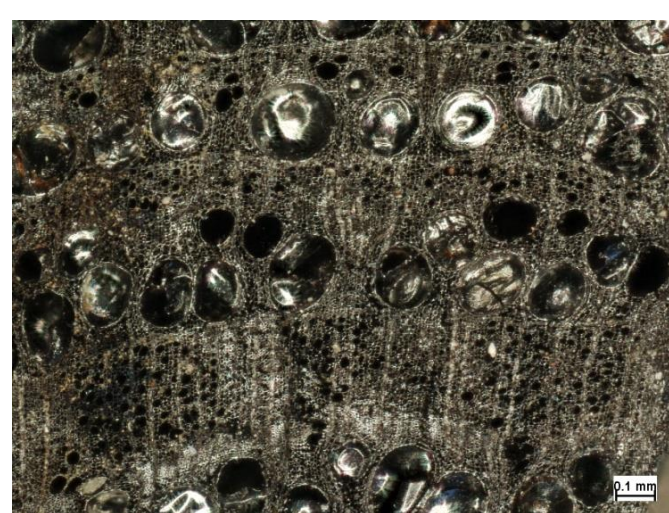
## Material and methods

### Taxonomic identification

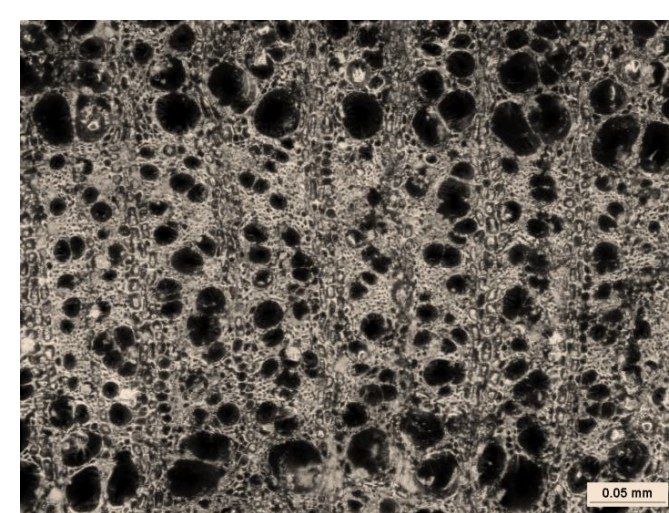
The wood essences have been identified through the microscopic anatomy of the charcoal. The observation of more than **2600 fragments** has revealed the presence of **nine taxa**.



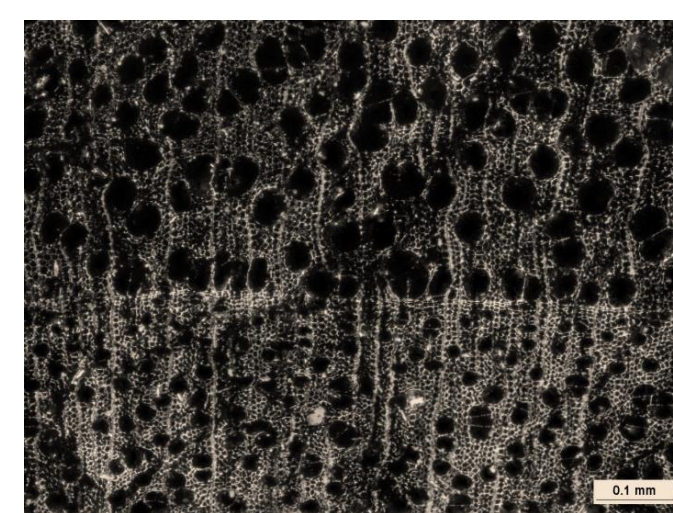
*Pistacia*  
(Pistachio tree)



*Quercus*  
(Oak)



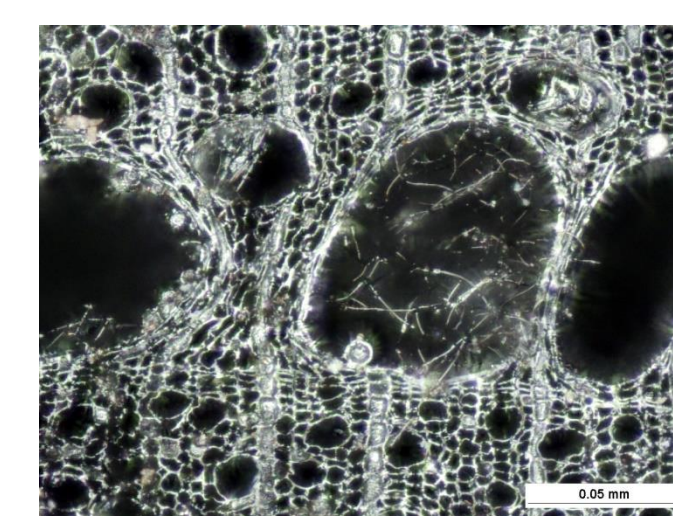
*Prunus*  
(Plum family)



*Populus/Salix*  
(Poplar/Willow)

### Dendro-anthracological study

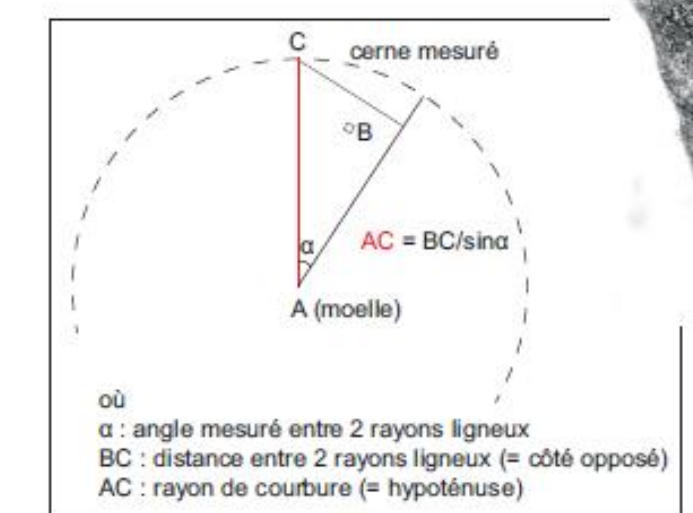
Several anatomical and morphological features have been observed. The estimation of the curvature and width of rings growth have been carried out on a **hundred of oak fragments** by a trigonometric tool.



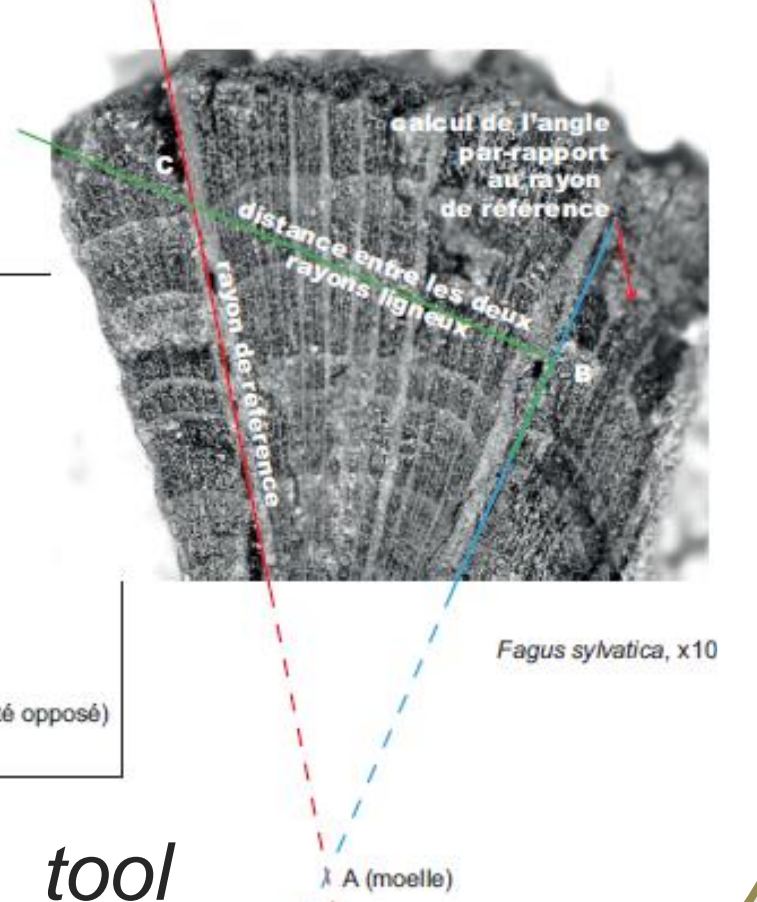
Fungi in a vessel  
of oak wood



Sample of twigs

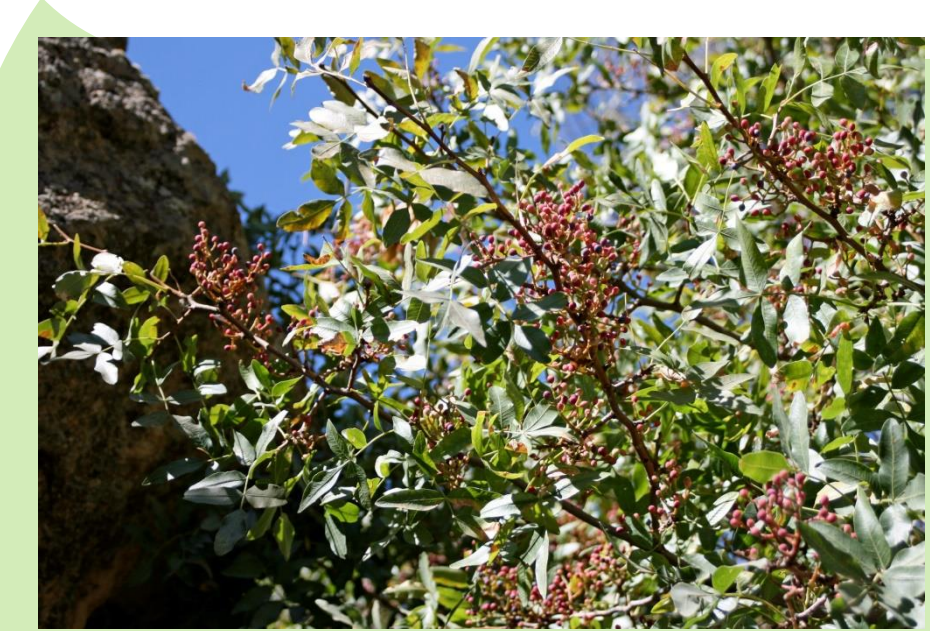
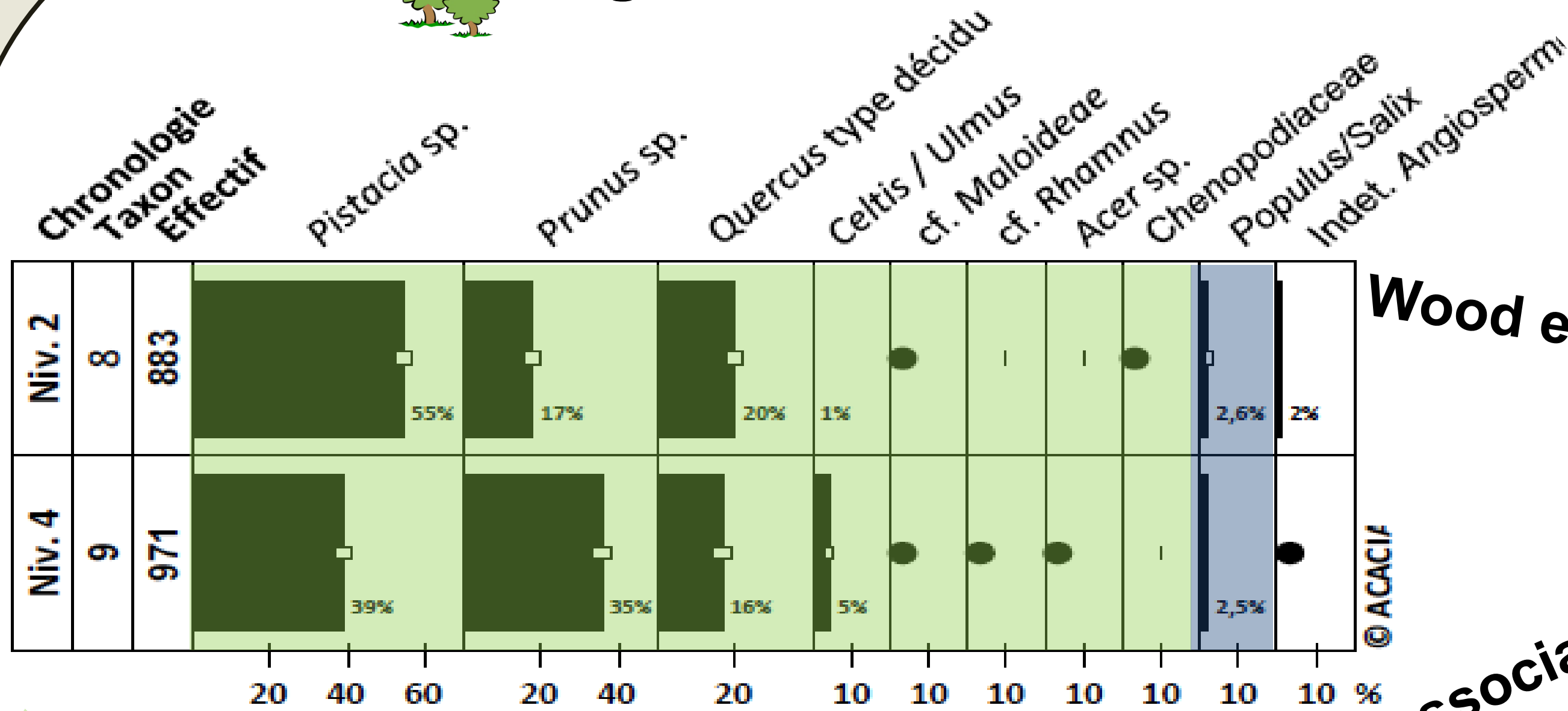


Trigonometric tool  
(Dufraisie and Garcia 2011)



*Fagus sylvatica*, x10

## Vegetation cover



*Pistacia* (Pistachio tree)



*Prunus* (Almond tree)



*Quercus* (Oak)



*Prunus* (Blackthorn)

### Woodland



*Populus/Salix*  
(Poplar/Willow)

### Riparian forest

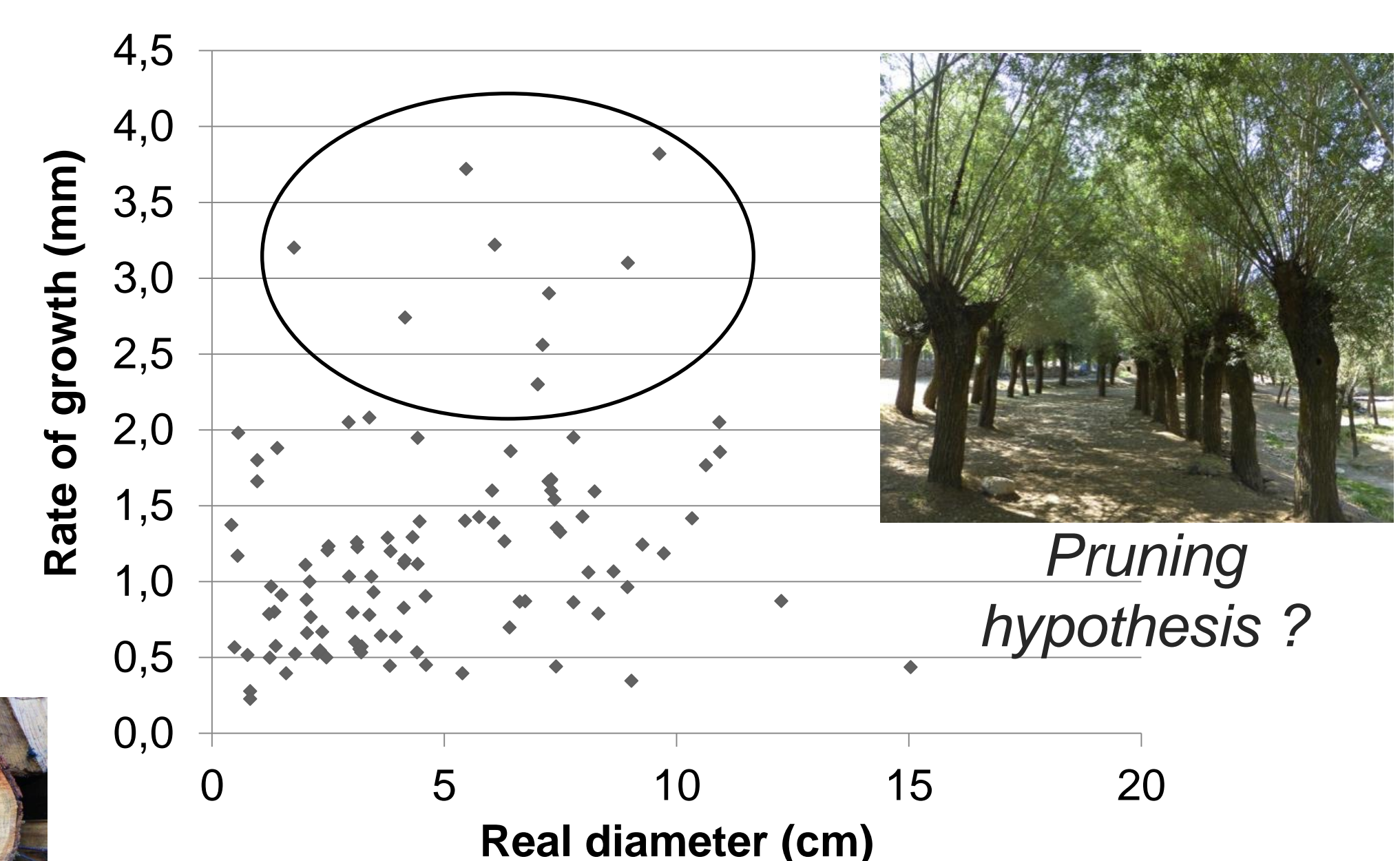
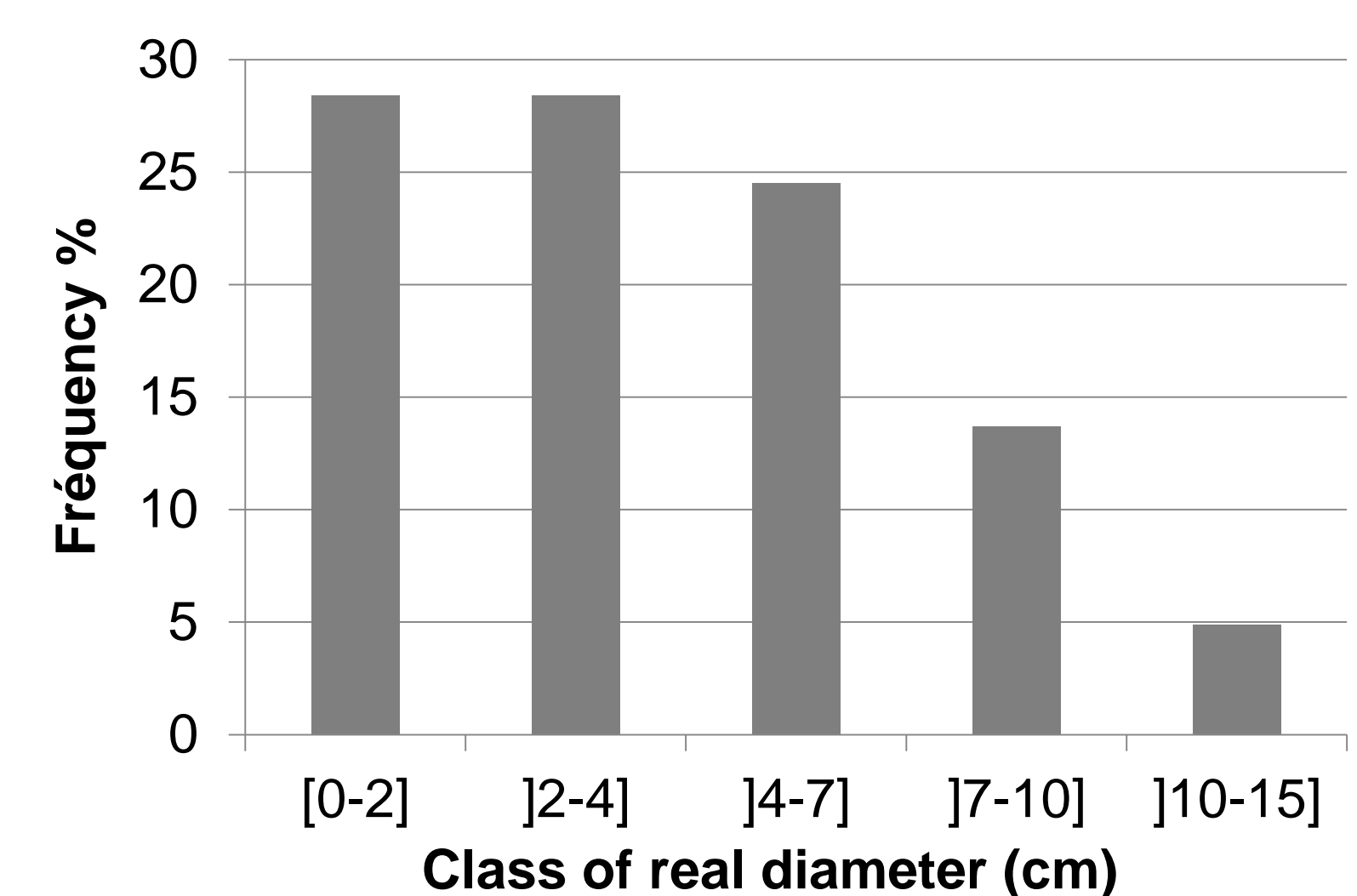
## Results

Wood essences Wood diameters  
Plant associations Tree growth  
Physiological state



Examples of fungi and  
insect attack

## Exploitation and use of firewood



Pruning  
hypothesis ?

## Conclusion

The Aşıklı community has mainly exploited one specific plant formation for the gathering of firewood: **a woodland composed by pistachios, almonds and deciduous oak**, which is not currently found in Cappadocia. Furthermore, a **small exploitation of a riparian forest** was also observed. Pistachio wood was the main fuel used. The preferential burning of **small diameters** (twigs, branches and young trunks) and the occasional use of **decade wood** have also been shown thanks to this study.

## Acknowledgments

Thanks to the University of Istanbul and the excavation team of Aşıklı, to the UMR 7209 where the study have been carried out and to my MNHN colleagues for their support.