

Supplementary Methods S5: GMM numerical taxonomy of the archaeological samples including the results of the CVA (Figure 1) and of the machine learning identification with KNN classification (Table 1 and 2).

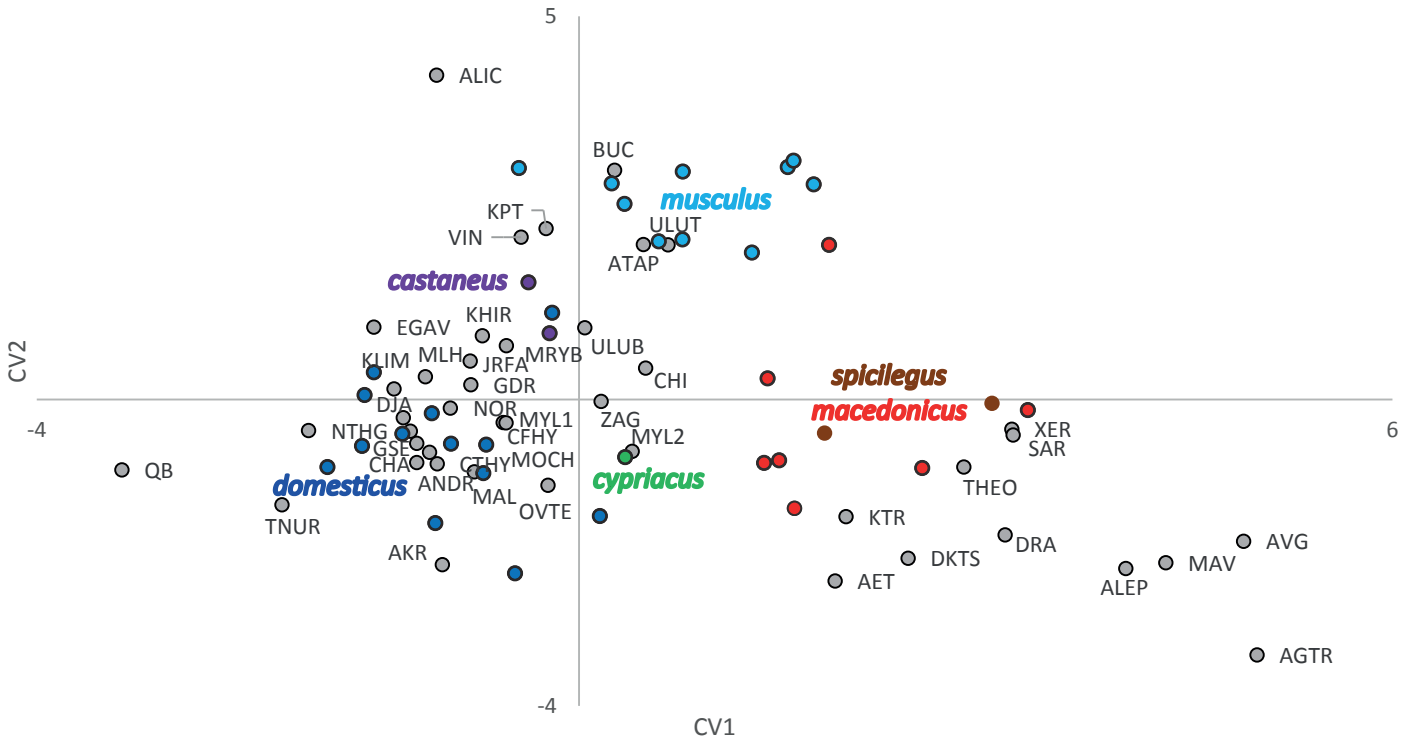


Figure 1: First two canonical axes of the CVA computed on the dental shape variation in modern wild mice and *Mus musculus* sub-species (dots with colors) and archaeological *Mus* sp. (dots with grey filling and acronym of the site). Each dot represents the CVA mean scores for each modern and archaeological sample. For more information about the archaeological dataset see SI Table 1.

| prediction | AET | AGTR | AKR | ALEP | ALIC | ANDR | ATAP | AVG | BUC | CFHY | CHA | CHI | CTHY | DJA | DKTS | DRA | EGAV | GDR | GSE | JRFA | KHIR | |
|--------------|------|------|-----|------|------|------|------|------|------|------|-----|------|------|-----|------|------|------|------|------|------|------|---|
| castaneus | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| domesticus | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| musculus | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| spici/macedo | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| prediction | KLIM | KPT | KTR | MAL | MAV | MLH | MOCH | MRYB | MYL1 | MYL2 | NOR | NTHG | OVTE | QB | SAR | THEO | TNUR | ULUB | ULUT | VIN | XER | |
| castaneus | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| domesticus | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| musculus | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 |
| spici/macedo | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| prediction | ZAG | | | | | | | | | | | | | | | | | | | | | |
| castaneus | 0 | | | | | | | | | | | | | | | | | | | | | |
| domesticus | 1 | | | | | | | | | | | | | | | | | | | | | |
| musculus | 0 | | | | | | | | | | | | | | | | | | | | | |
| spici/macedo | 0 | | | | | | | | | | | | | | | | | | | | | |

Table 1: KNN classification of the archaeological mean shapes in the discriminant morphospace (CV1 and 2) using the 4 modern taxonomic units (*musculus*, *domesticus*, *castaneus* and non commensal *cypriacus/macedonicus/spicilegus*) as class vectors and a k value of 8.

| prediction | AET | AGTR | AKR | ALEP | ALIC | ANDR | ATAP | AVG | BUC | CFHY | CHA | CHI | CTHY | DJA | DKTS | DRA | EGAV | GDR | GSE | JRFA | KHIR | |
|--------------|------|------|-----|------|------|------|------|------|------|------|-----|------|------|-----|------|------|------|------|------|------|------|---|
| castaneus | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| domesticus | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| musculus | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| spici/macedo | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| prediction | KLIM | KPT | KTR | MAL | MAV | MLH | MOCH | MRYB | MYL1 | MYL2 | NOR | NTHG | OVTE | QB | SAR | THEO | TNUR | ULUB | ULUT | VIN | XER | |
| castaneus | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| domesticus | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| musculus | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 |
| spici/macedo | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| prediction | ZAG | | | | | | | | | | | | | | | | | | | | | |
| castaneus | 0 | | | | | | | | | | | | | | | | | | | | | |
| domesticus | 1 | | | | | | | | | | | | | | | | | | | | | |
| musculus | 0 | | | | | | | | | | | | | | | | | | | | | |
| spici/macedo | 0 | | | | | | | | | | | | | | | | | | | | | |

Table 2: KNN classification of the archaeological mean shapes in the discriminant morphospace (CV1 and 2) using the 4 modern taxonomic units (*musculus*, *domesticus*, *castaneus* and non commensal *cypriacus/macedonicus/spicilegus*) as class vectors and a k value of 9.