
Environment and subsistence in northern France during the Late-Glacial and early Holocene

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Résumé

The time range spanning from ca. 13,000 to 4500 years ago may be divided into three key climatic periods corresponding to the global warming of the Late-glacial interstadial (GI-1e), the last significant cold episode of the Younger Dryas (GS-1) and the definitive warming of the early Holocene. For a large part of northwest Europe, it corresponds to a general expansion and intensification of human settlement, which is reflected by a large number of archaeological sites delivering faunal remains. Major changes in faunal composition occurred over the Late-glacial and early Holocene, with arctic and steppe species dominant until the GI-1e, replaced by transitional faunal associations during GI-1e and GS-1 and by forested faunas from the beginning of the Holocene.

The stable carbon and nitrogen isotopes of bone collagen provide interesting insights into the impact of climatic change on the diet and environment of large herbivores. The abundances in ¹³C of large herbivores are linked to dietary specialization as well as habitat context, such as closed forest *versus* open areas. The amounts in ¹⁵N of the ungulates can reflect the degree of soil activity and thus the ecosystem productivity, which depends on conditions of temperature and humidity.

We will consider the evolution of the collagen ¹³C and ¹⁵N abundances of different species of large herbivores over time in northern France, and especially in the Somme Basin. Our investigation will focus on red deer (*Cervus elaphus*), a species of high ecological plasticity and quite well represented over the considered periods. The determination of the isotopic signature of large herbivores preyed upon by human groups is of crucial importance when trying to reconstruct the food web. It gives access to the local terrestrial baseline from which the isotopic signature of human individuals can be interpreted in term of relative sources of food proteins. An example of such application will be presented dealing with an individual from a secondary inhumation at La Chaussée-Tirancourt dated to the early phase of the Mesolithic.

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