

FRANCESCA ALAHAIQUE<sup>1,2</sup>

<sup>1</sup> Department of Anthropology, Washington University in St. Louis, Missouri (USA)

<sup>2</sup> Dipartimento di Scienze dei Beni Culturali, Università degli Studi della Tuscia, Viterbo

## The diet of the nuns in the Ss. Quattro Coronati monastery (Rome) at the beginning of 17<sup>th</sup> century

### *L'alimentazione della monache nel monastero dei Ss. Quattro Coronati (Roma) all'inizio del XVII secolo*

**Summary** - This research is part of a larger project on the study of the faunal remains collected during the excavations at the Ss. Quattro Coronati monastery (Rome). Such remains cover a wide chronological range, from the Early Middle Ages to the 17<sup>th</sup> century, when different religious communities lived successively in this area. The present work will focus on a sample of materials referable to the beginning of the 17<sup>th</sup> century when the monastery was occupied by the Augustinian nuns and by the orphans they were taking care of. The data show a prevalence of ovicaprines, especially young ones, while cattle and pig are more rare. The diet included also birds, tortoises, fish and mollusks. The occasional presence of wild mammals should also be mentioned. The information obtained from this site will allow adding further details to our knowledge on the diet in monastic contexts of the urban area of Rome.

*Riassunto* - Questa ricerca fa parte di un progetto più ampio relativo allo studio dei reperti osteologici faunistici rinvenuti durante gli scavi effettuati presso il monastero dei Ss. Quattro Coronati (Roma). Tali reperti coprono un arco cronologico molto ampio, dall'Alto Medioevo al XVII secolo, durante il quale diverse comunità religiose si sono succedute in quest'area. Nel presente lavoro l'attenzione sarà focalizzata su un campione di materiali riferibili all'inizio del XVII secolo, periodo in cui il monastero era frequentato dalle monache agostiniane e dalle orfane di cui esse si occupavano. I dati mostrano una prevalenza di ovicaprini, soprattutto giovani, mentre bovini e suini sono più rari; la dieta era completata da volatili, tartarughe, pesci e molluschi. Si segnala inoltre l'occasionale presenza di mammiferi selvatici. Le informazioni ottenute per questo sito permetteranno di aggiungere un ulteriore tassello alle conoscenze sull'alimentazione in contesti monastici dell'area urbana di Roma.

**Keywords:** Monastic diet, Ss. Quattro Coronati monastery (Rome), Augustinian nuns, 17<sup>th</sup> century

*Parole chiave:* Alimentazione monastica, monastero Ss. Quattro Coronati (Roma), Monache Agostiniane, XVII sec.

### INTRODUCTION

The research presented in this paper is part of a larger project on the study of the faunal materials collected in the Ss. Quattro Coronati monastery located in Rome on the Celium Hill. The most recent excavations at this site were carried out in 2011-2012 (Barelli, Pugliese 2012; Masi *et al.* 2012) in the area of a former porch (Asciutti 2012) situated in the west side of the garden of the monastery (Fig. 1). The excavated layers cover a wide chronological range, from the Early Middle Ages to the 17<sup>th</sup> century, when different religious communities lived successively in this area<sup>1</sup>.

This work will focus on a sample of faunal remains, referable to the beginning of the 17<sup>th</sup> century, recovered in the North room of the porch (SU 458). The assemblage analyzed is quite large (Tab. 1) and therefore may offer a representative picture of the diet of the Augustinian nuns and of the orphans living in the monastery during the first decades of the 17<sup>th</sup> century (Barelli 2009, 2006, 2005).

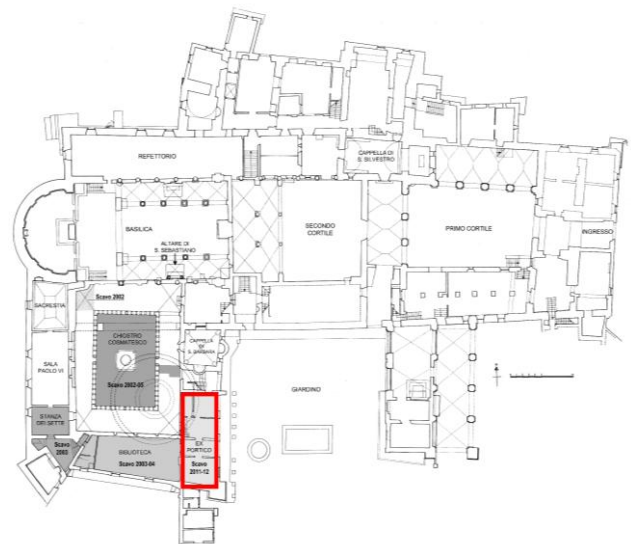


Fig. 1. Ss. Quattro Coronati. Plan of the complex with the location of the area excavated in 2011-12 (modified, after Barelli 2012).

<sup>1</sup> I have been informed that written documents and registers about the living expenses in the Ss. Quattro complex are present, at least for some chronological periods, but have not been investigated so far.

The preservation of the sample is relatively good and over 50% of the specimens could be identified to species level or to higher taxonomic categories, almost 24% of the fragments could be attributed to size classes such as small, medium, and large mammal<sup>2</sup>, while the rest of the assemblage resulted to be completely unidentifiable (Tab. 1).

The state of preservation of bone surfaces allowed observing modifications produced by humans or other agents providing further details on the exploitation of animal resources.

#### ANALYSIS OF THE ASSEMBLAGE

Among the domestic mammals (Tab. 1, Fig. 2) ovicaprines represent the most abundant taxon, with sheep being markedly more frequent than goat, followed by cattle and pig. The other species, rabbit, dog, and cat, are very rare. Very interesting is the occasional presence of wild mammals such as roe deer and hare.

Bird remains are relatively abundant (Tab. 1, Fig. 2) and dominated by chicken with the addition of duck and more rarely goose. Partridge, woodcock, and turtle dove have also been identified, confirming the indication, already provided by mammals, of the occasional exploitation of wild resources. On the basis of the two pigeon remains it was not possible to ascertain its wild or domestic status.

Tortoise bones are also quite numerous (Tab. 1, Fig. 2) and have been attributed on morphological basis to *Testudo hermanni* (Amiranashvili 2000); at least three male individuals were present and their carapace was about 12-15 cm long.

Fish remains are very scarce (Tab. 1, Fig. 2), but both marine, such as the gilt-head bream (*Sparus aurata*), and fresh water, such as the tench (*Tinca tinca*), species have been identified. Such rarity is not related to a recovery bias because the lower layers of the excavation, referred to a period when the monastery was occupied by Benedictine monks, yielded a much larger ichthyofaunal assemblage.

Mollusks represent 5.4% of the sample (Tab. 1), however they belong mainly to small sized terrestrial gastropods (especially *Pomatias elegans* and *Rumina decollata*), that likely represent the result of natural accumulation; in contrast, larger edible Helicidae are very rare, and their contribution to the diet is not sure because they are not ecologically incompatible with the above mentioned intrusive mollusks. Marine species (*Cerastoderma edule* and *Donax trunculus*), although infrequent are instead clearly associated to human exploitation.

Surely accidental is the presence of human remains probably related to the presence of burials in the area disturbed by later building activities for the construction of the porch.

<sup>2</sup> For this study "small mammal" includes cats, lagomorphs, and animals of similar size; "medium mammal" refers to ovicaprines, pigs, dogs, roe deer; cattle, horse, donkey, and red deer are considered "large mammal"; the "microfauna" contains remains of small rodents and reptiles.

SPECIES	NISP	NISP%	MNI	MNI%
<i>Pomatias elegans</i>	55	1.5		
<i>Rumina decollata</i>	79	2.2		
<i>Eobania vermiculatus</i>	10	0.28		
<i>Cornu aspersus</i>	4	0.11		
Other terrestrial Gastropoda	19	0.53		
<b>Total terrestrial Mollusca</b>	<b>167</b>	<b>4.65</b>		
<i>Cerastoderma edule</i>	12	0.33		
<i>Donax trunculus</i>	20	0.56		
<b>Total marine Mollusca</b>	<b>32</b>	<b>0.89</b>		
<b>Total Pisces</b>	<b>24</b>	<b>0.7</b>		
<i>Testudo hermanni</i>	49	1.4	3	5.6
<b>Total Reptilia</b>	<b>49</b>	<b>1.4</b>	<b>3</b>	<b>5.6</b>
<i>Gallus gallus</i>	131	3.6	10	18.5
<i>Anas platyrhynchos dom.</i>	29	0.8	3	5.6
<i>Anser anser dom.</i>	3	0.08	1	1.9
<i>Columba livia</i>	2	0.06	1	1.9
<i>Streptopelia turtur</i>	1	0.03	1	1.9
<i>Alectoris rufa</i>	4	0.11	1	1.9
<i>Scolopax rusticola</i>	2	0.06	1	1.9
Aves gen. et sp. indet.	67	1.9		
<b>Total Aves</b>	<b>239</b>	<b>6.7</b>	<b>18</b>	<b>33.3</b>
Microfauna	9	0.25		
<i>Lepus europaeus</i>	2	0.06	1	1.9
<i>Oryctolagus cuniculus</i>	7	0.19	2	3.7
<i>Homo sapiens</i>	11	0.31	1	1.9
<i>Canis familiaris</i>	1	0.03	1	1.9
<i>Felis catus</i>	1	0.03	1	1.9
<i>Bos taurus</i>	225	6.3	6	11.1
<i>Capra hircus</i>	2	0.06		
<i>Ovis aries</i>	37	1.0	15	27.8
<i>Ovis vel Capra</i>	922	25.7		
<i>Sus domesticus</i>	109	3.0	5	9.3
<i>Capreolus capreolus</i>	2	0.06	1	1.9
<b>Total Identified Mammalia</b>	<b>1328</b>	<b>37.0</b>	<b>33</b>	<b>61.1</b>
Small mammal	5	0.14		
Medium mammal	690	19.2		
Large mammal	153	4.3		
<b>Total Unidentified Mammalia</b>	<b>848</b>	<b>23.6</b>		
<b>Unidentifiable</b>	<b>905</b>	<b>25.2</b>		
<b>TOTAL</b>	<b>3592</b>	<b>100</b>	<b>54</b>	<b>100</b>

Tab. 1. Ss. Quattro Coronati. Faunal assemblage of SU 458 (NISP = Number of Identified Specimens; MNI= Minimum Number of Individuals).

The analysis of the age at death of the animals (Barone 1995; Bull, Payne 1982; Grigson 1982; Payne 1973; Silver 1969; Tomè, Vigne 2003) indicates for the ovicaprines the presence of a minimum of 15 individuals (one of them was surely a ram) with a marked prevalence of lambs (11) killed before 12 months (Tab. 2); among the latter at least five were between 9 and 11 months old suggesting that culling occurred within a short period of the year. Such seasonal exploitation of the main domestic animals was regulated, at least in the 18<sup>th</sup> century (but similar seasonal trends have been reported also in the 15<sup>th</sup> century, Ait 1981), by the *Dogana della Grascia* that concentrated the killing of lambs ("Agnellatura") between Easter and St. John (June 24<sup>th</sup>); cattle could be butchered

between June 24<sup>th</sup> and Carnival, while pigs between November and Fat Thursday (D'Amelia 1975). The pattern evidenced by the age at death of cattle (Tab. 2) is different from that of ovicaprines: there are 6 animals and most of the remains may be attributed to adults, probably individuals already exploited for traction or for milk; a single calf, about 2-6 month old, could have been killed, according to literary sources (Romoli 1560, Libro secondo, cap. XVI) that indicate January-February as the calving season, between March and July (probably towards the end of this time range if we consider the above mentioned regulations). Furthermore, this is just the age when the “*vitella da latte*” was considered best to eat (Scappi 1570, Libro secondo, cap. XXIII) and therefore the presence of this animal may indicate a special occasion and not an ordinary meal. Pig remains correspond to 5 individuals whose ages are more evenly distributed (Tab. 2), from young to senile; two males are surely represented and the withers height of one animal was 74 cm. Although the analysis is still in progress, the preliminary data from the lower layers seem to indicate, in contrast, the prevalence of females. Roe deer is

represented by a single individual killed at 6-7 months of age, the season was therefore between November and December just when, according to literary sources (Romoli 1560, Libro secondo, cap. XXVIII), the meat of this animal was more palatable.

The two rabbits are a young and an adult; the remains of this species are too few to suggest that they were reared in the monastery; furthermore, these animals, domesticated in the Middle Ages, were, still during the Renaissance, often considered as wild animals by literary sources (e.g., Crescenzio 1519). On the other hand, according to the same literature, some wild animals (hare, roe deer) could have been fattened in captivity before being acquired by the nuns. There is a minimum number of 10 chickens, 4 of them young, among which only hens have been surely identified, probably reflecting *in situ* rearing of domestic poultry for meat and eggs, as also indicated by written sources (“*Che la gallinara debba mantenere le galline per beneficio delle monache e di tutte le inferme*”, *Ordini fatti nelle Visite apostoliche* of 1682-1699, reported in Barelli 1994).

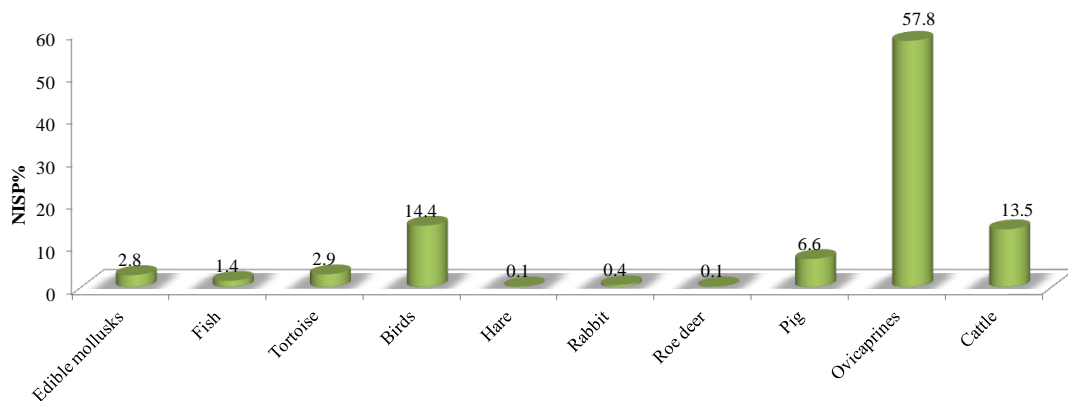


Fig. 2. Ss. Quattro Coronati. Proportions among the main identified species (NISP = Number of Identified Specimens).

Species	Very young MNI	Young MNI	Young-Adult MNI	Prime Adult MNI	Older Adult MNI	Senile MNI	Total MNI
<i>Bos taurus</i>	1	1	1	1	2	1	6
<i>Ovis vel Capra</i>	4	7	1	1	2		15
<i>Sus domesticus</i>		1	1	1	1	1	5

Tab. 2. Ss. Quattro Coronati. Age at death of the main domestic mammals (MNI= Minimum Number of Individuals).

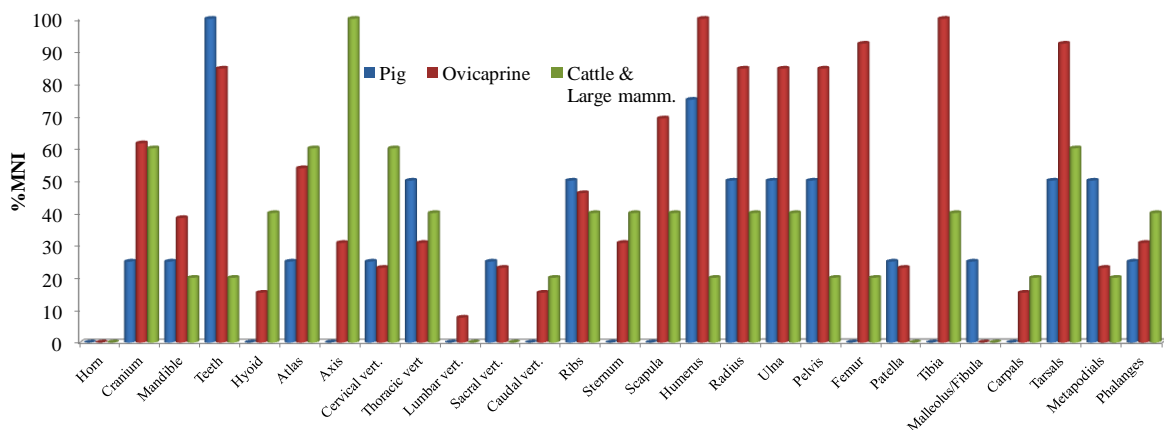


Fig. 3 Ss. Quattro Coronati. Frequency of anatomical elements of the main domestic mammals (%MNI= Standardized Minimum Number of Individuals).

Very interesting is the analysis of body part frequencies that suggests that only specific parts of the carcasses entered the monastery; in fact, if on one hand ovicaprines, probably because of their small size and young age, are represented by all elements of the skeleton (Figs. 3, 4), there is a strong selection for cattle<sup>3</sup> (Figs. 3, 5) for which, besides the expected rarity of distal limb bones, there is a complete absence of some portions of the vertebral column. Pigs evidence the presence of at least two “*zampetti*” and the lack of parts of the fore and hind limbs, such as scapula, femur, and tibia (Figs. 3, 6), as if these elements had been used to make *prosciutti* or other *salumi* before being acquired by the nuns. Both chicken and duck, in contrast to the expectations (Ericson 1987), show a prevalence of front limb elements over hind limb ones (Fig. 7), possibly reflecting a preference for wings as suggested by contemporaneous written sources (“*la regola universale delle membra de i volatili, che le ali, & i colli sieno i più lodevoli. & i migliori*”, Romoli 1560, Libro sesto, XXVIII). Most of butchery marks had been produced using heavy tools, often with very clear-cut, almost polished, surfaces in contrast to specimens observed in earlier occupation periods whose fracture surfaces, although straight, are more rough, suggesting the use, in the later period, of more efficient and hard tools. Cuts produced by knives and saws are instead much more rare. All phases of carcass treatment, from skinning to marrow and grease exploitation, are represented and the process appears to be very standardized (Figs. 4, 5, 6).

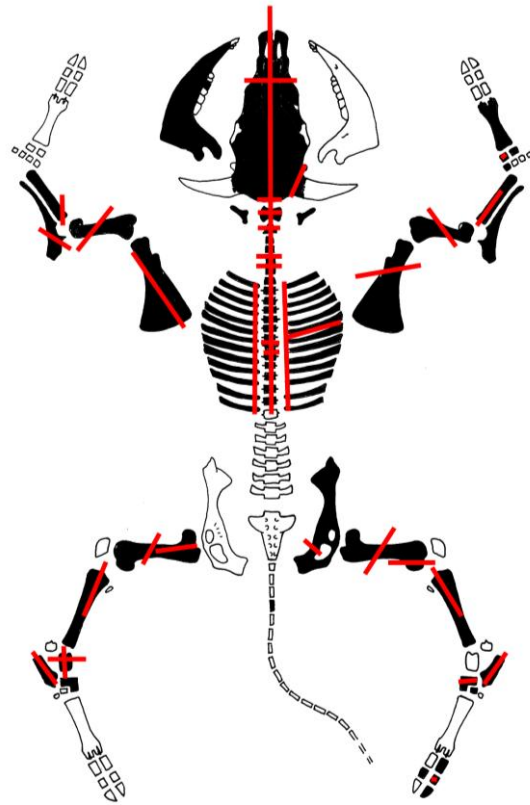


Fig. 5. Ss. Quattro Coronati. Cattle: anatomical elements recovered (black) and location of butchery marks (red).

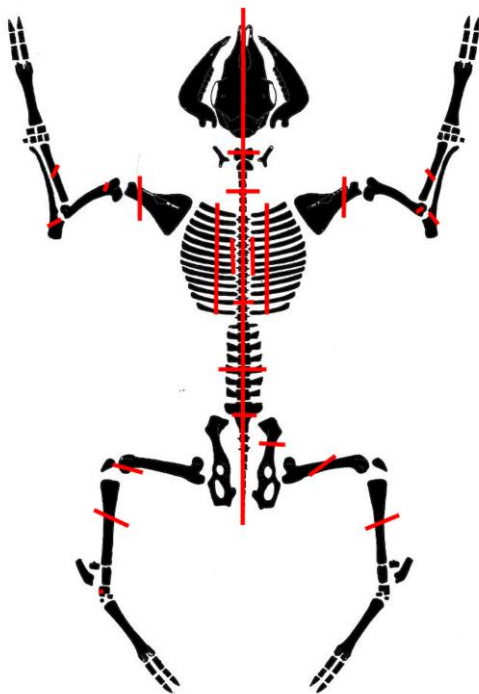


Fig. 4. Ss. Quattro Coronati. Ovicaprines: anatomical elements recovered (black) and location of butchery marks (red).

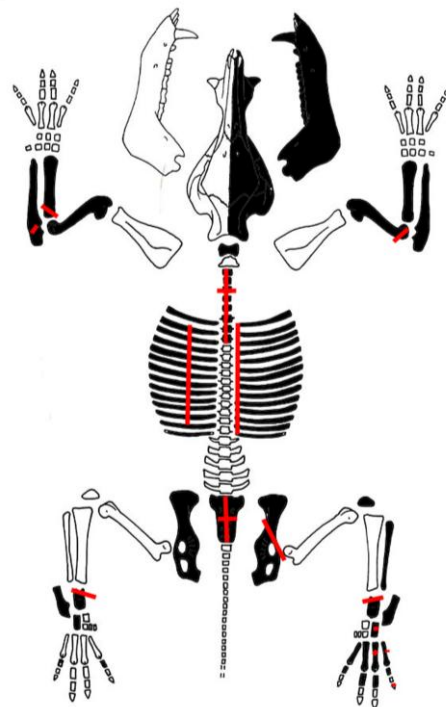


Fig. 6. Ss. Quattro Coronati. Pig: anatomical elements recovered (black) and location of butchery marks (red).

<sup>3</sup> For this analysis “large mammal” remains have been counted with those of cattle because this is the only large species represented in the sample.

Almost all the animals, regardless of species and age, were cut in half from head to tail; this procedure differs from what has been reported in France during the same period at the monastery of La Charité-sur-Loire, where for pigs the “ancient” method of removing the vertebral column by sectioning the vertebrae-rib joint was used, leaving intact the vertebral bodies (Audoin, Manrival-Vigne 1987). Interesting is the presence of longitudinal breaks on the epiphyses of cattle radii and tibiae, probably related to the preparation of these elements for extracting grease and marrow. Frequent transverse and longitudinal sectioning traces on the cranial bones of all the main species suggest that this portion was likely a part of the menu as also indicated by numerous recipes of that period (e.g., Messisbugo 1549, Romoli 1560, Scappi 1570). In the case of cattle this is also supported by the actual presence of cranial fragments among the selected portions acquired by the nuns. As regards the other taxa, butchery marks have been detected on birds (chicken, duck, goose, partridge), on hare, and on a fish vertebra. Only 13% of the specimens shows signs of burning, that in most cases are very light and located on fracture edges, probably related to roasting. However, boiling was likely the most frequent method of food preparation especially in the case of older animals; in these latter cases, even when these portions were eventually roasted, coeval sources suggested boiling as a pre-treatment.

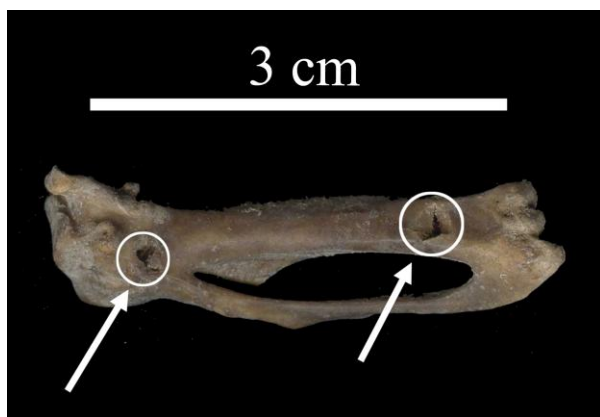


Fig. 7. Ss. Quattro Coronati. Chicken carpometacarpus with puncture marks produced by a cat.

Very rare are the traces produced by carnivores (0.7%); these are almost exclusively produced by small sized animals and for a chicken carpometacarpus it was possible to infer that the author was a cat (Fig. 7) who had been fed with the leftovers from the table. It is possible that only cats, and not dogs, were kept in the monastery probably in order to “take care” of mice. Although in our case there are no written sources supporting this hypothesis, in other coeval monasteries of Latium there were strict rules about the animals allowed (“*Non si tengino mai nel Monasterio cani, nè qualsiuoglia altra sorte di animali, nè proprij, nè imprestati, se non uno ò più Gatti, per tener la Casa libera da sorci*”, Costituzioni 1640, Cap. 17 p. 215). Even less frequent (0.2%), possibly because of the cats, were the marks produced by rodent teeth.

CONCLUSION

From this rapid overview of the sample it is possible to observe that most of the specimens identified represent food debris. Although apparently the species that was most often used were ovicaprines, considering the meat yield of the main taxa based on coeval sources (D’Amelia 1975) it is possible to evidence that cattle, as expected, provided most of the food (Fig.8). Wild species probably represented only occasional and special events.

On the basis of the available data it is not possible to ascertain the origin of tortoises in the assemblage because, although their use as food is well documented both by literary sources (e.g., Platina, 1475; Scappi 1570) and archaeozoological investigations in coeval monastic contexts (e.g., De Grossi Mazzorin, Minniti 2000), no butchery marks have been detected on this species; however, it is also possible that the culinary procedure did not leave traces: for example Scappi (1570, libro terzo, cap. CLXVIII) suggests boiling the live animal (!) and then removing the meat from the carcass. Fish and mollusks provided only a limited contribution to the diet. Comparisons with other religious contexts in Rome (e.g., Bedini, Tozzi 1985, De Grossi Mazzorin, Minniti 2000, Tozzi 1984) indicate greater differences, especially in the ratio between “non-meat” species and the main domestic

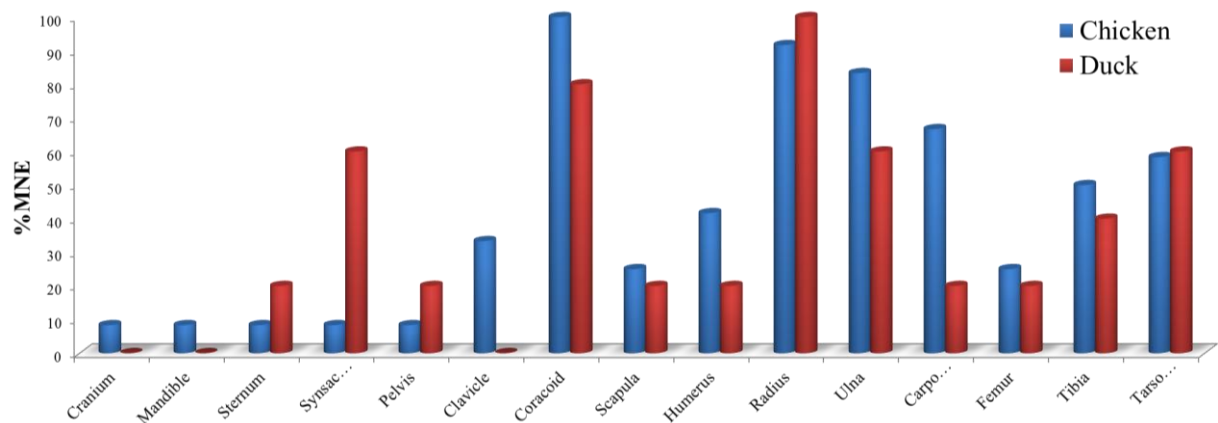


Fig. 8. Ss. Quattro Coronati. Frequency of anatomical elements of chicken and duck (%MNE= Standardized Minimum Number of Elements)



mammals, with monasteries where monks were living probably because of the different alimentary regulations that were likely less strict for the Augustinian nuns. However, also in this case the choice of species, their age, and even probably the season of consumption, were related to the strict rules of the Pontifical State affecting not only monastic communities, but all the people living in Rome (D'Amelia 1975).

#### ACKNOWLEDGEMENTS

The excavations at the monastery of the Ss. Quattro Coronati in Rome were sponsored by Arcus S.p.A. and represent a batch within the main project for the conservation of the whole area of the cloister funded by J.P. Getty Grant Program and Sparaco Spartaco S.p.A. I wish to thank the Augustinian Nuns of the Ss. Quattro Coronati monastery for their hospitality during the excavations and in all the circumstances when I had the opportunity to meet them. I am also grateful to all the colleagues participating in the project for useful and interesting exchanges of information and ideas. I want to acknowledge Chiara Cucinotta, former archaeozoologist of the research team, for providing her unpublished data on the materials from the excavations of another area of the monastery. Finally I want to express my gratitude to Dr. Paola di Manzano of the Soprintendenza Speciale per i Beni Archeologici di Roma, for allowing and facilitating the study of the faunal materials.

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