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## New Insights into Mesolithic Cultures



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## THE MESOLITHIC, A GREEN REVOLUTION IN THE HEART OF FORESTED EUROPE?

First Reflections on this Question

**Nicolas VALDEYRON**

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## THE MESOLITHIC, A GREEN REVOLUTION IN THE HEART OF FORESTED EUROPE?

### First Reflections on this Question

Nicolas VALDEYRON

#### Abstract

*As an introduction, this short article raises the question of the role of vegetal resources in the dietary economy of the Mesolithic. For many years, this role was seen as a given even if there was no significant archaeological evidence to support it. Meanwhile, during the last decade, reliable observations have led to new discussions and the recording in Western Europe of intensive nuts (mostly hazelnuts) gathering, along with practices associated with storage and differential consumption.*

#### Keywords

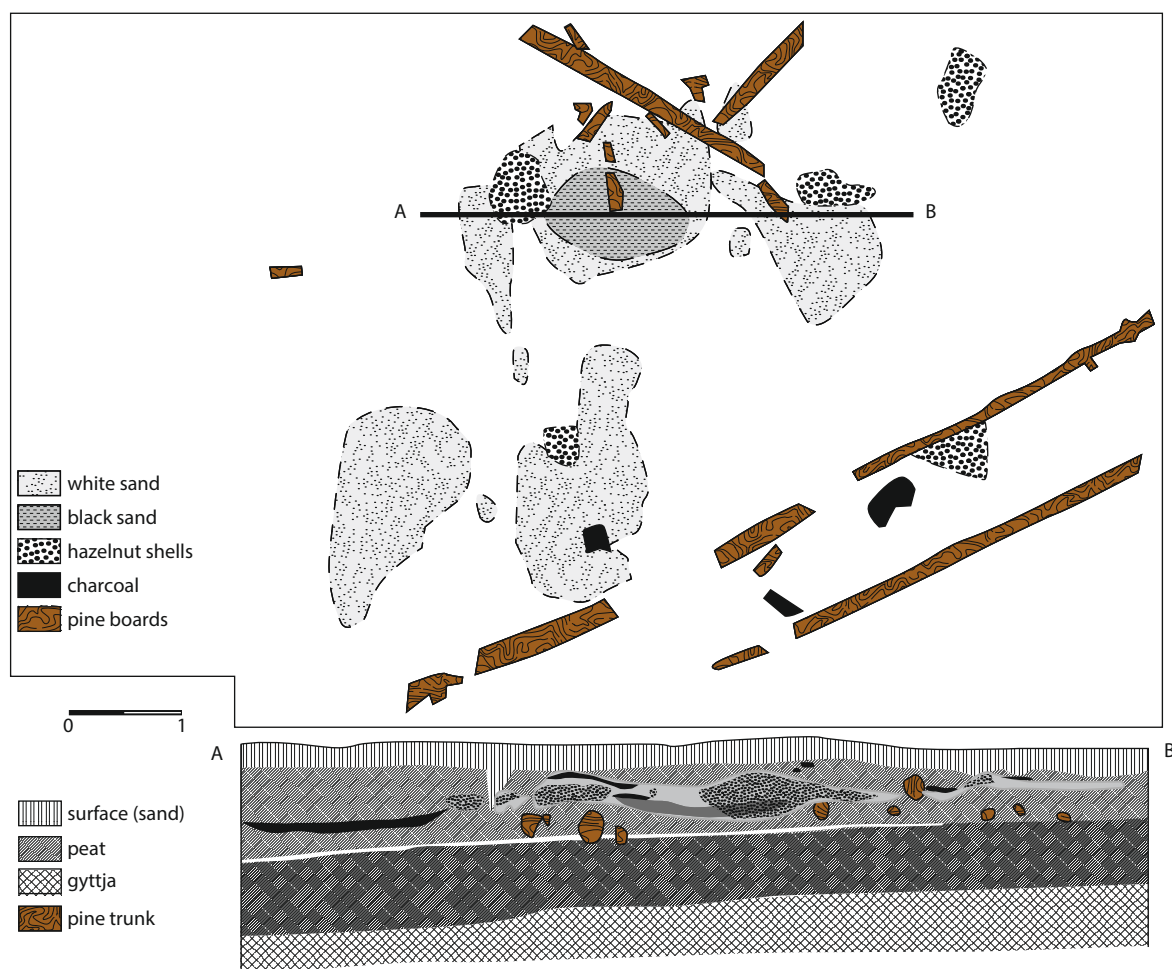
*Mesolithic, diet, vegetal resources, hazelnuts, storage.*

The Mesolithic covers only a short period of European Prehistory, the first five or six thousand years of the Holocene. It is thus wedged between the Late Paleolithic, a much longer period correlated with the arrival in Europe of Anatomically Modern Humans, the supposed creators of the first art forms, and the Neolithic, a slightly shorter period nonetheless tied to, with the beginning of agricultural economies, the irreversible acceleration of the complexification of human societies. Lacking, *a priori*, an attribute bestowing it with such a clear identity, the Mesolithic can by comparison appear dull, with no specific interest or consistency. And yet, the challenges involved in its study, related to the dialectic of a completely new Human-Environment relationship, are at least as important as those underlying the originality and reputation of the two periods between which it is framed: the Mesolithic is the moment during which post-glacial Europe was reconquered by vegetation, with the gradual development of a large, continental primary forest, little by little dominated by oak. Those who occupied and travelled across these territories, likely forgetting even the memory itself of the vast Paleolithic spaces and being unaware of the agricultural revolution to come, invented new ways of life founded on a predation and storage economy in which the intensive gathering and collecting of vegetal resources undoubtedly played an economic, as well as social, role that was both new and emblematic.

This innovative contribution of plants to the Mesolithic diet was considered long ago, and more recently, as a given (Clarke, 1976), or at least a high probability (Barbaza, 1999; Ghesquière, 2012). This position is fully justified by both the environmental context, of course potentially and eminently favorable to its development, and by the ethnographic examples of populations evolving in forested spaces more or less similar to what must have been the great primary forest of Europe. However, until recently, convincing archaeological evidence for food collection and storage was inexistent and the reality of this contribution thus remained (almost) purely speculative because

it was archaeologically (almost) silent. Indeed, though charred edible vegetal remains are common at European Mesolithic sites, including the most southern ones (Antolín *et al.*, 2013), direct evidence of the anthropogenic origin of their presence, preparation, and / or consumption, differential or not, by humans seemed impossible to find. This is no longer entirely true and a few recently published examples highlight the reality of this double practice (i.e. intensive collection and storage) in which it is now tempting to see an element that is specifically and authentically Mesolithic.

One piece of evidence is provided by the site of Staosnaig, located on the Scottish island of Colonsay (Mithen *et al.*, 2001). Occupied at around 6 500 cal BC, it yielded six structures piled with the remains of charred hazelnuts: one large pit, 5 m in diameter, alone yielded 16 kg of shells corresponding to 30 to 40 000 hazelnuts! The authors demonstrated that this pit was the discard zone for the overly grilled contents of an oven, which could have processed between 120 and 330 000 hazelnuts, equaling the accumulated production of several thousands of trees. Another example is provided by the 7 500 hazelnut shells extracted from a sedimentary sample of only 250 liters, at the Irish site of Derragh Island (Bunce, 2011). An analysis of them showed that they were subject to a slight, homogeneous charring similar to that reproduced during torrefaction.



**Figure 1** - Duvensee (Germany), WP6. Close-up of the excavated zone, with grilling hearths, pine boards, charcoal, and hazelnut shell concentrations (CAD: N. Valdeyron, after D. Holst, 2011).



Even more convincing are the “roasting structures” of locations 8 and 6 of Duvensee in northern Germany (Holst, 2010, 2011), at short-term occupation sites specialized in the hazelnut processing and occupied during the early and middle phases of the Mesolithic. Constructed in an artificial sand level forming a sort of screed and itself resting on a layer of pine and birch bark, these complex structures (figure 1), measuring 6 to 0.2 m<sup>2</sup>, were organized in a group and the largest ones were protected by wooden cases. They attest to what must have been a frequent and intensive practice of hazelnut grilling, phenomenal quantities (several tens of thousands) of which were found.

In France, no find of this type has been clearly identified or described for the Mesolithic, except for some pits at the site of Auneau interpreted as shelled fruit storage features (Verjux, 2000, 2004, 2006). The sites of Escabasses (Thémines) and Cuzoul de Gramat in the Lot Department could nonetheless represent the same types of behaviors as those described above, involving the collection and processing of large quantities of hazelnuts (Valdeyron, 2013). At Escabasses, a hearth feature (US 14) dated to the 8<sup>th</sup> millennium cal BC the strongly resembles a “roasting pit” in its morphology (deep, oblong pit with partially rubified walls) and contents (a very large quantity of wood charcoal). As for Cuzoul de Gramat, intact concentrations of several dozens of hazelnut shells contained within an ashy mass were observed (figure 2) in a level attributed to the first half of the 6<sup>th</sup> millennium cal BC: the aim of ongoing research at this site is to explain this unusual configuration by testing the hypothesis of a functional link between the ash accumulations and hazelnut processing for storage.



**Figure 2** - Le Cuzoul de Gramat (Lot, France). Close-up of an ash concentration in the process of excavation in a level from the end of the Mesolithic, containing whole or almost whole hazelnut shells (photo: M. Miesch).

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