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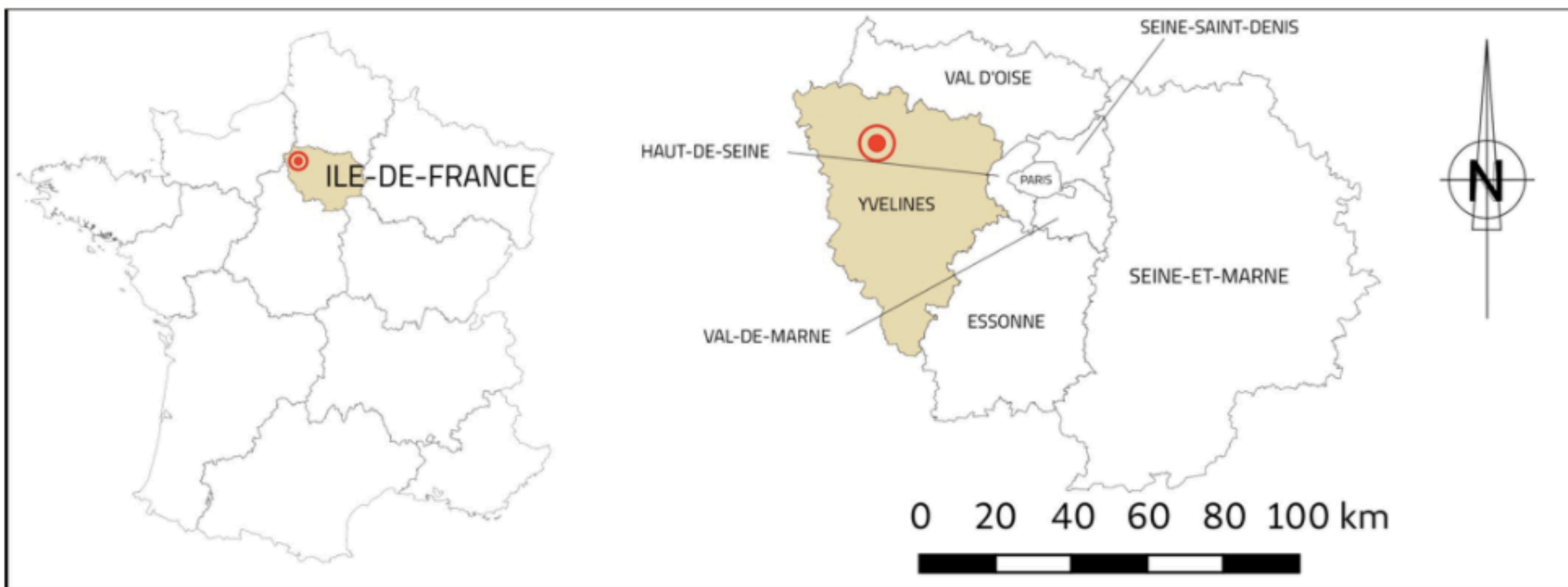
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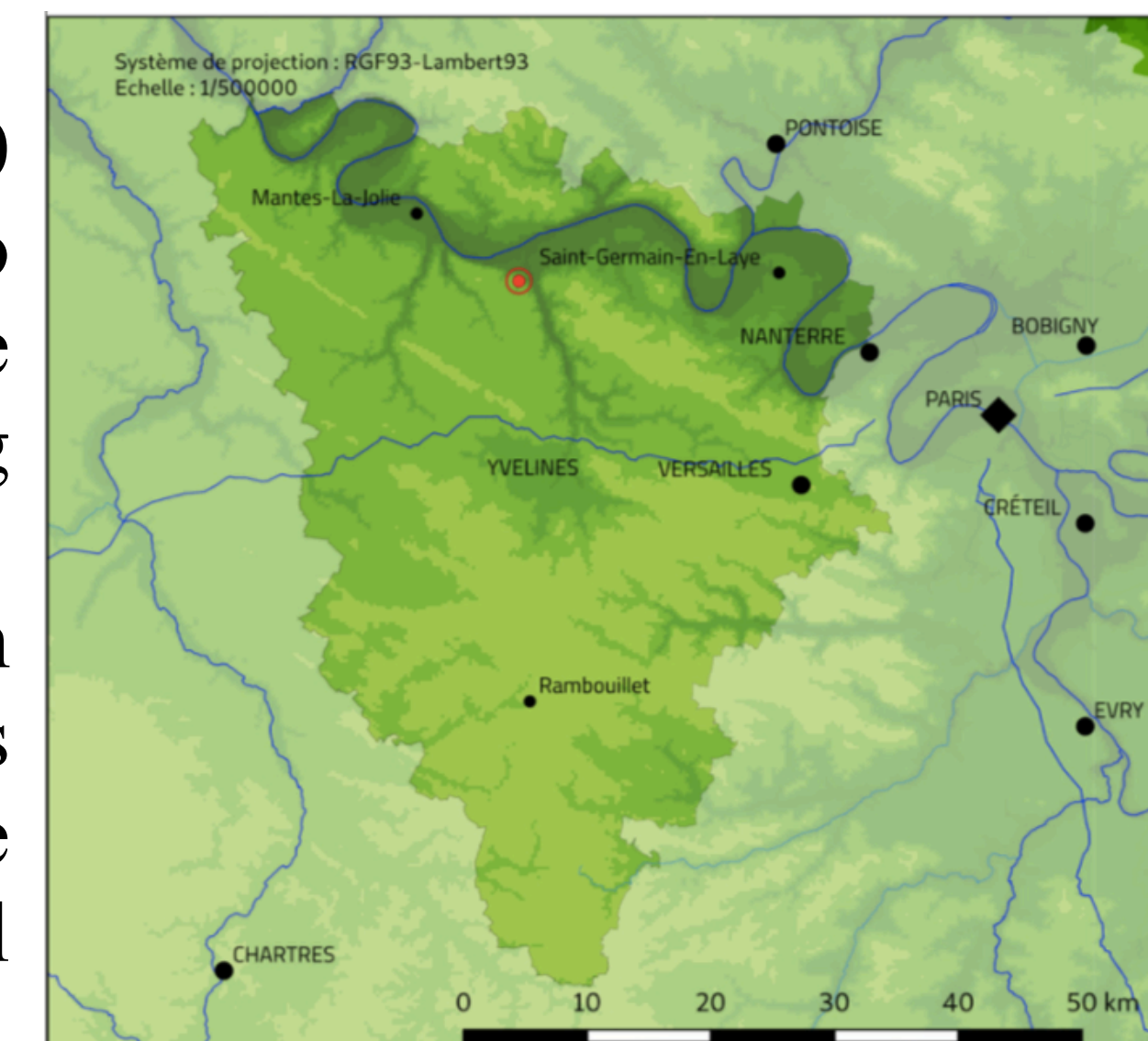
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## The application of carpology to the study of faunal remains an example from Épône (Yvelines, France)

### The site of Épône



The excavation of Épône was excavated in 2020 by Thomas-Aloïs Gérardin for Éveha. Two separated areas of 1200 and 5317 m<sup>2</sup> from the same occupation, delivered 866 structures dating from the high and the central Middle-Age. The excavation of Épône show a human settlement with agricultural and craft productions unit, characterized by landscape ditches, posthole buildings, pithouses, two ovens, one small storage area and two unidentified stone buildings.



### Literature review (Mélanie Macouin)

Since the Carolingian period the area is known for agriculture thanks to the Saint-Germain-des-Prés abbey large domains. In the XIth century, the Count of Meulan ceased to tax the passage of livestock (« pulvéragé » - Chapter of the Church of Paris). In the XIIth century, Philippe Auguste authorized the establishment of a market near Épône indicating the importance of agro-pastoral production activities. The importance of the livestock market network in Mantes-la-Jolie region in the X-XI centuries is noted in the Saint-Martin-des-Champs abbey registers.

### Archaeozoological study (Aurélien Piolot)

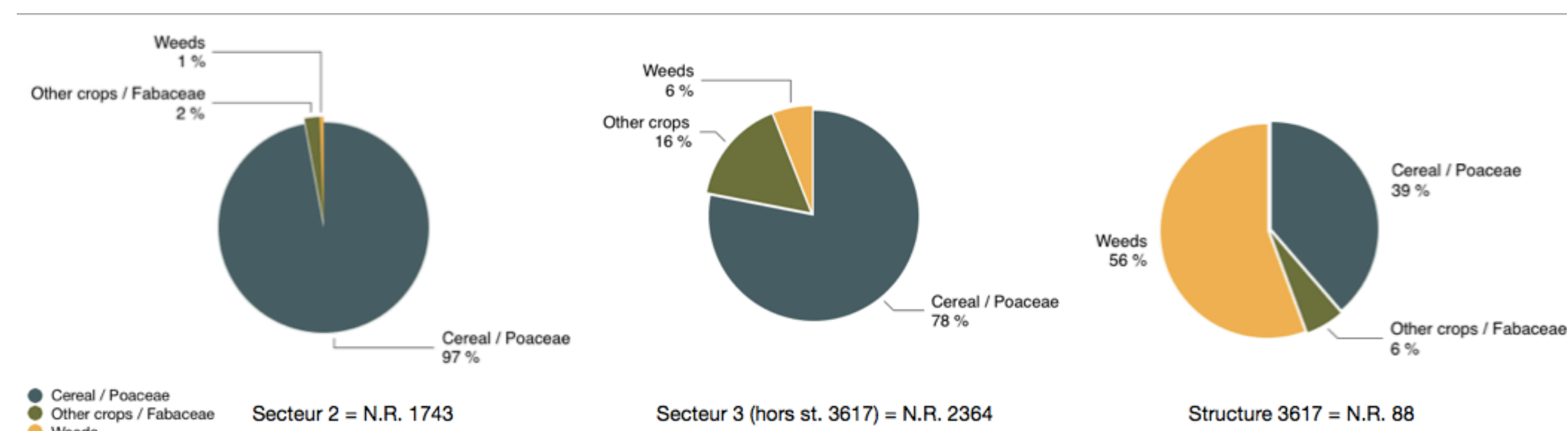
The Épône excavation supplied a corpus of 2933 faunal remains. Most of them are from the high Middle-Age and belong to the domestic triad, with some horses, dogs and roosters. The similar species are present for the rest of Middle-Ages but in smaller proportions and with proportions of cattle increasing to the detriment of pigs and caprins. 1\_ The distribution of anatomical elements suggests butchering activities. 2\_ The majority of animals (particularly caprins) were slaughtered at a young (before achieving their maximum weight). 3\_ Livestock farming seems to be practiced locally, as indicated by the quantity of oxen.

### Notice

The literature review and the archaeozoological study suggest livestock farming in Épône, but no directly archaeological evidence of animal husbandry was discovered at Épône during the excavation. The question of livestock farming was pursued through carpological study.

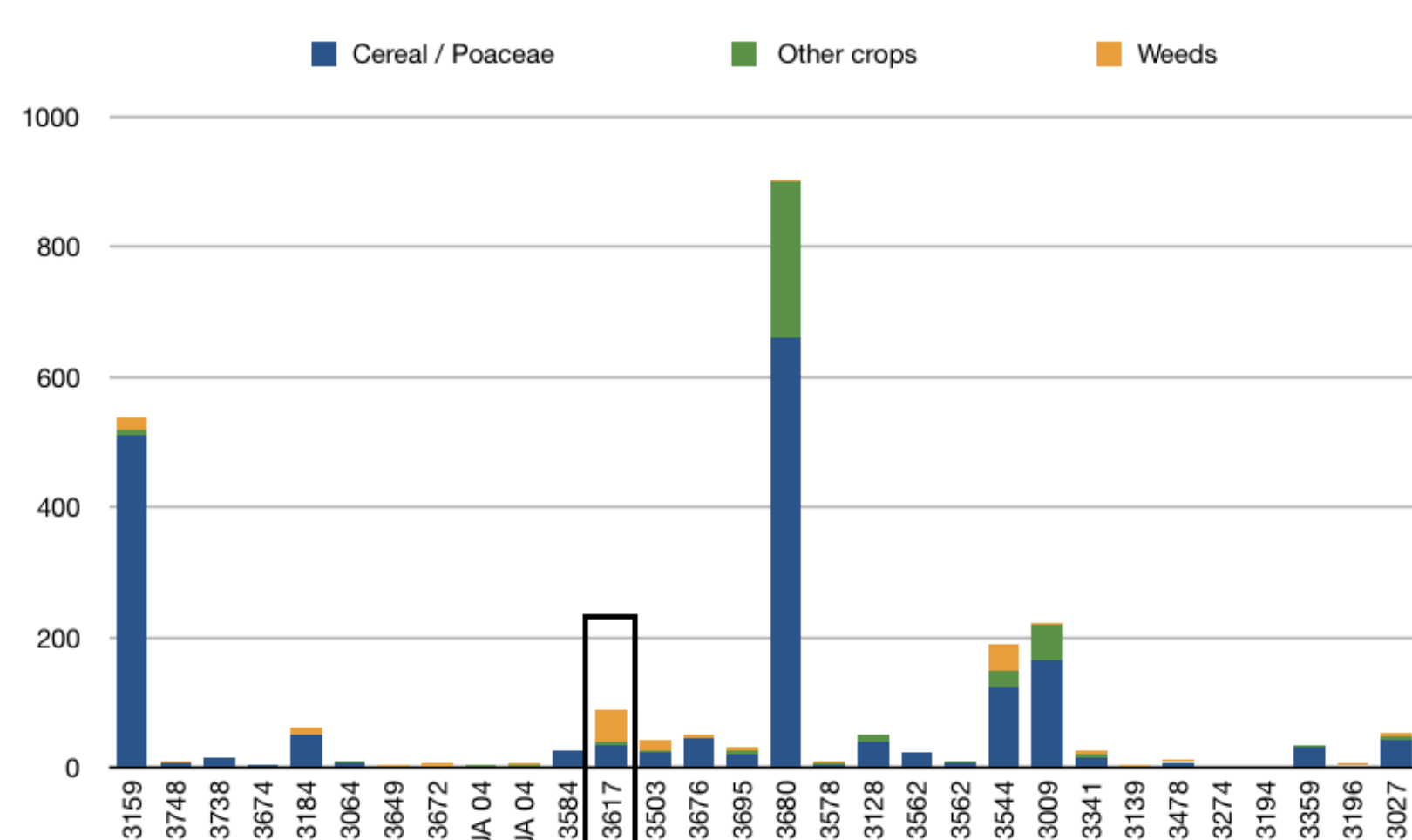
### Carpological study

33 samples were collected in the two excavated areas, mainly in pits, but also in postholes, pithouses and hearths/ovens. Three structures were studied in sector 2, for an MNI of 1743, consisting almost exclusively of cereals, mainly wheat (white bread for human consumption). Weeds were present in only one structure and correspond to 1% of remains with a MNI. of 11.



For sector 3, the results are similar, with a very large proportion of wheat and some barley remains. Six structures contain no weeds and only three of the 30 samples provided more than 10 individuals: an oven, a pithouse and the pit #3617. Excluding this latter context, weeds account for only 6% of sector 3's carpological remains.

The structure #3617 (MNI 88) is unique, it is the only structure that has a majority of herbaceous plant remains (56% of individuals). 11 weed taxa are present in pit #3617. Five of these are known to be used for fodder. The dominant taxa are *Medicago lupulina* (alfalfa) and *Festuca cf. ovina* (sheep's fescue). There are also various wild grasses and a few ruderal



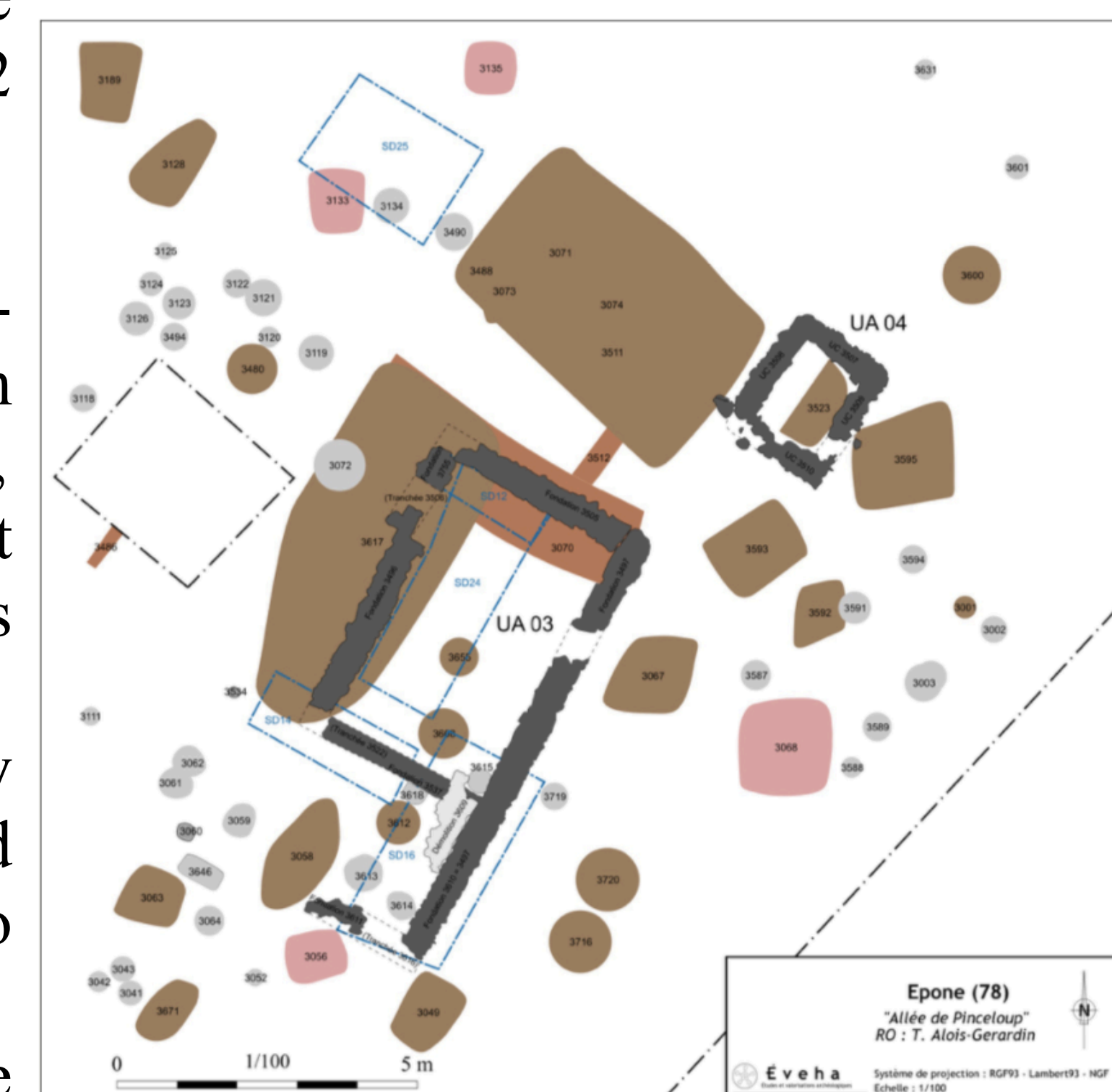
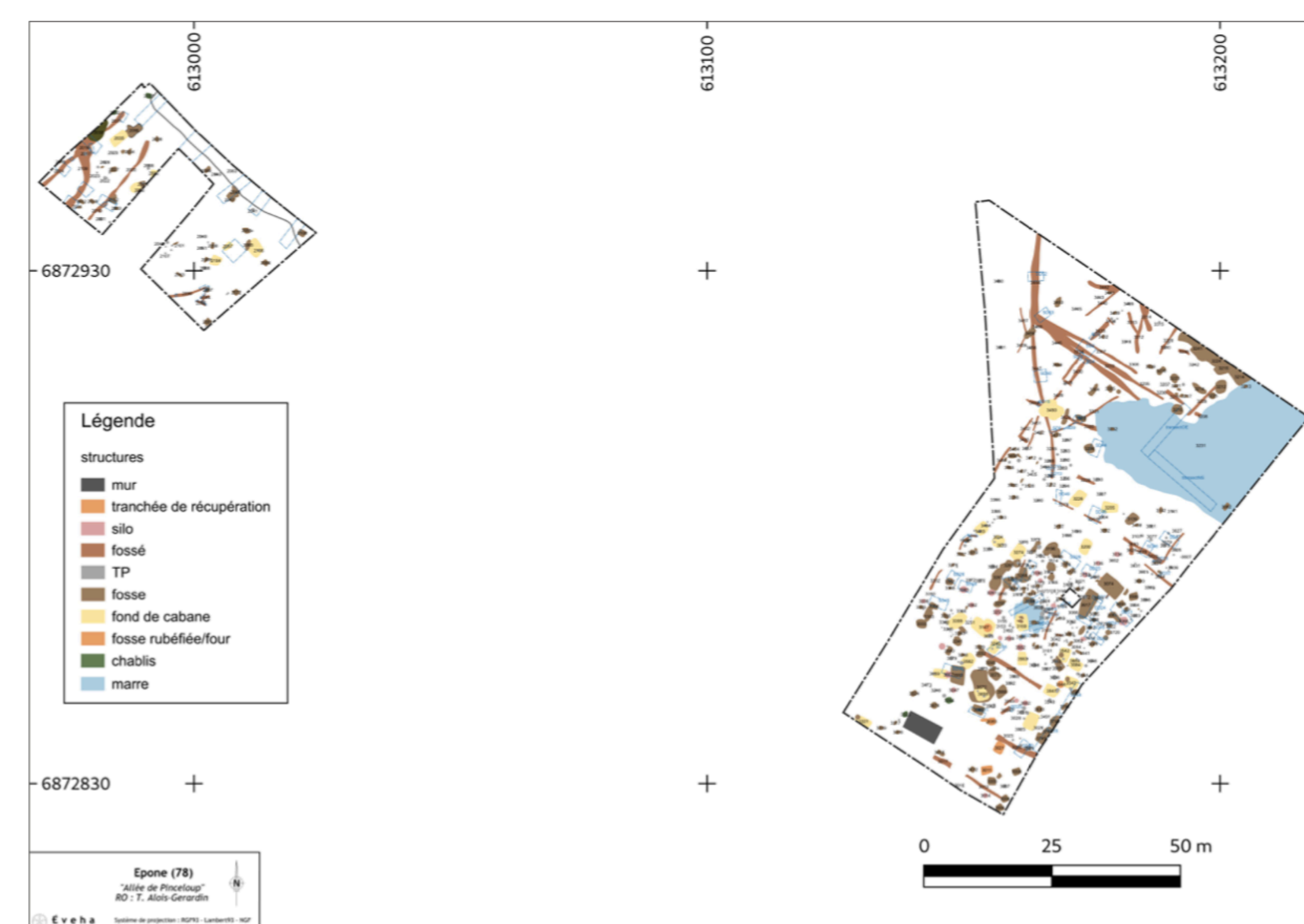
plants. Alfalfa is totally absent from the other samples and fescue only has 2 other occurrences.

The structure #3617 is a high Middle-Age pit of 5m long by 3m wide, with vertical edges and flat bottom, interpreted as initially an extraction pit reused but those subsequent function is unknown.

Although slightly older, pit #3617 may be related to architectural units #03 and #04, whose function are also unidentified.

Pit #3617's carpological remains are unlike those of the other samples from Épône, which reflect human diet. This contrast would suggest that this unknown area, may have been used for livestock husbandry.

Results of parasitological studies conducted on this structure are currently in process. These will likely to shed light on this hypothesis.



### Conclusion

Épône excavation shows how carpology can be used as a proxy for archaeozoology and provide answers for specific questions, for example by identifying zones associated with animal husbandry. Épône results highlight the importance of discussions between excavation's director, archaeozoologist and botanist for a better understanding and interpretation of remains, whether they are botanical, faunal or archaeological.