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# The Animal Bones and Human Remains From the Late La Tène/Early Roman Sanctuary at Reinheim-“Horres”

Wolf-Rüdiger Teegen

## Introduction

An exceptional polygonal timber building was discovered and excavated by W. Reinhard in 2006 at Reinheim-“Horres” (Saar-Pfalz-Kreis, Saarland; Reinhard 2010) (Fig. 1). The central area had a diameter of 9.5 m and was surrounded by a 4 m wide ditch (Fig. 2). The stratigraphy of the filling of the ditch included the following layers (cf. Brück 2010):

Layer 1 (top): with early Flavian construction debris (70-80 A.D.),

Layer 3: loamy (pre 70-80 A.D.)

Layer 4 (basal) of green clay, which dates to the early first century A.D. (Frey 2010).

Layers 5 and 6 are not of interest here.

The structure is, however, much older. Sixteen post-holes occurred on its inner margin, while 26 post-holes were located on the outer side. Of these, 13 contained *potin coins*, dating from the late 2nd cent. to the late 1st cent. BC (Wigg-Wolf 2010). The construction is reconstructed by W. Reinhard (2010) as a 16-sided building with a circular external gallery (Fig. 3).

## Material and Methods

The ditch (Fig. 2) contained 345 bone fragments with a total weight of 1769.6 g. They were studied from an archaeozoological perspective (cf. Chaix and Méniel 2001 ; Méniel 2008a ; Reitz and Wing 2008). The measurements were recorded following von den Driesch (1976). All data are published elsewhere (Teegen 2017a).

The Logarithmic Size Index (LSI) was calculated following Meadow (1999) thus:  $LSI = \log X - \log \text{Standard}$  ( $X$  = measurement, Standard = corresponding measurement of the standard individual). For cattle the cow skeleton no. 25 from the “Staatssammlung für Anthropologie und Paläoanatomie München (SAPM)” was used as the standard individual (see Manhart 1998, Tab. 103). For sheep, data from Trixl (2017) were used.

All data were recorded in Excel spreadsheets and then further processed. All statistical investigations and plots were calculated using the PAleontological Statistical Package PAST Version 3.18 (Hammer 2018; Hammer *et al.* 2001).

## Results

Only 96 of 345 fragments could be determined to species (= 27.8 % of the total); by weight 77.4 % were determined. All the animal bones were recovered from Layer 1, which contained early Flavian destruction debris (70-80 A.D.) (Frey 2010). This does not mean, however, that the bones can be attributed with certainty to this period. It is only a *terminus ante quem*. Radiocarbon dates are not yet available.

The following species are represented (table 1): domestic animals: cattle, ovicaprines, swine and dog; domestic fowl: chicken and probably goose and duck. Wild mammals include red deer and hare; wild fowl include dove. In addition, four oyster shells

		n	%
Cattle	<i>Bos taurus</i>	36	37,5
Sheep	<i>Ovis aries</i>	1	1,0
Sheep/Goat	<i>Ovis/Capra</i>	6	6,3
Pig	<i>Sus domestica</i>	24	25,0
Dog	<i>Canis familiaris</i>	1	1,0
Red deer	<i>Cervus elaphus</i>	3	3,1
Hare	<i>Lepus europaeus</i>	5	5,2
Garden dormouse	<i>Eliomys quercinus</i>	1	1,0
Chicken	<i>Gallus domestica</i>	9	9,4
Goose	<i>Anser domestica/Anser anser</i>	1	1,0
Duck	<i>Anas platyrhynchos</i>	1	1,0
Ringdove	<i>Columba palumbus</i>	2	2,1
Woodcock	<i>Scolopax rusticola</i>	1	1,0
Eel	<i>Anguilla anguilla</i>	1	1,0
Oyster	<i>Ostrea edulis</i>	4	4,2
Total det.	<i>Total dét.</i>	96	100,0
Mammals n.d.	<i>Mammalia indé.</i>	237	
Birds n.d.	<i>Aves indé.</i>	12	
Total	<i>Total</i>	345	

Table 1. Reinheim “Horres”. Animal bone representation (total determined species: N=96) from the polygonal sacral area.

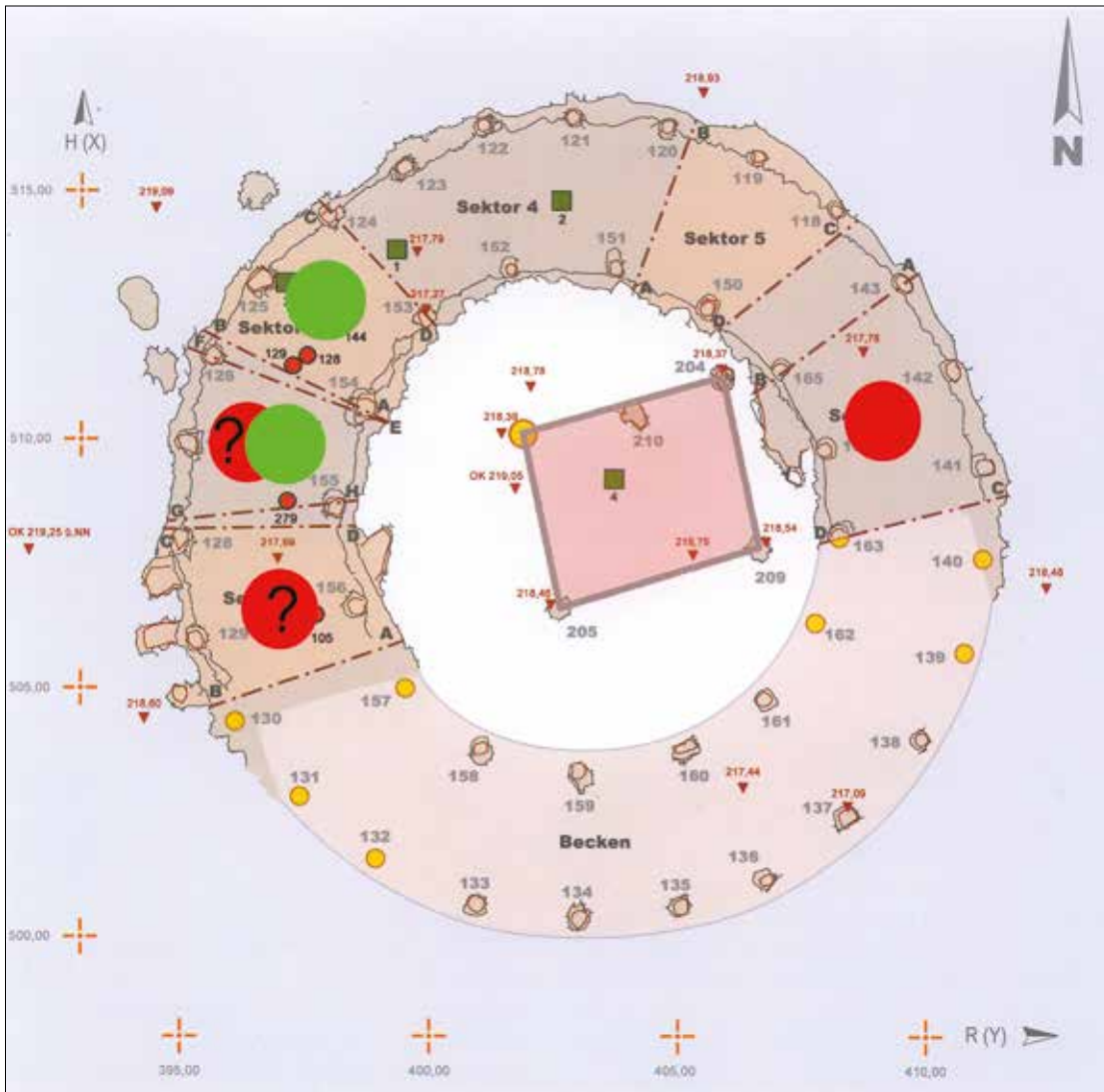


Fig. 1. Reinheim "Horres". Excavation plan of the polygonal structure and the ditch. Distribution of human remains Green: sub-adults. Red: adults (after Reinhard 2010 and Teegen 2017b).



Fig. 2. Reinheim "Horres". Section of the ditch with layers 1 to 6 (after Reinhard 2010).

and one eel bone are present. The presence of chicken and oysters suggest a relatively recent date: possibly this fell after the end of the late La Tène period. Taking account of the stratigraphy a date in the first half of the first century A.D. seems plausible. This implies also that at least a certain degree of Romanization may be evidenced in the archaeozoological assemblage.

11 out of 341 bones (= 3.2 %) show gnawing marks, attributable either to rodents or canids. 9 out of 341 bone fragments (= 2.6 %) were calcined. This indicates that some bones were exposed to heat while others were available to carnivores.

The Logarithmic Size Index (LSI) was calculated on the basis of the breadths of cattle and sheep radii, metacarpals, femurs, tibiae, metatarsals and phalanges 1 and 3 (Fig. 4 to 5). The number of relevant measurements is quite small (see below; cf. Teegen 2017a, Tables M1 and M2).

The LSI expresses the animal's bone breadth and depth and is, therefore, a proxy for the attachment of muscles. This "reflects

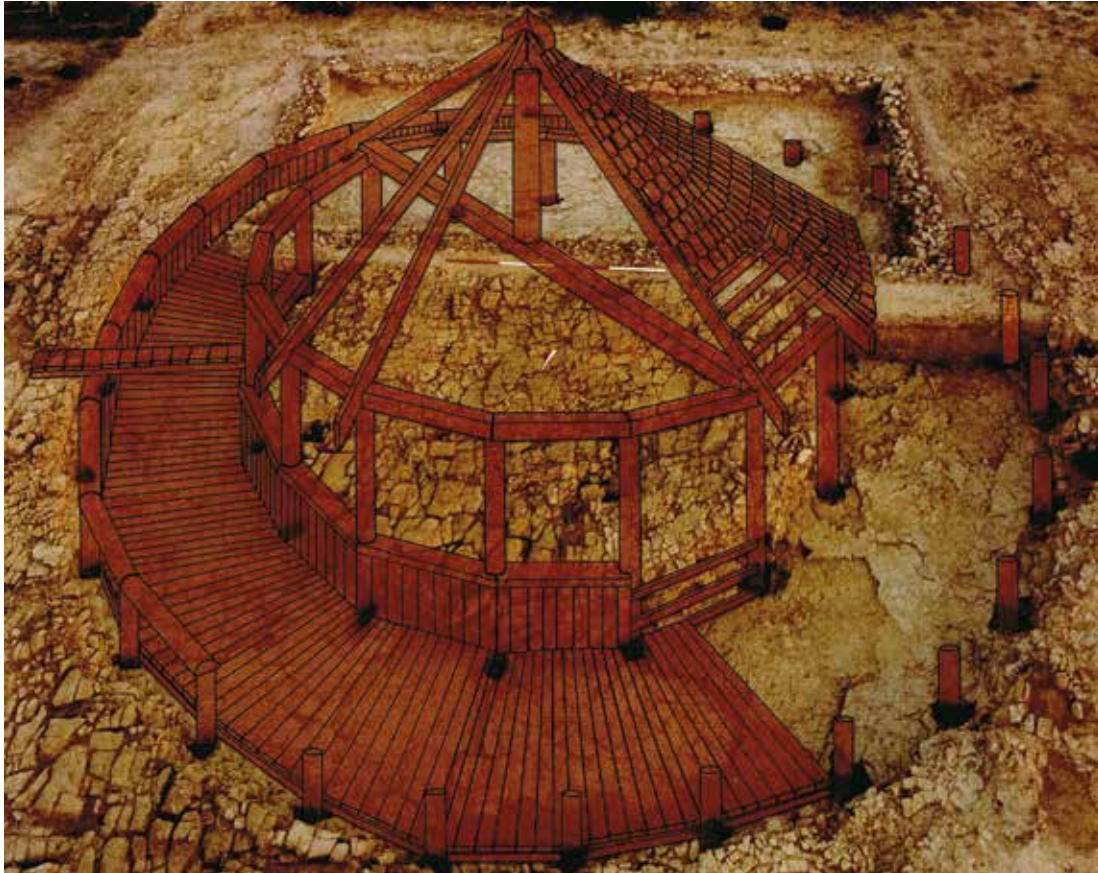


Fig. 3. Reinheim “Horres”. Reconstruction of the polygonal building (after Reinhard 2010).

the economically important body mass” (Pöllath, Peters 2005, p. 226).

Furthermore, for populations with preserved long bones, LSI results generally correspond well with the withers height of the animals.

The LSI is particularly suitable for badly preserved or small animal bone assemblages, where no complete long bones are preserved and only breadth measurements (e.g. the Bp, Dp, SD, Bd, Dd measurements of von den Driesch 1976) are available.

The LSI from the sanctuary at Reinheim was compared with those for cattle and sheep from the middle La Tène settlement at Acy-Romance (primary data from Méniel 1998) and the late La Tène/early Roman oppidum at Kastel-Stadt (primary data from Wustrow 2004).

The box-plots of the LSI for cattle (Fig. 4) from Acy-Romance (n = 52; mean -0,0129, median -0,0073), Kastel-Stadt (n = 38; mean -0,0183, median -0,0020) and Reinheim (n = 6; mean 0,0152, median 0,0019), show the median around 0. Cattle from Acy-Romance and Kastel-Stadt were of similar robustness. The Reinheim cattle seem to display greater variety, but this is rather to be interpreted as an artefact of the small numbers of specimens available. The median increases very slightly from the middle La Tène to the early Roman period. These differences are, however, not significant. Cattle from western sites are slightly more robust than those from later Raetia and in particular than those from the Alpine region (Trixl *et al.* 2017, Fig 3b). Iron Age cattle populations from later Raetia are slightly more gracile than

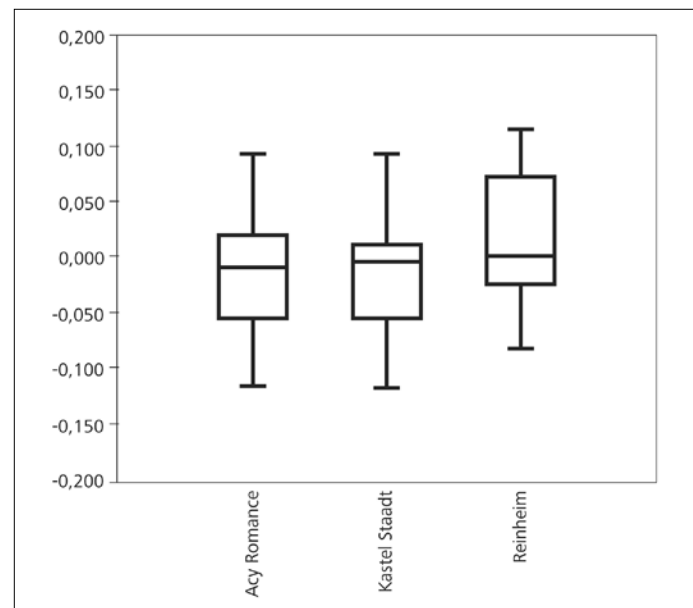


Fig. 4. Box-plots of the LSI for cattle measurements from the middle La Tène settlement of Acy-Romance (n = 52), the late La Tène oppidum of Kastel-Stadt (n = 38) and the sanctuary at Reinheim (n = 6). The box shows the median and the 25th and 75th percentiles, the whiskers the minimum and maximum.

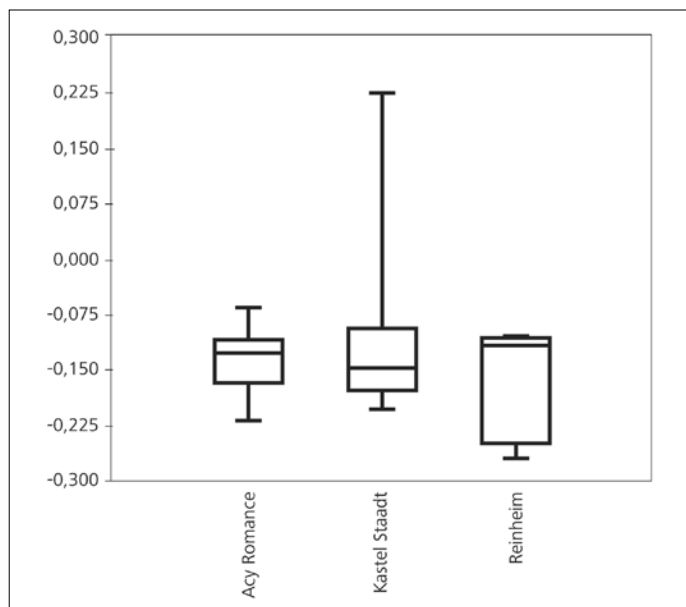


Fig. 5. Box-plots of the LSI for sheep measurements from the middle La Tène settlement of Acy-Romance (n = 30), the late La Tène oppidum of Kastel-Staad (n = 8) and the sanctuary at Reinheim (n = 8). The box shows the median and the 25th and 75th percentiles, the whiskers the minimum and maximum.

those from the Roman-Mediterranean milieu (Trixl *et al.* 2017, Fig. 5). They show a similar developmental trend to those from the west (see above).

For sheep, the pattern is quite different (Fig. 5). Ovicaprids from the sites considered here were much more gracile than recent ones. The mean of the LSI at Acy-Romance (n=30) is -0,1362, while the median is -0,1353; at Kastel-Staad (n=9) the mean is -0,1109, the median -0,1487; and at Reinheim (n=8) the mean is -0,1527 and the median -0,1187. Differences are not significant. Very similar observations were made by S. Trixl (*et al.* 2017, Fig. 3a) for late La Tène to early Roman sheep from the later Roman province of Raetia.

Multivariate analyses of the sample compositions show similarities to other late La Tène/early Roman animal complexes from the later *civitates Mediomatricorum et Treverorum* (including from the oppidum of Kastell-Staad (Wustrow 2004), Nahekopf (Teegen 2010; 2015) and the sanctuary within the Titelberg Oppidum (Méniel 2008b) (Fig. 6).

## Human bones

In addition, 17 human bones (88.8 g) are present at Reinheim. They represent at least two children and one male of around 50 years of age. The 11 skull fragments were found together in the eastern part of the ditch in layer 3 (cf. Fig. 2) (Teegen 2017b). The state of preservation of the human remains is quite different from that of the animal bones. Nearby, some early La Tène burials were discovered (Reinhard 2010; Nicklisch *et al.* 2010) and it is

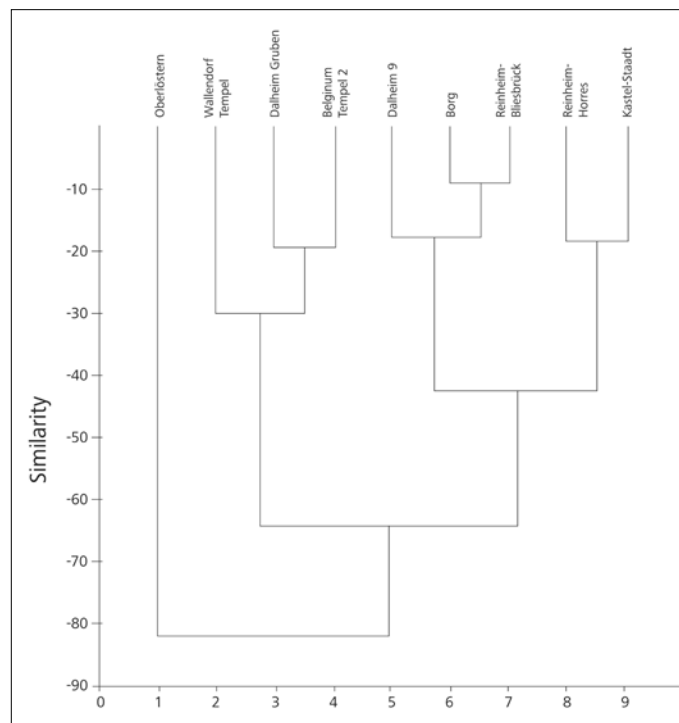


Fig. 6. Cluster analysis (Ward's method, Euclidian distance) of late La Tène and early Roman animal bone deposits from the *Civitates Mediomatricorum et Treverorum* (for data cf. Teegen 2017a, Table 9).

possible that further La Tène burials were disturbed during late La Tène or early Roman building activities, such that the human bones recovered from the Reinheim sanctuary were derived from earlier inhumations.

## Conclusions

Animal bone assemblages from sanctuaries of the late La Tène and early Roman periods are not well published from the territories of the *Treveri* and *Mediomatrici* – in contrast to evidence from later periods (e.g. from the sanctuaries in the vicus at Dalheim: Oelschlägel 2006). The sanctuary of Reinheim “Horres” with its exceptional polygonal timber building now has a smaller, recently discovered parallel in late La Tène sanctuary 3 at Wederath-Belginum (see contribution by R. Cordie in this volume). The acid soil conditions at Belginum meant, however, that no bone finds were recovered. While the sample from Reinheim is small, it is none the less of interest. From its stratigraphical context, the animal bone sample from Reinheim “Horres” can be dated to the first half of the first century AD – radiocarbon determinations are still pending. The presence of oysters in the Sarre-Mosel area at Reinheim is more surely an indication of Romanization, than is the recorded presence of chicken. Later in the Roman Imperial period chickens are commonly found as animal offerings at Roman sanctuaries (cf. Oelschlägel 2006; Deschler-Erb 2015, Fig. 5).

The composition of the archaeozoological sample from Reinheim “Horres” is more similar to other late La Tène and early

Roman animal bone collections than to those from later periods (Fig. 6).

The LSI for sheep from the late La Tène/early Roman sanctuary at Reinheim, the oppidum of Kastel-Staadt and the middle La Tène settlement at Acy-Romance is very similar to that from late La Tène/early Roman sheep from Raetia. Cattle are however rather different. There is, however, evidence for a very slight trend towards more robust cattle from the Iron Age to the early Roman period.

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## Abstract

An octagonal timber building with an surrounding ditch was discovered during rescue excavations at Reinheim-"Horres" (Sarre). The ditch contained 345 bone fragments with a weight of 1769.6 g. For 96 of them (27.8 %) the species could be determined.

The following species are represented: domestic animals: cattle, ovicaprines, swine and dog; domestic fowl: chicken and probably goose and duck. Wild mammals include red deer and hare; wild fowl include dove. In addition, four oyster shells and one eel bone are present. The oysters are indicating a certain degree of Romanization.

The Logarithmic Size Index (LSI) calculated for cattle from the Reinheim sanctuary, the settlement Acy-Romance, and the oppidum Kastel-Staadt gave a very slight, not significant trend towards more robust cattle from the Iron Age to the early Roman period.

Multivariate analyses of the sample composition shows similarities to other late La Tène/early Roman animal complexes from the later civitates *Mediomatricorum et Treverorum* (Oppidum Kastell-Staadt, Nahekopf and Sanctuary in the Titelberg Oppidum).

Furthermore, several human remains are present. Also, if radiocarbon dates are still pending, the preservation of the human remains is quite different from the animals. Early La Tène burials in the vicinity are indicating disturbances of an early La Tène cemetery by late La Tène building activities.