Deer hunting during the Mesolithic at Les Cabônes rockshelter (Jura, France): insights from dental remains

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Abstract

The study of hunting practices is an important means of investigating prehistoric economic behaviour. Indeed, hunting provides an important part of the food and non-food resources such as skin, bone, sinew and antler which are used for daily activities. Since prey acquisition is intended to meet the needs of a group, its success depends largely on the effectiveness of projectile weapons, hunting tactics and decision-makings. Documenting prey choices and procurement patterns among foraging societies is thus an important step to understand subsistence strategies and mobility patterns in relation with resource abundance and seasonal availability.
Numerous studies have long shown that large and medium-sized game species such as red deer (*Cervus elaphus*), wild boar (*Sus scrofa scrofa*), roe deer (*Capreolus capreolus*) were systematically hunted in the inland regions of Europe during the Mesolithic period. Fewer studies, however, have examined the age structures of prey death assemblages. The present study aims to further research on mesolithic hunting in the Jura area, by analyzing age and season structures of a red and roe deer assemblage, as reflecting hunters' procurement decisions. The abundant archeofauna (ca. $>$ 4500 NISP) from Les Cabônes (Ranchot, Jura), layer 3, offers the opportunity to conduct such a study: the red deer is one of the two main species along with the wild boar (Leduc et al., 2015), the roe deer being the third one in number of remains.

The site is located on the western margin of the Jura range, on the right bank of the Doubs River, at 216 m asl. Test excavations during the 1950s and 1960s were followed by large-scale excavations from 1978 to 1989, directed by A. Thévenin, M. Campy, S. David and C. Cupillard. Mesolithic occupations were identified in layer 3 which is 60 to 70 cm in thickness. Two red deer bones from this layer were radiocarbon dated between 8200 and 7500 cal BC -2 sigma (Drucker et al. 2011; unpublished data). Variation in the microlith spectrum from the base to the top of layer 3 indicates a formation process of this archaeological layer by repeated occupations.

Deer jaw remains were retrieved from the excavated surface of Layer 3. 223 lower teeth for the red deer, 37 lower teeth for the roe deer were suitable for age at death estimates.

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Dental ages were recorded based on a macroscopic analysis of the lower teeth, using published modern eruption and wear referentials and the osteological collection of the UMR 7041 zooarchaeology laboratory in Nanterre. They were then distributed into age classes, each 6 months wide.

Red and roe deer mortality profiles differ from the age structure of a living population because the proportion of prime adults is better represented. For red deer, seasonality indicators based on juveniles are distributed over most of the year, except between February and April, with a noticeable peak between September and December. All the red deer antler remains discarded at the site are shed antlers from adult animals, suggesting a harvest between February and July. Antlers brought onto the site were used as raw material as showed by cut and fracture marks observed. Conversely, the few roe deer antlers recovered in the faunal assemblage are all unshed, indicating hunting of male adults between August and November. No intentional marks are observed on these elements.

Inferences about hunting choices and site occupation pattern will be presented.

References cited:

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