



A sealed flint knapping site from the Younger Dryas in the Scheldt valley (Belgium): Bridging the gap in human occupation at the Pleistocene–Holocene transition in W Europe



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ABSTRACT

Based on the evidence of a recently excavated, sealed site, situated at Ruien “Rosalinde” in the Belgian Scheldt valley, the response of hunter-gatherers to changing climate at the transition from the temperate Allerød to the cold Younger Dryas is discussed. Radiocarbon dated to the end of the Allerød or the very beginning of the Younger Dryas, the site of Ruien provides the earliest evidence of a refined lithic technology characterized by the use of a soft stone hammer and the production of straight and regular blade(let)s from intensively prepared cores with two opposite platforms and sharp striking angles. In the course of the Younger Dryas and Early Pre-boreal this knapping method will become standard all over Europe, from the Tanged Point Technocomplex in the North to the (Epi)Laborian in the South. It contrasts sharply with the knapping style of previous lithic traditions, such as the late Federmesser/Azilian and Bromme Technocomplexes, which was much less elaborated and mainly oriented towards the knapping of short irregular blades with a hard stone hammer. This apparently abrupt technological change was also accompanied by increased raw material procurement networks, extending over up to 250 km, and a marked microlithisation of the hunting equipment. Finally, the site of Ruien is also important as it demonstrates the limited archaeological visibility of Younger Dryas sites, explaining the scarcity of such sites within western Europe.

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1. Introduction

Despite long-term and extensive interdisciplinary research into the Late Glacial (Final Palaeolithic) and Early Holocene (Mesolithic), the Scheldt basin in western Belgium still completely lacks evidence of human occupation dating to the Younger Dryas (YD) and Pre-boreal (PB) (Crombé and Verbrugge, 2002; Crombé et al., 2014). This contrasts sharply with the very high site density during the preceding Allerød and posterior Boreal, when the Scheldt basin was occupied by hunter-gatherers belonging respectively to

the Federmesser Culture (or Curve-Backed Point Groups, CBP) and the Early Mesolithic (Crombé et al., 2011, 2013b). Except for some stray-finds of lithic armatures (Crombé et al., 2013b; Devriendt et al., 2010), no clear occupation sites belonging to either the (Epi)Ahrensburgian or (Epi)Laborian are currently known, resulting in an apparent occupation hiatus of ca. 2 millennia. A similar occupational gap has been attested in other research areas within western Europe (Fig. 1), e.g. in northern and western France (Fagnart and Coudret, 2000; Naudinot, 2013; Valentin, 2008), western Netherlands (Arts and Deeben, 1981) and Britain (Barton and Dumont, 2000). Except for a series of special purpose sites belonging to the Bruised/Long Blade or Belloisian Technocomplex (Barton, 1998; Barton and Dumont, 2000; Fagnart, 2009; Valentin, 2009) and dated to the transition from the YD to the PB, less than ten sites (Ercheu, Vieux-Moulin, Reuil-Malmaison, La Fosse, etc.)

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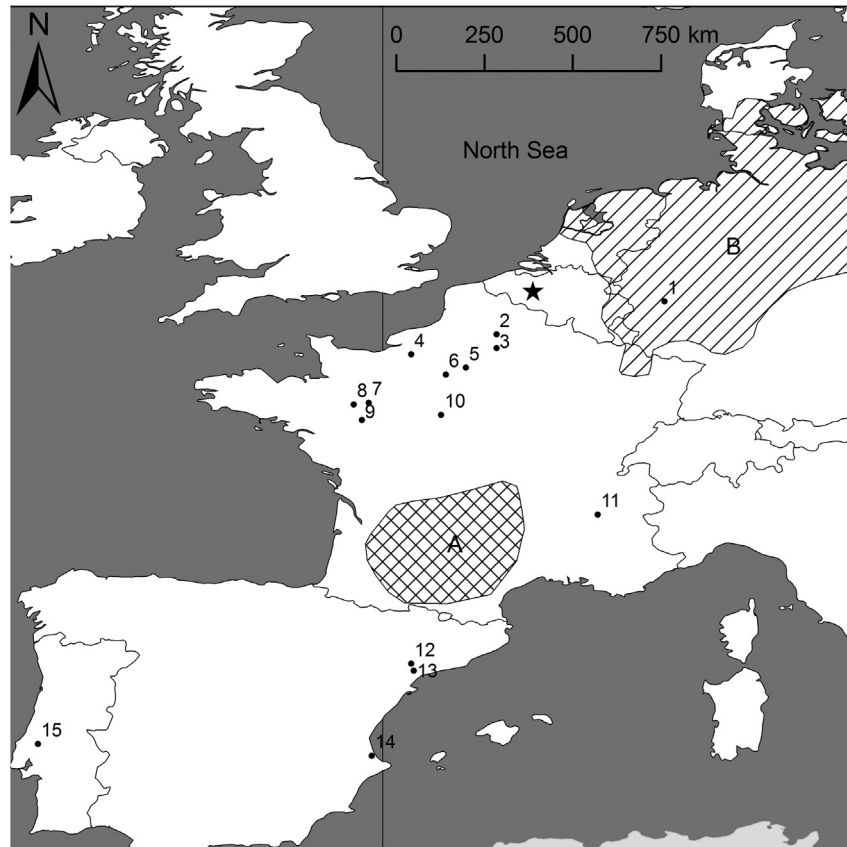


Fig. 1. Distribution map of lithic traditions dated to the Younger Dryas/early Pre-boreal (Bruised Blade sites not included). Key: A. Core area of (Epi)Laborian Technocomplex; B. Core area of Tanged Point Technocomplex; Black dots: Intermediate sites presenting affinities with the TPC and/or (Epi)Laborian. Black star: the site of Ruien (based on Arts and Deeben, 1981; Langlais et al., 2014). Sites: 1. Bad Breisig 2. Ercheu 3. Vieux-Moulin 4. Calleville 5. Le Closeau 6. Blanchères 7. La Fosse 8. Camp d'Avours 9. La Guichaumerie 10. Muides 11. Colomb/La Passagère 12. Hort de la Boquera 13. Sant Gregori 14. Mallaetes 15. Carneira.

within this vast territory along the Atlantic coast may be attributed to the cold YD (Fig. 1). However, the chronology of most of these sites is not supported by secure radiocarbon dates, but based on techno-typological characteristics of the lithic assemblages.

In contrast the North European Plain has yielded very substantial evidence of continued albeit adapted human occupation during the cold YD. Sites belonging to the Tanged Point Technocomplex (TPT) (Burdukiewicz, 2011; Terberger, 2004; Weber et al., 2011), including the Ahrensburgian and Swiderian Cultures, occur in dense clusters throughout the eastern Netherlands, northern Germany, northern Poland and southern Scandinavia (Fig. 1). This marked difference in site density between northern and western Europe still remains unexplained. However, most scholars assume it reflects a major difference in population density induced by differential environmental response to the decreasing climate of the YD (Barton and Dumont, 2000; Fagnart and Coudret, 2000; De Bie and Vermeersch, 1998). According to a recent analysis by Weber et al. (2011) the opening of the landscape and the re-establishment of presumably reliable reindeer migration patterns might be the reason why human occupation and behavior stabilized in the northern lowlands. On the other hand in western Europe the climatic deterioration of the YD led to unstable environmental conditions, such as increased erosion especially along the deforested hill flanks leading to the deposition of thick sediments in the river valleys (Antoine et al., 2000; Fagnart, 1997: 232; Valentin, 2008: 173–174), possibly making the area less suitable for continued occupation after the Allerød. Still, it should be questioned whether the scarcity of YD sites in this area is not biased by

taphonomic factors. How sure are we that we are not missing most sites in western Europe, e.g. due to erosion and/or sedimentation of thick colluvial or fluvial deposits? Also it needs to be investigated whether western lithic traditions are not archaeologically less visible due to a lack or scarcity of diagnostic artifacts, such as the typical tanged points from the northern TPT or the Malaurie and Blanchères points from the southern (Epi)Laborian. Within the (Epi)Ahrensburgian, for example, lithic assemblages lacking tanged points are dominated by microlithic armatures closely related to the later, Mesolithic ones (Veil, 1987; Crombé et al., 2014; Deeben et al., 2000). Similarly within the Epilaborian microliths are often well represented (Naudinot, 2013).

The fortuitous discovery of a well preserved camp-site dated to the beginning of the YD at Ruien in the Belgian Scheldt valley opens new perspectives in this debate. Situated in the transitional area between the northern and western YD technocomplexes (Fig. 1) it has the potential to address the above questions about human occupation at the transition from the Pleistocene to the Holocene.

2. The archaeological site of Ruien “Rosalinde”

The prehistoric site of Ruien “Rosalinde” is situated on the right bank of the Scheldt River in NW Belgium (coordinates 50°46'23"N/3°28'51"E) (Fig. 2). Located on a low-lying, ca. 16 m TAW (= mean low water tide level in Oostende) SW–NE oriented loamy ridge, it is bordered to the north by the Lateglacial floodplain of the Scheldt and to the south by the relatively steep flank of the Kluisberg. The latter constitutes one of the highest elevations within the Scheldt

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