Laboratorio di Palinologia e Paleobotanica

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www.palinopaleobot.unimore.it

Archaeobotanical research in Classe (Ravenna - Italy)

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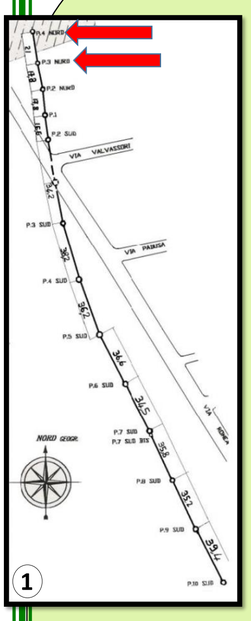
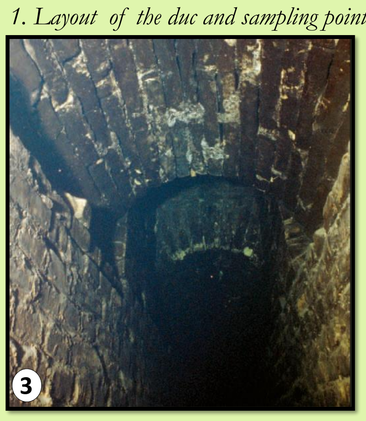
The archaeobotanical research carried out in ancient ports can provide key information on the plant landscape of the area, and also on climate, the food customs and the commercial traffic.
In Italy, in the last fifteen years, archaeobotanical studies were conducted in some of the most important ports of the Roman period, located along the Tyrrhenian coast such as Rome, Pisa, Naples.

The site of Classe is the most important port of the Adriatic between the 1st and 7th century AD.

It represents the first study of port contexts in this part of the Mediterranean sea.
The archaeological surveys discovered a well connected to a **horizontal duct containing a large quantity of archaeological material dating from the 2nd to 7th century AD**.





1. Layout of the duc and sampling points; 2-3-4. The archaeological excavation of the duc; 5. A view of the ancient harbour of Classe

There is a significant amount of organic remains **preserved by waterlogging in the sediments of the duct**. The research on this water structure has revealed a rather rich carpological list (176 taxa), considering the exceptionality of the site of Classe. The site shows a **high plant biodiversity**, perhaps evidence of the simultaneous presence of different habitats.

The more data obtained are those related to the relationships between plants and man.

There are several evidences of fruit trees/shrubs, especially olives, and peach, melon, mulberry and the earliest remains of the jujube tree for the Northern Italy.

Moreover, condiments and vegetables are represented by, e.g., coriander, rue and bottle gourd.

Among crops useful for the craft, there are madder, hemp and flax, although for the latter plant the possible use as food may be also hypothesised.

Of interest are the records of cypress, that are known to have been probably introduced in the Etruscan period, and then spread by the Romans.


Prunus persica


Tribulus terrestris


Ziziphus jujuba

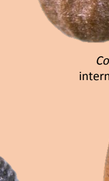

Conringia orientalis

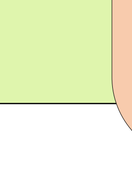

Cupressus sempervirens

High Biodiversity


Euphorbia cyparissias
seeds - 3,2 mm

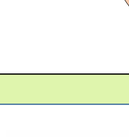

Ajuga chamaepitis
mericarp - 2,3 mm

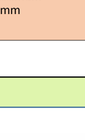

Chelidonium majus
seed - 1,18 mm

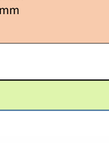

Conringia orientalis
seed - 1,41 mm


Convolvulus arvensis
seed - 3 mm


Tribulus terrestris
schizocarp - 5,1 mm


Portulaca oleracea
seed - 1,41 mm


Sonchus maritimus
achene - 2,4 mm


Onopordum acanthium
mericarp - 2,7 mm

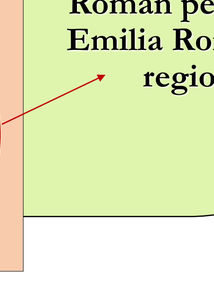
Eleocharis palustris/uniglumis
achene - 1,3 mm

Hyoscyamus niger
seed - 1,4 mm

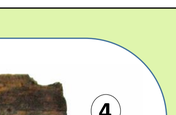
Oenanthe lachenalii
mericarp - 2,9 mm

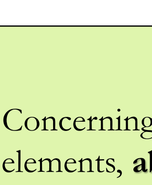
Fruit and particular food products

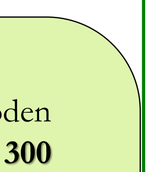

Ficus carica
achenio - 1,5 mm


Vitis vinifera subsp. *vinifera*
pip - 7,3 mm

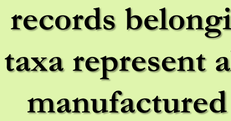

Morus nigra
endocarp - 3,6 mm

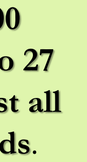

Prunus dulcis
endocarp - 1,8 cm


Prunus persica
endocarp - 2,12 cm

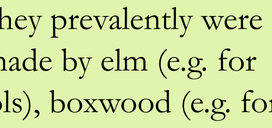

Prunus insititia
endocarp - 1,3 cm


Cucumis melo
seed - 7 mm


Prunus avium
endocarp - 6 mm


Pyrus communis
seed - 5,2 mm


Pinus pinea
seed - 1,63 cm


Ziziphus jujuba
endocarp - 1,5 cm

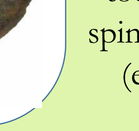

Cupressus sempervirens
seed - 4,1 mm

Crops


Beta vulgaris
cluster pseudocarps - 3,7 mm


Cannabis sativa
achene - 3,1 mm


Coriandrum sativum
internal mericarp - 2,6 mm


Papaver somniferum
seed - 1 mm

Linum usitatissimum
seed - 3 mm

Rubia tinctorum
seed - 3,1 mm

Lagenaria siceraria
seed - 1,2 cm

Ruta graveolens
seed - 2,1 mm

First carpological records from the Roman period in Emilia Romagna region

1. comp - ***Buxus sempervirens***
2. whorls - a, c, d, e, f) ***Buxus sempervirens***; b) ***Prunus* cf.**
3. *Tabula cerata* - ***Abies alba***
4. bucket elements - ***Abies alba***; bottoms - ***Quercus* cf. *robur***

Concerning wooden elements, **about 300 records belonging to 27 taxa represent almost all manufactured goods**. They prevalently were made by elm (e.g. for tools), boxwood (e.g. for spindle whorls), oak and fir (e.g. for *tabulae ceratae*).

1. C. Triolo, 2015 - *Analisi carpologiche sui materiali dal condotto idrico di Classe (II-VII d.C.).* MS Thesis, University of Ferrara, Italy.
2. M. Bandini Mazzanti et al., 2005 - *Plant use in a city in Northern Italy during the Late Medieval and Reinaissance periods: results of the Archaeobotanical Investigation of "The Mirror Pit" (14th - 15th century A.D.) in Ferrara.* Vegetation History and Archaeobotany 14: 442-452.
3. M. Bandini Mazzanti et al., 2009 - *The useful plants of the city of Ferrara (Late Medieval/Renaissance) based on archaeobotanical records from middens and hystorical/culinary/ethnobotanical documentation.* In: J.P. Morel, A.M. Mercuri (Eds.) Plants and Culture: seeds of the cultural heritage of Europe. EdiPuglia, Bari, pp: 93-106.
4. L. Sadori et al., 2010. *The plant landscape of the imperialHarbour of Rome.* Journal of Archaeological Science 37: 3294-3305.
5. L. Sadori et al., 2014. *Archaeobotany in Italian ancient Roman harbours.* Review of Palaeobotany and Palynology.