Caune de l’Arago (Tautavel, France)

The quaternary deposits of the cave were dated to between 690 kyr BP and 90 kyr BP and cover various climatic changes (de Lumley et al., 1994; Falguères et al., 2004, 2010). Stratigraphic studies show three complexes divided in several Units. The fossil samples come from the stratigraphic Unit I, Layer “L” (CM1, L) and the stratigraphic Unit III, Layer “G” (CM3, G) of the middle complex.

CM1 is dated to MIS 14 (570-530 kyr BP) and the faunal community is dominated by Rangifer tarandus and Ovis ammon antiqua (Moigne et al., 2006).

CM3 is dated to MIS 12 (480-400 kyr BP). The ungulate association is more diversified with Stephanorhinus hemitoechus, Equus ferus mosbachensis, Bison priscus, O. a. antiqua, Hemibrachys bonali, Praeovibus priscus, Cervus elaphus and R. tarandus (Moigne et al., 2006).

According to the palaeoontological, palynological and sedimentological studies, the landscape was tundra to steppe-like.

Population structures

- According to the pelvis morphology or postcranial bones osteometry, female are clearly dominant in the Layer L population (9:1, doe to buck ratio).
- In Layer G the sex ratio is more balanced, all postcranial bones included.

Mortality profiles

- Prime adults dominant pattern in both layers corresponding to hunting event(s).
- In terms of MNIc, there are 64 individuals in Layer L and 24 in Layer G (in MNIf 49 in Layer L and 12 in Layer G).

Seasonality

- In Layer L, first year reindeer calves had their first molar fully erupted and functional and dp4 relatively worn, indicating an age at death between 6 - 8 months. It corresponds to late autumn and Early Winter.
- The Caune de l’Arago reindeer populations display a very high body mass.

Bone fragmentation & Breakage patterns

- Layer L: Young and subadult bones well preserved, nearly complete. Meat removal and consumption documented. Layer G: Evidence of more extensive bone fragmentation for meat and marrow consumption.
- Spiral and longitudinal diaphysis fractures are predominant in both layers.

Cut marks

- Layer L: Mean of 4.5% of cut marks on bones (7% of the appendicular skeleton) and Layer G: mean of 3.2% of cut marks (3% on appendicular skeleton). But butchery evidences are very heterogeneous between bones and layers.

Carnivore modifications

- Respectively 8.4% and 3.9% of the reindeer bones from Layer L and Layer G exhibit carnivore (cannibis) modifications corresponding to scavenging activity after hominin left the cave.

Conclusions

- Layer “G” is characterized by several events of few individuals hunting, maybe at various seasons of the year.
- Nearly complete carcasses were transported to the site for meat and marrow acquisition.
- Layer “L” = Reindeer as primary prey taxa
- In layer “L”, hunting events took place during early winter on reindeer harem mainly formed by females with calves.
- Complete or nearly complete carcasses were transported to the cave for processing, especially for meat acquisition. Carnivores had secondary access to bones left behind from human occupations.

References

- Magniez P., Magniez A. - Reindeer may have been butchered in the Paris basin. Journal of Taphonomy 2 (1), 99-119.
- Magniez P. - The quaternary deposits of the cave were dated to between 690 kyr BP and 90 kyr BP and cover various climatic changes (de Lumley et al., 1994; Falguères et al., 2004, 2010). Stratigraphic studies show three complexes divided in several Units. The fossil samples come from the stratigraphic Unit I, Layer “L” (CM1, L) and the stratigraphic Unit III, Layer “G” (CM3, G) of the middle complex.
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