ARCHAEOBOTANICAL ANALYSES IN MEDITERRANEAN URBAN CONTEXTS: NEW DATA FROM LECCE (SE ITALY) BETWEEN IV CENTURY B.C. AND XVII CENTURY A.D.

Colaianni G., Grasso A.M., Fiorentino G.
Laboratory of Archeobotany and Palaeoecology-University of Salento, Lecce (Italy)

Corresponding author: girolamo.fiorentino@unisalento.it

Seeds/fruits analysis in Mediterranean contexts is still fairly recent (Boschi et al. 2009). The Lecce case study shows that these macro-remains, involved in an integrated approach with archaeology, palinology and historical sources, are important to understand the environmental and anthropic dynamics of a southern European city over time.

Fig. 2: graphic reconstruction of Lecce.

The analysis of 2500 soil samples (total volume: 12,500 l), sieved with meshes of 0.5 and 3 mm, was performed on different archaeological contexts: housing, handcraft, agricultural, funerary and religious.

In total we found 2166 seeds/fruits and 8301 charcoals. This macro-remains belong to the following time span (Figs. 3, 4) (Colaianni 2012):

**Seeds/fruits:**
- Hellenistic Age (IV—III century B.C.): remains of olives (Olea europea), lentil (Lens culinaris), chickpea (Cicer arietinum), barley (Hordeum vulgare), triticale (Triticosecale) and maize (Zea mays).
- Roman period (I—III century A.D.): olive stones, large and small valves, lentil, chickpea, pea (Pisum sativum), barley, triticale, maize, rye (Secale cereale), sinaie (Sinapis alba) and mustard ( mustard (Sinapis alba)).
- Medieval period (IV—XII century A.D.): increase of olive and lentil, decrease of chickpea and pea.
- Aragonese period (XV—XVI century A.D.): increase of olive and lentil, decrease of chickpea and pea.
- Modern Age (XVII—XX century A.D.): reduction in olives and lentil, increase in chickpea and pea.

**Charcoals:**
- Hellenistic Age (IV—III century B.C.): olive tree (Olea europea) and Mediterranean maquis species, such as Quercus cocciifera, Quercus ilex, Quercus suber, Juniperus phoenicea, Phillyrea latifolia, Myrtus communis and Heather (Erica arborea).
- Roman period (I—III century A.D.): increase of olive tree and maquis taxa exploitation increasing. Also grape charcoals (Vitis vinifera) are attested.
- Medieval period (IV—XII century A.D.): high use of olive tree, but Quercus ilex and Mediterranean maquis are still exploited. There are also remains of tree-fruit species, such as Prunus domestica.
- Aragonese period (XV—XVI century A.D.): increase of olive and grape exploitation.
- Modern Age (XVII—XX century A.D.): the olive tree is still the most exploited plant.

Fig. 3: graphic reconstruction of a Roman olive press (Arona) discovered in Lecce.

- Agricultural activities during the centuries are confirmed also by the historical sources:
  - For instance, ancient Roman authors, such as Catane and Columella, write about the exploitation of a variety of local olives (Lombardi 1992) (Fig. 7).
  - Macro/micro-remains, together with historical documents, also show the steady exploitation of the wooded areas for agricultural purposes during the Medieval Age. This deforestation mainly happened during the Angevin and Aragonese Period.
  - With the Aragonese kingdom, there was a slow change of cultures: cereals were replaced by grape and olive-growing.
  - During the Modern Age, olive-growing became the most widespread crop in the fields around Lecce (Fig. 8), while some plant remains reveal the presence of orchards and gardens in the urban and peri-urban landscape.

Therefore, we have seen that the contribution of the seeds and fruits, integrated in a multidisciplinary approach, shows that the anthropic pressure for agriculture purposes was the main cause of the change in the Lecce plant landscape (Fig. 8). The creation of much wider crop fields and the introduction of new food species have lead to a dramatic fall in the local vegetation, which was originally an evergreen oak forest and sclerophyllous shrubs of Mediterranean maquis.

**Fig. 4:** graphic reconstruction of the olive mill discovered in Lecce.