Supplement 2

# Zooarchaeological recording methodology and data organisation

Supplement to:

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All specimens which could be identified were recorded, and the presence of diagnostic zones was noted. Diagnostic zones follow those of Bertini Vacca (2012). In order to be counted, more than 50% of the specific zone needed to be present. Diagnostic zones were defined as:

- Teeth: occlusal surface (zone 1)
- Cranium: zygomaticus (zone 1)
- Horncores/antlers: complete transverse section (zone 1)
- Scapula: articular (zone 1) and neck (zone 2)
- Pelvis: ischial (zone 1), illiac (zone 2), and pubic (zone 3) parts of the acetabulum
- Humerus: medial side of proximal articulation, head of humerus (zone 1); lateral tuberosity (zone 2); proximal diaphysis (zone 3); distal diaphysis (zone 4); lateral part of distal articulation (zone 5); medial part of distal articulation (zone 6)
- Femur: medial side of proximal articulation, head of femur (zone 1); lateral tuberosity (zone 2); proximal diaphysis (zone 3); distal diaphysis (zone 4); lateral part of distal articulation (zone 5); medial part of distal articulation (zone 6)
- Radius: medial side of proximal articulation (zone 1); lateral side of the proximal articulation (zone 2); proximal diaphysis (zone 3); distal diaphysis (zone 4); lateral part of distal articulation (zone 5); medial part of distal articulation (zone 6)
- Ulna: proximal head of processus olecrani (zone 1); articulation (*incisura semilunaris* & *processus coronoideus lateralis* (zone 2); diaphysis (zone 3)
- Tibia: medial side of proximal articulation (zone 1); lateral side of the proximal articulation (zone 2); proximal diaphysis (zone 3); distal diaphysis (zone 4); lateral part of distal articulation (zone 5); medial part of distal articulation (zone 6)
- Metapodials – *Cattle, caprines, cervids, equids*: medial side of proximal articulation (zone 1); lateral side of the proximal articulation (zone 2); proximal diaphysis (zone 3); distal diaphysis (zone 4); lateral part of distal articulation / condyle (zone 5); medial part of distal articulation / condyle (zone 6)
- Metapodials – *Pigs, dogs, rodents*: proximal articulation (zone 1); diaphysis (zone 2); distal articulation (zone 3). Only for metapodials III and IV.
- Astragalus: lateral proximal part (zone 1); medial proximal part (zone 2); lateral distal part (zone 3); medial distal part (zone 4)
- Calcaneum: *tuber calcanei* (zone 1); body / substentaculum (zone 2), articulation surface (zone 3)
- Phalanges I and II: proximal articulation (zone 1); distal articulation (zone 2)
- Phalanx III: articulation (zone 1)
- Atlas: left half (zone 1); right half (zone 2)
- Axis: anterior half (zone 1); caudal half (zone 2)
- Third carpal and scafocuboid: more than half of complete element present (zone 1)

The preservation of the bone surface was recorded on an ordinal scale from 1 (very poor) to 5 (very good). Butchery modification were recorded as chop, cut, or saw marks. Presence of burning and gnawing were also recorded. The presence of ribs and vertebra of different size classes was noted by context (large, medium, small mammal). Taxa with similar morphology were distinguished with reference to published guidelines for sheep/goat (Zeder and Lapham 2010, Zeder and Pilaar 2010), red deer/fallow deer (Lister 1996), rabbit/hare (Callou 1997), and small rodents (Chaline 1974). Diagnostic zones on marine and freshwater shells were represented by the apex in gastropods and umbo in bivalves. Land snails were counted if more than half of the shell was present.

Pigs were recorded without distinction between wild and domestic type, with a note added if they appeared large enough to represent wild boar.

Measurements were taken following von den Driesch (1976), Payne and Bull (1988), and Davis (1992)

- Molars and dP4: L; *bovids:* W; *suids:* WA, WP; *canids*: M1 L and W (13)
- Mandibular molar rows, *canids* only: P1–M3L (8), P2–M3L (9), P1–P4L (11), P2–P4L (12), M1–M3L (10), H(19)
- Pelvis: LA, LAR
- Femur: GL, Dc, SD
- Humerus: GL, Bd, BT, HTC, SD
- Radius: GL, Bp, Dp, Bd, Dd, BFp, BFd, SD
- Tibia: Bd, Dd, SD
- Astragalus: GLl, GLm, Bd, Dl,
- Calcaneum: GL, GB
- Metapodials: Bd, BatF, SD, Bp, Dp; a, b, 1, 2, 4, 5 from Davis (1992) - Bovids only; Dd, Bp, Dp - Equids only.
- Cattle first phalanx: GLpe, Bp, SD, Bd

Tooth wear stages were based on Payne (1973, 1987) for sheep/goats, and Grant (1982) for cattle and pigs. Sheep/goat mandibles assigned to age groups based on Payne (1973); pigs mandibles were classified following O'Connor (1988). For analysis of bone fusion specimens were grouped into early, middle, and late fusion groups following Silver (1969) for cattle and equids, Zeder (2006) for sheep/goats, and Zeder, Lemoine et al. (2015) for pigs. These groupings correspond with early, middle, and late fusion groups defined as: cattle <18 months, 24–42 months, 42–48 months; sheep/goats <12 months, 12–30 months, 30–48+ months; pigs <18 months, 18–48 months, 48–60 months; equids <20 months (early), 36+ months (late).

Supplement 1 contains the recorded faunal assemblage in tabular format. The columns and codes are:

| | |
|---|---|
| **ID** | Original specimen id number. |
| **Site** | Vagnari vicus |
| **Phase** | Site phase |
| **Context** | Conext number |
| **Context.Type** | Context type |
| **Context.Description** | Context decription |
| **Context.Notes** | Context notes and comments |
| **Floatation** | Indicates whether the context was floated |
| **Bone.Preservation** | Surface preservation of specimen on 1-5 numerical scale (5 = excellent) |
| **Element.Code** | Element Code |
| **Side** | Left/Right |
| **Taxon.Code** | Taxon code |
| **Taxon.Latin** | Taxon binomial name |
| **Taxon** | Taxon English name |
| **Taxon.Group** | Taxon group for zooarchaeological analysis |

| | |
|---|---|
| **Element** | Skeletal Element |
| **Zone.1** | Presence (P) of diagnostic zone |
| **Zone.2** | Presence (P) of diagnostic zone |
| **Zone.3** | Presence (P) of diagnostic zone |
| **Zone.4** | Presence (P) of diagnostic zone |
| **Zone.5** | Presence (P) of diagnostic zone |
| **Zone.6** | Presence (P) of diagnostic zone |
| **Fusion.Prox** | Proximal fusion - fused (F), fusing (G), unfused diaphysis (UD), unfused epiphysis (UE), joining unfused diaphysis and epiphysis (UX) |
| **Fusion.Distal** | Distal fusion - fused (F), fusing (G), unfused diaphysis (UD), unfused epiphysis (UE), joining unfused diaphysis and epiphysis (UX) |
| **Butchery** | Type of butchery mark present. W = worked bone. T = cut. P = chop. |
| **Butchery.Notes** | Notes on butchery marks |
| **Burning** | Evidence of burning. C = carbonised. S = singed. B = burnt. |
| **Gnawing** | Evidence of gnawing. C = carnivores |
| **GL** | Measurement - von den Driesch |
| **GLpe** | Measurement - von den Driesch |
| **Bp** | Measurement - von den Driesch |
| **BFp** | Measurement - von den Driesch |
| **Dp** | Measurement - von den Driesch |
| **BT** | Measurement - von den Driesch |
| **Bd** | Measurement - von den Driesch |
| **Dl** | Measurement - von den Driesch |
| **Dd** | Measurement - von den Driesch |
| **Dc** | Measurement - von den Driesch |
| **HTC** | Measurement - Payne and Bull |
| **LAR** | Measurement - von den Driesch |
| **SLC** | Measurement - von den Driesch |
| **SD** | Measurement - von den Driesch |
| **Lm** | Measurement - von den Driesch |
| **BatF** | Measurement - von den Driesch |
| **a** | Metapodial condyle measurement - Davis |
| **b** | Metapodial condyle measurement - Davis |
| **_1_** | Metapodial condyle measurement - Davis |
| **_2_** | Metapodial condyle measurement - Davis |
| **_3_** | Metapodial condyle measurement - Davis |
| **_4_** | Metapodial condyle measurement - Davis |
| **_5_** | Metapodial condyle measurement - Davis |
| **_6_** | Metapodial condyle measurement - Davis |
| **GB** | Measurement - von den Driesch |
| **Comments** | Other observations, comments, and notes |
| **Joins** | Joining elements - assigned letter for each bone group |
| **Loose.or.Jaw** | For teeth and jaw fragments - loose tooth (L) or jaw (J) |
| **Teeth.Zone** | Presence (P) of diagnostic zone |
| **I1** | Presence (P) or absence |
| **I2** | Presence (P) or absence |
| **I3** | Presence (P) or absence |
| **I** | Presence (P) or absence |
| **dI1** | Presence (P) or absence |

| | |
|---|---|
| **dI2** | Presence (P) or absence |
| **dI3** | Presence (P) or absence |
| **dI.dC** | Presence (P) or absence |
| **C** | Presence (P) of canine. In pigs the sex is recorded as male (M) or female (F) where possible |
| **dC** | Presence (P) or absence |
| **P1** | Presence (P) or absence |
| **P2** | Presence (P) or absence |
| **P3** | Presence (P) or absence |
| **P4** | Presence (P) or absence |
| **P** | Undetermined premolar. Presence (P) or absence |
| **dP2** | Presence (P) or absence |
| **dP3** | Presence (P) or absence |
| **dP4** | Wear stage or presence (P) |
| **dP4L** | Max length |
| **dP4WP** | Max width bovids, posterior width pigs |
| **M1** | Wear stage or presence (P) |
| **M1L** | Max Length |
| **M1WA** | Max width bovids, anterior width pigs |
| **M1WP** | Posterior width |
| **M1hyp** | Presence (P) of hypoplasia |
| **M2** | Wear stage or presence (P) |
| **M2L** | Max length |
| **M2WA** | Max width bovids, anterior width pigs |
| **M2WP** | Posterior width |
| **M2hyp** | Presence (P) of hypoplasia |
| **M3** | Wear stage or presence (P) |
| **M3L** | Max length |
| **M3WA** | Max width bovids, anterior width pigs |
| **M3WC** | Width of central pillar (pigs) |
| **M3hyp** | Presence (P) of hypoplasia |
| **M12** | Wear stage or presence (P) - undetermined first/second molar |
| **M12L** | Max length |
| **M12WA** | Max width bovids, anterior width pigs |
| **M12WP** | Posterior width |
| **M12hyp** | Presence (P) of hypoplasia |
| **M** | Undetermined molar. Presence (P) or absence |
| **P.or.M** | Undetermined premolar/molar. Presence (P) or absence |
| **P1.to.M3.L** | Measurement - von den Driesch 8 |
| **P2.to.M3.L** | Measurement - von den Driesch 9 |
| **P1.to.P4.L** | Measurement - von den Driesch 11 |
| **P2.to.P4.L** | Measurement - von den Driesch 12 |
| **M1.to.M3.L** | Measurement - von den Driesch 10 |
| **Mandible.height** | Measurement - von den Driesch 19 |
| **Alveolus** | Empty pig alveolus: male (M) or female (F) |
| **Sampled** | Sampled for isotopic studies |

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