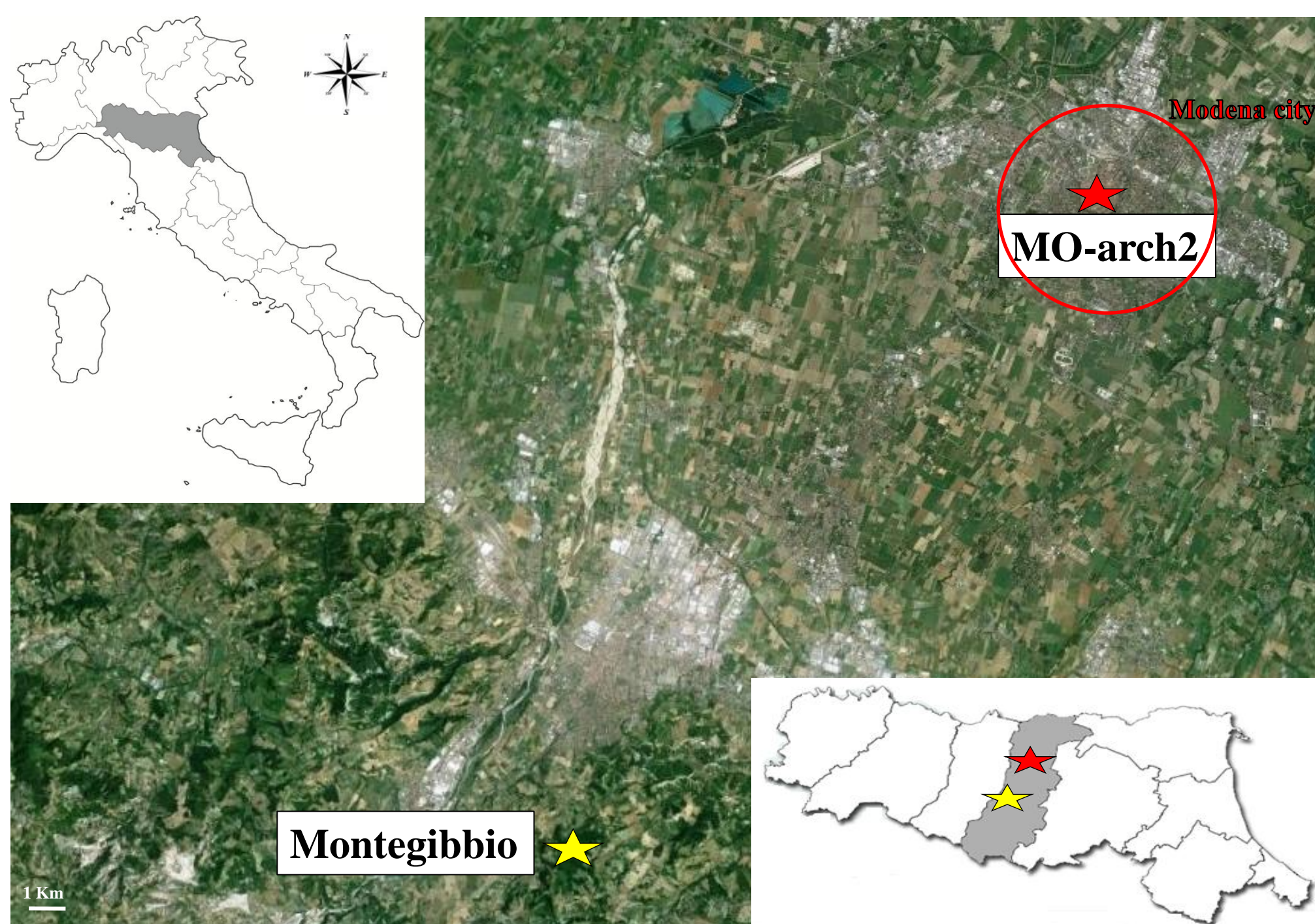


## Charcoals and other archaeobotanical records of two Roman sites of Modena's area (N-Italy) in a multiproxy approach

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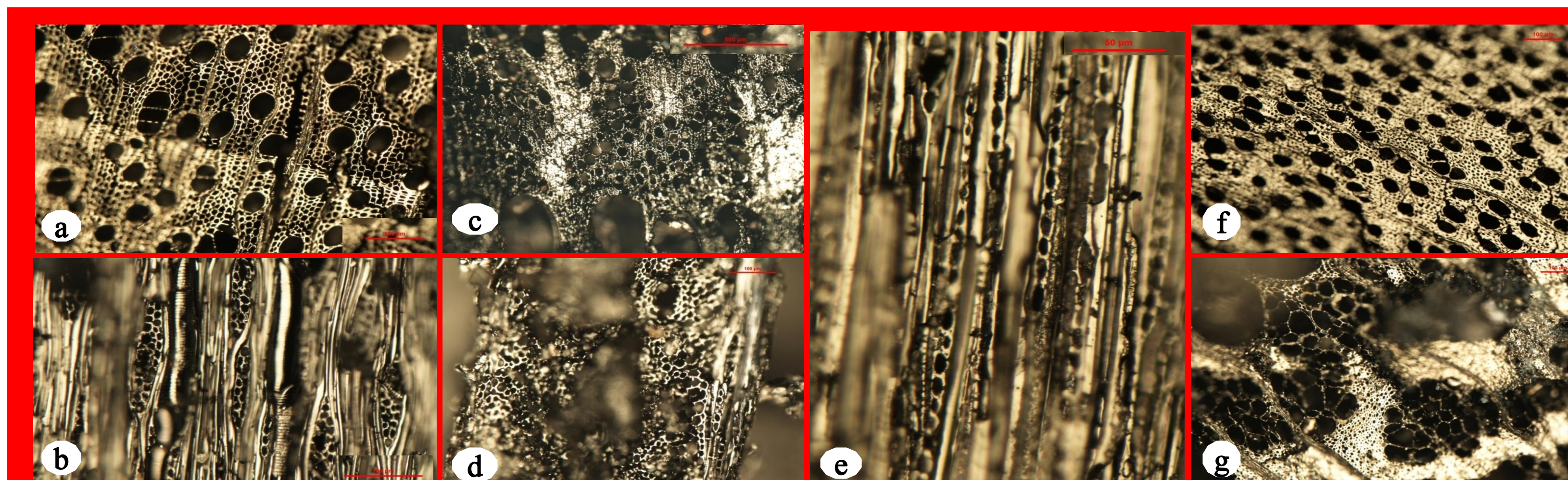
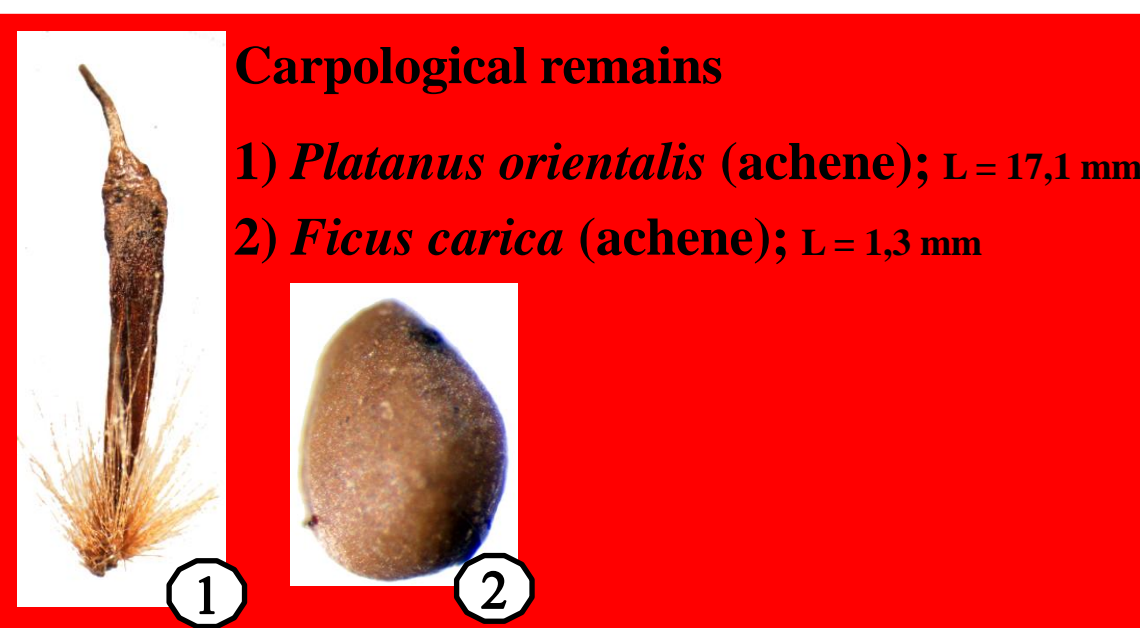
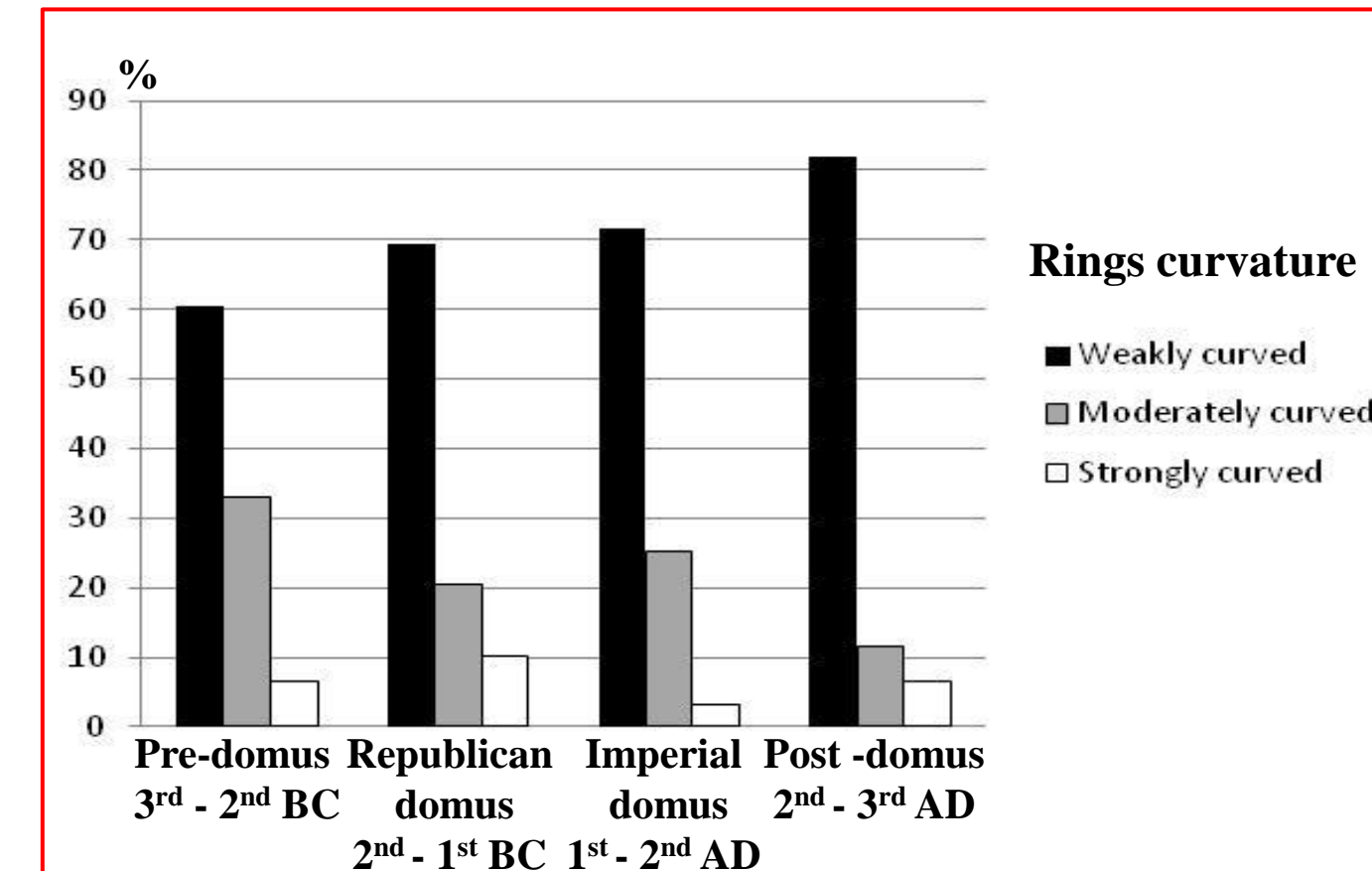
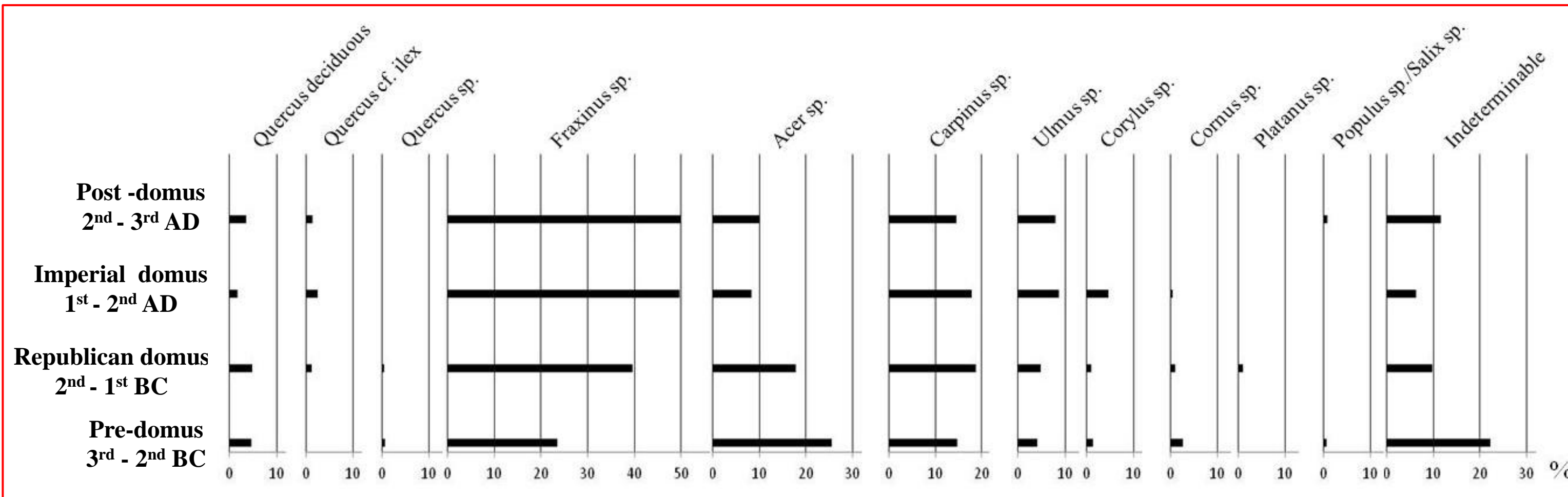
In the framework of the archaeobotanical research carried out in the area of Modena (Emilia Romagna, Northern Italy), new charcoal analyses from two Roman archaeological sites have been carried out. The one named “ex Cinema Capitol” (MO-arch2) was brought to light in the current historical centre of Modena, and corresponds to a urban *domus* with walls, floors and foundation structures. The other is a votive area, located in the hill at 350 m a.s.l., near the important geological site called “Salse di Nirano”, in the village of Montegibbio. Archaeological excavations was carried out by the Superintendence for Archaeological Heritage of Emilia Romagna. Charcoals from archaeological layers have been studied in order to improve the comprehension of the human-environment relationships (e.g., wood exploitation and timber selection) at the local scale. The study will provide further knowledge on palaeoecology of woody vegetation living in the areas close to the sites. For both sites, pollen and seed-fruit analyses are available. The multiproxy study and the complementarity of different analyses improve the details of palaeoenvironmental and palaeoethnological reconstruction of this area.



Concerning the archaeological site “ex Cinema Capitol”, about 900 charcoals were identified and the anthracological results show a strong dominance of *Fraxinus* sp. and *Carpinus* sp. followed by *Acer* sp., *Ulmus* sp., *Quercus* sp. and other genera. The data probably refer to the mixed broadleaved forest that grew in the area. Nearly all the remains present an excellent state of preservation and a relatively large size. The rings curvature was evaluated and assigned to three categories suggested by Marguerie and Hunot, 2007: weakly, moderately and strongly curved. The results suggest that the most of burnt wood had a large calibre: trunks or large branches. Identified *taxa* suggest a wood supply from an area very close to the studied site.

### Woody plants list obtained by carpological and anthracological remains

*Betula pendula* Roth  
*Corylus avellana* L.  
*Cupressus sempervirens* L.  
*Ficus carica* L.  
*Juglans regia* L.  
*Myrtus communis* L.  
*Olea europaea* L.  
*Physalis alkekengi* L.  
*Picea abies* (L.) H. Karst.  
*Platanus orientalis* L.  
*Populus tremula/nigra*  
*Rubus caesius* L.  
*Rubus fruticosus* aggr.  
*Sambucus nigra* L.  
*Vitis vinifera* L. subsp. *vinifera*

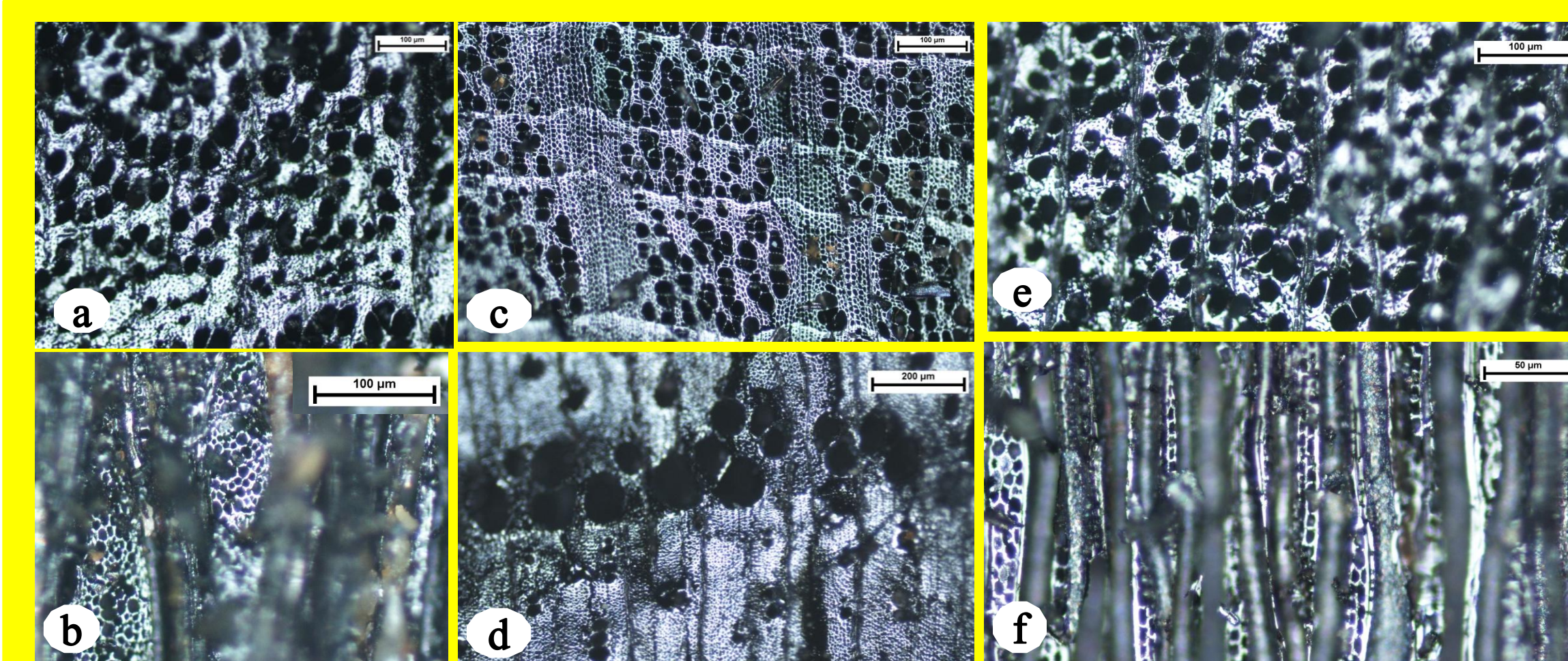
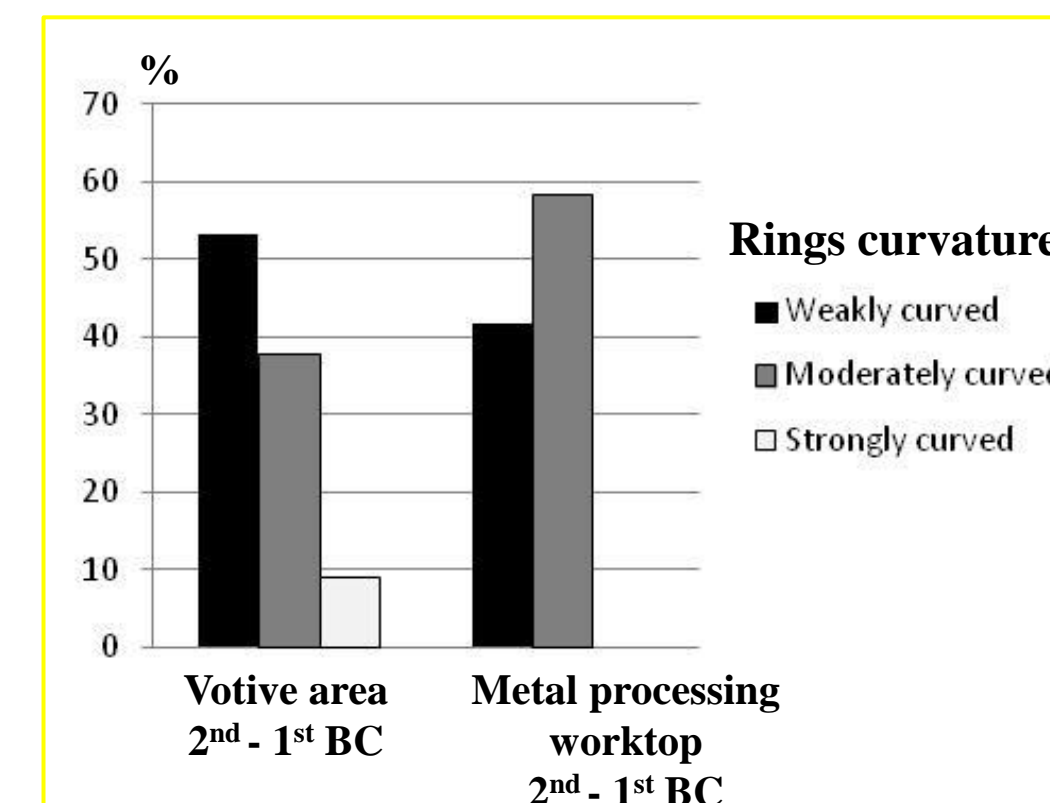
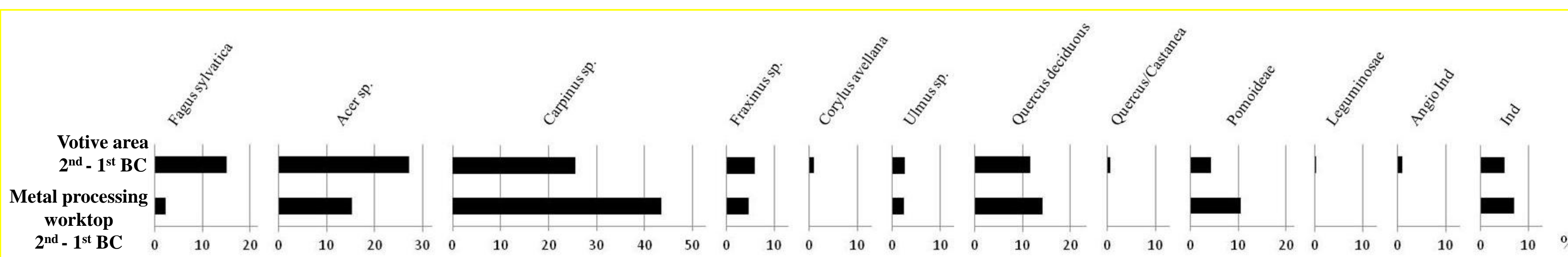


### Charcoals

- TraS; *Acer* sp.
- TanS; *Acer* sp.
- TraS; *Quercus* sp.
- TanS; *Quercus* sp.
- TanS; *Carpinus* sp.
- TraS; *Cornus* sp.
- TraS; *Ulmus* sp.

\*TraS = Transverse section  
TanS = Tangential section

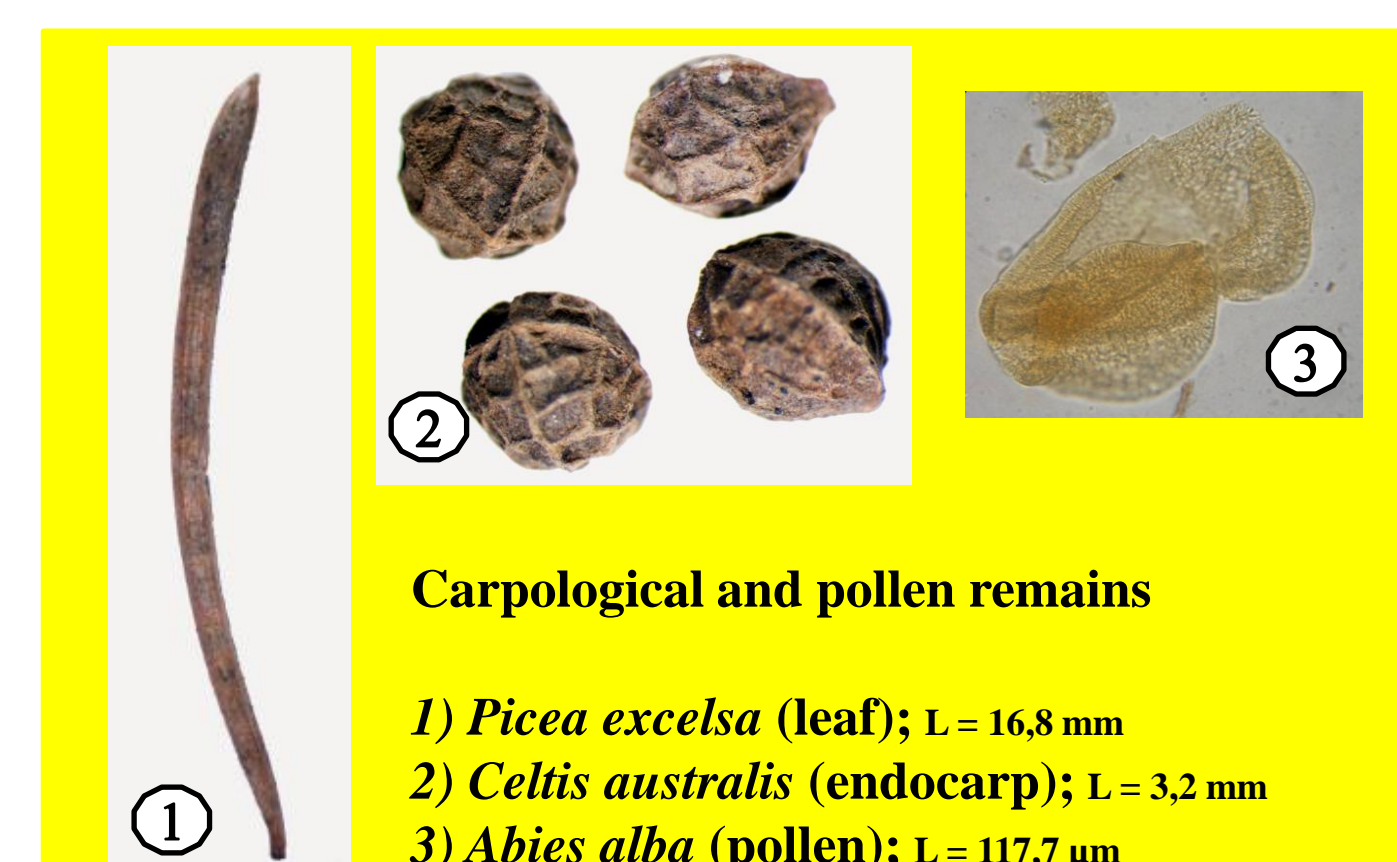
Concerning the archaeological site of Montegibbio, about 400 charcoals were identified and the anthracological results show a strong dominance of *Carpinus* sp. and *Acer* sp. followed by *Quercus* sp., *Fagus* sp., and other genera. The data probably refer to the mixed broadleaved forest that grew close to the the votive area. Nearly all the remains present a good state of preservation and a relatively large size. The rings curvature was evaluated: the results suggest that the most of burnt wood had a large and medium calibre: trunks or branches. Identified *taxa* suggest a wood supply from an area very close to the studied site but also from more distant areas as the mountain belt as suggest by the numerous charcoal remains of *Fagus sylvatica*.



### Charcoals

- TraS; *Fagus sylvatica*
- TanS; *Fagus sylvatica*
- TraS; *Corylus avellana*
- TraS; *Fraxinus* sp.
- TraS; Pomoideae
- TanS; Pomoideae

\*TraS = Transverse section  
TanS = Tangential section



### Carpological and pollen remains

- Picea excelsa* (leaf); L = 16,8 mm
- Celtis australis* (endocarp); L = 3,2 mm
- Abies alba* (pollen); L = 117,7 μm