Archaeological charcoal: natural or human impact on the vegetation

Environment and forest edges exploitation in northern France and Belgium during the Neolithic

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Summary: This synthesis of charcoal studies brings together 24 neolithic occupations in northern France and Belgium. The woody environment is quite similar all along the period. However, the variation of the percentage of Rosaceae species will be discussed even though in Hesbaye, their sudden arrival during the second part of the LBK has been interpreted as a consequence of human activities and forest edges management.

Key words: Neolithic, northern France, Belgium, forest edge, Rosaceae

INTRODUCTION

This work proposes a synthesis of charcoal analyses carried out in northern France and Belgium (Fig. 1), in order to study the woody environment during the Neolithic period (5500-2500 BC), as well as the development and the composition of forest edge.

Twenty four occupations, mostly habitat settlements, are taken into account (Table 1, Fig. 1). Charcoal fragments result mainly from domestic firewood. The unbalance between chronological periods and studied geographical areas reflects the lack of research on neolithic sites in northern France and Belgium (Table 1).

RESULTS AND PRELIMINARY DISCUSSION

The observation of the charcoal diagram (Fig. 2) shows the dominance of Quercus whereas the Fraxinus percentage is variable probably depending on the regional edaphic conditions. Hazelnut is present in all sites. Ulmus and Tilia appear more frequently during the Early Neolithic. This could be related to the decline of both species in the pollen diagram of the Hesbaye region, which has been correlated with the activities of the Bandkeramik people (Bakels, 1992: 16).

Fagus appears at the end of the Final Neolithic, which is a little bit earlier than the first mention in the synthetic pollen diagram of the Paris basin where the presence of Fagus is recorded since the second part of the Subboreal, around 3270±80 BP (Leroyer, 2006: fig. 4; see Leroyer et al., in this volume).

The Rosaceae taxa (Maloideae, Prunoideae) appear at the second LBK period. The developing of such heliophilous species could be related to the opening of fields or pasture lands by the first farmers of Central Belgium and thus to human activities (Pernaud, 1997; Salavert, 2010). However, their absence in the pioneer charcoal assemblages and their brutal appearance may correspond to a particular exploitation and maybe the management of the edge forest for firewood, fruit gathering and fodder (Kreuz, 1992; Salavert, 2010). The percentage of Rosaceae varies and could indicate a difference in the degree of anthropization of the environment from site to site, and thus, the economic status of neolithic settlements (conclusions have to be

![FIGURE 1. Location of the neolithic sites studied. See table 1 for abbreviations.](image)

![TABLE 1. List of sites and cultures studied, number of charcoal fragments identified and main bibliographical references consulted for each of them.](image)

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taken cautiously considering the preliminary nature of this work).

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REFERENCES


FIGURE 2. Simplified charcoal diagram of 24 neolithic occupations in northern France and Belgium (dots: <1%). Only main species identified are mentioned. Each colored stripe corresponds to a different chronological period. Inside the colored stripes, sites are potentially contemporaneous.