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UNDER THE PATRONAGE OF



# Archaeobotanical finds from the Brina medieval castle in the lower Magra valley (La Spezia - Italy): first results

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## Introduction

Archaeological research carried out from 2000 to 2013, integrated by the study of original sources, enabled us to write the history of Brina castle (Fig. 1) over a time span of almost 2000 years (Baldassarri et al. 2008).

Between the V and IV century BC the site was already inhabited by Ligurians, who built a village of huts. It was abandoned in Roman times and in the IX century AD a new settlement was built at the top, with houses and defences made from perishable materials. Between the late X and XI centuries the *domini* of the place, the *Da Burcione* family, decided to transform the settlement by building a tall tower and a stone wall. Further re-structuring of the castle took place in the XIII century, when the Bishop of Luni won dominion of the castle.

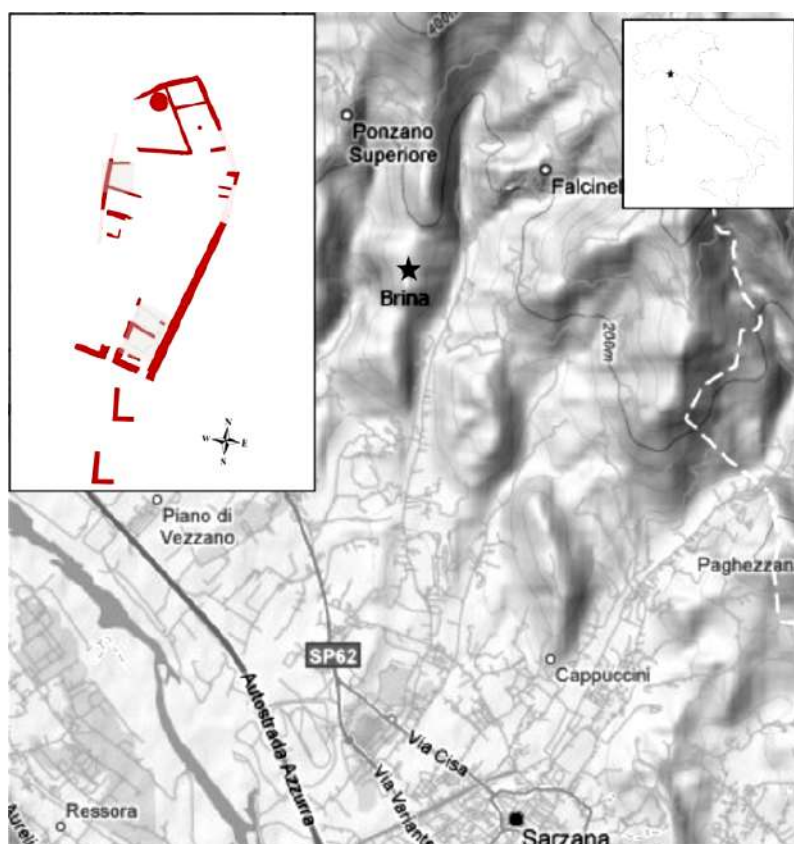


Figure 1 - Geographical location of archaeological site and planimetry of the castle.

A struggle for control of the *castrum* then arose in the early XIV century between the Bishop and the Malaspina family that resulted in the destruction of the upper part: thus, this area of the site was abandoned, while the part around the southern gate of the defensive wall was used as a sentry point by the Malaspina, then later as a Customs post by the Sarzana community up until the XVI century.

The period of the first and major flourishing of the castle occurred in the XI century, suggested not only by the masonry building of all the most relevant structures of the site, but also for the richness and the variety of the finds related to the seigniorial areas. Such findings include all the macroremains reported in this work, which belong to stratigraphic units dating back between the middle and the end of the XI century or dislocated nearby a little later.

## Materials and Methods

The archaeobotanical remains here presented were found in two different parts of the XI century castle: a roofed area with a central fireplace used to dry plants, placed in the north-west part of the site, and in pits and postholes in the area of a storage building located nearby the southern gate of the defensive wall. In both cases the remains seemed to be carbonized and that may be the reason why they were abandoned in the soil. To study them in a proper way, we took the entire soil of the stratigraphic units (total sampling), and then we sifted them as follows.

Soil samples were sifted both dry and in water, with 1.80, 2.00, 2.80 mm opening steel mesh sieves. The identification and botanical determination of macroremains was done by stereoscope (Leica zoom 2000). The identification of the taxa (species, genus, family) was carried out by comparing the identifiable morphological characteristics (form, size, and other distinctive key aspects) of the finds, with a reference seed/fruit collection, stored in the seed bank of the Department of Agriculture, Food and Environment, University of Pisa, or samples collected in natural areas, and atlases and literature (e.g., Jacomet 2008). For the botanical nomenclature reference was made to Flora d'Italia (Pignatti 1982).

## Results and Discussion

All macroremains, apart some endocarps of peaches, were charred to a greater or lesser extent. This is due to the fact that during the original drying or roasting operations, some were burnt, which resulted in complete carbonization. In any case the analysis of macroremains allowed the identification of the following taxa (in order of quantity) (Tab. 1) (Figg. 2, 3):

1. naked wheat (*Triticum* spp. - Poaceae)
2. *Triticum aestivum/durum* (Poaceae)
3. *Vicia faba* var. *minor* (Fabaceae)
4. *Lens culinaris* (Fabaceae)
5. *Pisum sativum* (Fabaceae)
6. *Vicia cracca* (Fabaceae)
7. *Lupinus angustifolius* (Fabaceae)
8. *Sinapis arvensis* (Brassicaceae)
9. *Prunus persica* (Rosaceae)
10. *Avena* sp. (Poaceae)

Table 1 - Macroremains, location and archaeological chronology (c. = century).

Layer	Site	Period	Seeds/fruits
5684	Deposits linked to the use of the fireplace in the roofed area	1st half XI c.	13 seeds of <i>Vicia faba</i> var. <i>minor</i> ; 2 caryopses of <i>Triticum aestivum/durum</i> ; 1 seed of <i>Pisum sativum</i>
5690	Deposits linked to the use of the fireplace in the roofed area	1st half XI c.	22 caryopses of <i>Triticum aestivum/durum</i> ; 2 seeds plus 6 cotyledon fragments of <i>Lens culinaris</i>
5691	Deposits linked to the use of the fireplace in the roofed area	1st half XI c.	More 5000 caryopses of naked <i>Triticum</i> spp.; 5 seeds of <i>Vicia faba</i> var. <i>minor</i>
5692	Deposits linked to the use of the fireplace in the roofed area	1st half XI c.	More 3000 caryopses of naked <i>Triticum</i> spp.; 8 seeds of <i>Vicia faba</i> var. <i>minor</i>
5694	Deposits linked to the use of the fireplace in the roofed area	1st half XI c.	23 caryopses of <i>Triticum aestivum/durum</i> ; 1 seed of <i>Vicia cracca</i> L.; 1 seed of <i>Sinapis arvensis</i>
5695	Deposits linked to the use of the fireplace in the roofed area	1st half XI c.	63 caryopses of <i>Triticum aestivum/durum</i> ; 2 seeds <i>Vicia faba</i> var. <i>minor</i>
5697	Deposits linked to the use of the fireplace in the roofed area	1st half XI c.	54 seeds of <i>Vicia faba</i> var. <i>minor</i> ; 5 fragments of seeds of <i>Lupinus angustifolius</i> ; 2 fragments of endocarp of <i>Prunus persica</i>
9079	At the bottom of the backfill of storage pits	XI-XII c.	87 caryopses of <i>Triticum aestivum/durum</i> ; 2 seeds of <i>Vicia faba</i> var. <i>minor</i>
9095	Backfill of the postholes where were located the storage pits	End XII c.	217 caryopses of <i>Triticum aestivum/durum</i> ; 18 seeds of <i>Vicia faba</i> var. <i>minor</i>
9096	Backfill of the postholes where were located the storage pits	End XII c.	374 caryopses of <i>Triticum aestivum/durum</i> ; 1 caryopses <i>Avena</i> sp.; 5 seeds of <i>Vicia faba</i> var. <i>minor</i>

A high amount of naked wheat caryopses were found in layers 5691 and 5692 and a detailed analysis of the species it is still ongoing (Tab. 1). In any case, the most represented species appears to be *Triticum aestivum/durum* although for some specimens the presence of both *Triticum turgidum* and *Triticum spelta* is possible. *Vicia faba* var. *minor* is the second species in order of number of remains found, albeit in much smaller quantities than the *Triticum*. The seeds of *V. faba*, together specimens of *Lens culinaris*, and *Pisum sativum*, and in part, *Lupinus angustifolius* are certainly to be included in the food-grade group. The small number of these specimens does not allow us to form hypotheses on the presence of specific conservation practices. The other species are considered to be normal contaminants or, in the case of *Prunus persica*, as food remains unrelated to conservation practices.

## Conclusions

The two species most on the site confirm their great importance in the Middle Ages and continuity with the agricultural tradition of the preceding Roman world (Buonincontri et al. 2014). A more in-depth analysis of the two largest grain deposits can provide more detail on the most widely used *Triticum* species in the territory under the control of the Brina castle.



Figure 2 - Caryopses of naked wheat and (a) one caryopsis of *Avena* sp. (Layer 9096).



Figure 3 - Seeds of (a) *Vicia faba* var. *minor* and (b) *Lupinus angustifolius* (Layer 5697).

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