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## Mesolithic pit-sites in Champagne (France): First data, key issues

Nathalie Achard-Corompt, Emmanuel Ghesquière, Christophe Laurelut, Charlotte Leduc, Arnaud Remy, Richard Isabelle, Vincent Riquier, Luc Sanson, Julia Wattez

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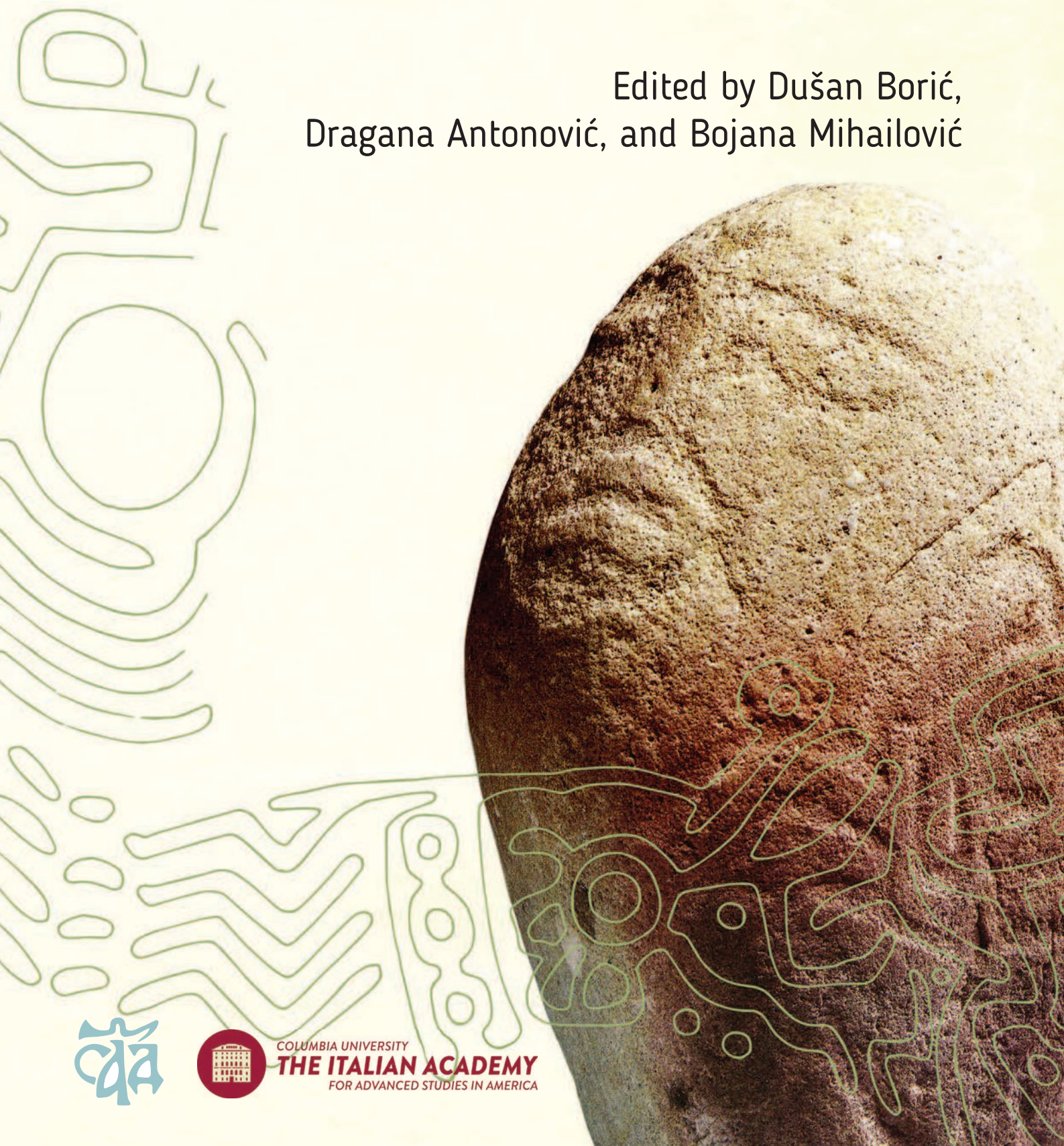
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# Foraging Assemblages

Volume 1

Edited by Dušan Borić,  
Dragana Antonović, and Bojana Mihailović



COLUMBIA UNIVERSITY  
**THE ITALIAN ACADEMY**  
FOR ADVANCED STUDIES IN AMERICA

# Foraging Assemblages

Volume  1

Edited by Dušan Borić,  
Dragana Antonović, and Bojana Mihailović

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## 29. Mesolithic pit-sites in Champagne (France): First data, key issues

**Nathalie Achard-Corompt, Emmanuel Ghesquiere, Christophe Laurelut, Charlotte Leduc, Arnaud Remy, Isabelle Richard, Vincent Riquier, Luc Sanson, and Julia Watzet**

In less than a decade, more than 30 sites and around 200 deep pits dated to the Mesolithic have been identified in the Champagne-Ardenne region (north-eastern France). This paper describes the main characteristics of these features and provides some clues for their interpretation. This unexpected but apparently common type of site clearly implies a more marked territoriality and a greater social complexity than generally proposed for the period in continental northern France.

**Keywords:** deep pits, storage, hunting, territoriality, social complexity

A decade ago, the existence of deep pits prior to the Neolithic agricultural colonization had hardly been recorded in France (Verjux 2003), and the pits that had been recorded were assumed to have been associated with quite particular sites. Since 2007, however, mechanized test trenching and rescue excavations conducted in the Champagne-Ardenne region of France have repeatedly encountered a series of deep pits consistently radiocarbon-dated to the Mesolithic. These constitute a new kind of site, one clearly quite frequent although entirely unexpected for the period.

The recurrent identification of these features and the rapid construction of a large dataset on a regional scale has mainly resulted from the proactive, large-scale policy of development-led archaeological evaluations and excavations conducted by the local Regional Archaeology Service of the French Ministry of Culture (Blancquaert *et al.* 2011). In the field, these features, at first glance seemingly ‘indeterminate’ or doubtful, have been routinely documented by INRAP teams and systematically radiocarbon-dated (Laurelut *et al.* 2014). Meanwhile, a smaller number of similar discoveries have been made in many other regions of northern France (Achard-Corompt *et al.* 2018), showing much larger (continental?) geographical scale of the phenomenon.

By the beginning of 2015, more than 200 pits at 33 sites were excavated and recorded for Champagne alone (Fig. 29.1). The years 2013 and 2014 marked a major threshold with the excavation of the site of Recy, Marne (Achard-Corompt 2015). The plan of the site included several dozen pits, enabling a more in-depth spatial analysis. Apart from radiocarbon dating, these features have been subject to a range of analyses; examining their morphology, the nature

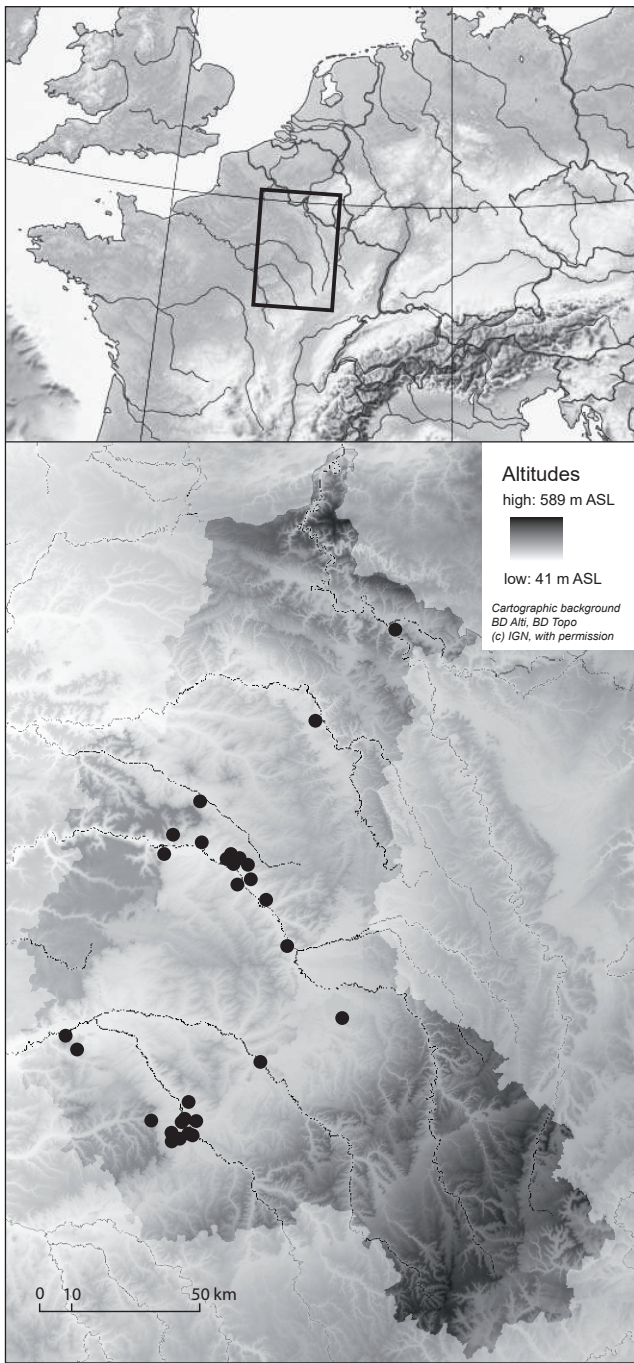
and history of their filling, the quite sparse archaeological material recovered, and the local environment in order to investigate pits’ function(s) and beyond that the broader socio-economic significance of these pit-sites.

We summarize the current evidence below. While these observations have only been validated for the Champagne region, we believe they may be applicable to most of the great plain of north-western Europe.

1. Far from being unusual, the digging of deep pits is an extremely common practice during the Mesolithic. Although there are a number of morphological variations (Fig. 29.2), the majority of these pits have a cylindrical section with a flat base. The diameter of cylindrical features is about 1 m for the smaller ones and 2 m for the larger ones, with a comparable depth range. More rare are the oval- or funnel-shaped types, which average 2.5–3 m in diameter with a depth of 1.5–2 m. About one third of all pits include a narrow – and usually centrally located – depression at the base (a stake hole?).

2. Identification of these features can be difficult, as their fill is often very similar to the surrounding sediments. When excavated by hand, hardened upper layers of the fill can be mistaken for the bottom of the feature. Excavation with a machine bucket beyond the pit’s edges is thus required to expose the profile (Fig. 29.3), particularly in soft ground.

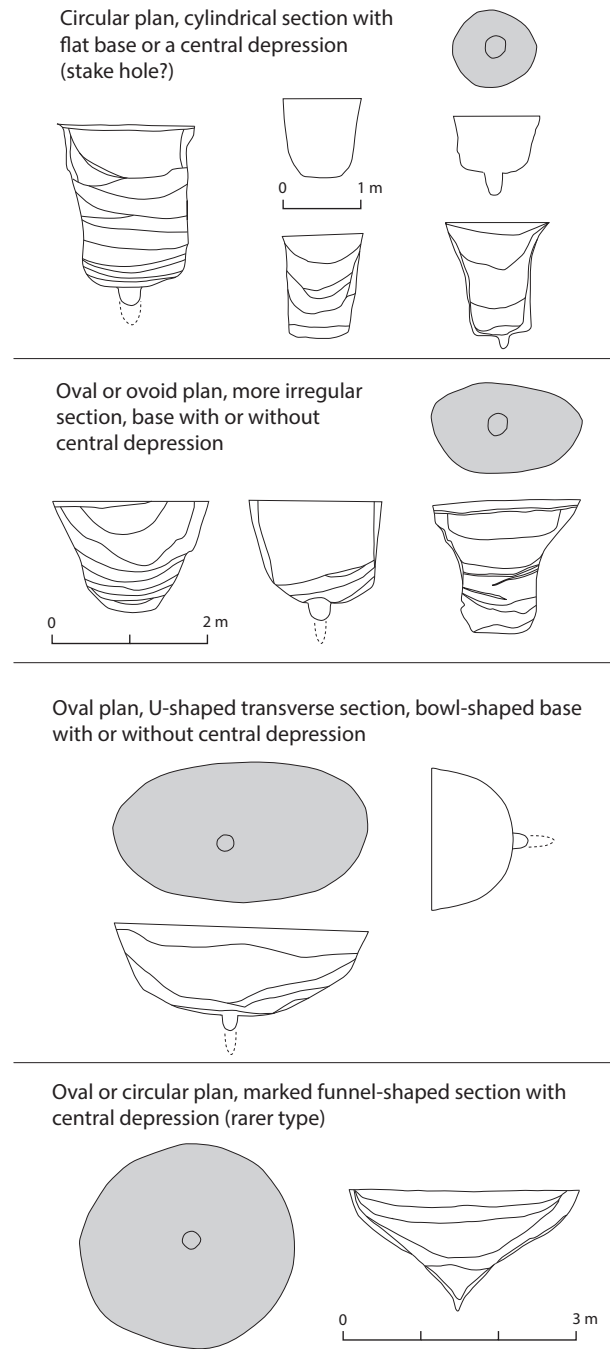
3. The stratigraphy is complex but typified by carbonate-rich cemented layers. The high carbonate content occurs in the form of micritic micromass (silt) and pedogenic carbonate. Some of them are inherited, such as calcium carbonate nodules or micritic coatings. They also contain calcitic pseudomorphs of stems or leaves, which could be related to the use of the pits. The cementation



**Fig. 29.1.** Distribution of Mesolithic pit-sites in Champagne-Ardenne, France.

is the result of dissolution/precipitation processes of the carbonate content, related to the fluctuation over time of moister conditions in the soil.

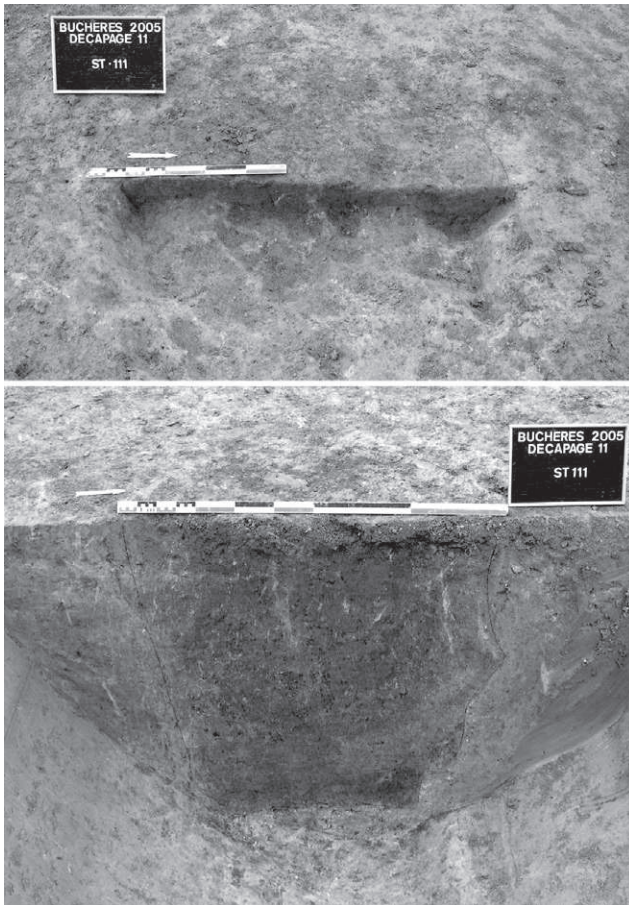
4. The pit fill generally contains very few ecofacts and artefacts, which are mainly recovered through large-scale sieving. The lithic industry, represented in only one out of ten pits, is limited to two kinds of artefact: fragments of blades/bladelets and armatures. The presence of these two



**Fig. 29.2.** Different types of Mesolithic pit sections.

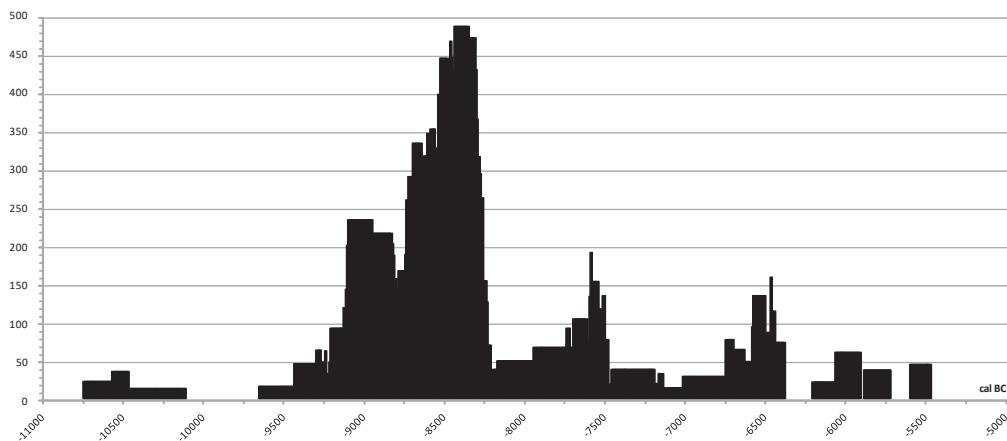
specific types is usually connected with hunting and/or carcass processing.

Faunal remains are still less frequent. They are attributed to different taxa common in Mesolithic faunal spectra (aurochs, roe deer, boar, red deer, and dog) and are found as complete skeletons or isolated bones, probably reflecting different origins and intentions. The question of intentional deposits of a symbolic kind can be raised for at least some of them.



**Fig. 29.3.** Example of a Mesolithic pit found at Parc Logistique de l'Aube. Above: manual excavation stops on the upper hardened layers. Below: mechanical excavation of the same feature, revealing the profile of a deep, regular pit.

5. Radiocarbon dating is the main method for the chronological attribution of these pits. Almost all measurements have been obtained on charcoal samples from



**Fig. 29.4.** Cumulative probability density of radiocarbon dates for Mesolithic pits in Champagne (as of January 2015: 73 measurements). Dates were calibrated using OxCal v.4.2.

the bottom of the fill. Their chronology extends over the whole period, but the major peak is seen during the Early Mesolithic (Fig. 29.4).

6. A strong relationship exists between pit-sites and a specific kind of local substratum (loess deposits over chalky bedrock) linked to their preferential topographic location on the edges of major alluvial valleys. This distribution could reflect a relationship with specific biotopes, although this needs to be clarified by environmental analyses. These Mesolithic features are also identified in the same topographic positions as the 'Y-shaped'/*Schlitzgruben* pits, attributed to the Neolithic or Bronze Age and interpreted as hunting pits.

7. On most excavations, including small sites, pits recurrently seem to be aligned on a broadly recti- or curvilinear pattern (Fig. 29.5). At present, there is no evidence to determine whether this spatial organization is intentional, *i.e.* planned, or results from some kind of environmental (topographic, edaphic?) constraint.

8. In general, these pit-sites appear disconnected from the more traditional open-air sites with layers of lithic and/or faunal material. But in the exposed contexts where pit-sites are found, agricultural erosion could often have removed any trace of the original Mesolithic occupation layer. Rare examples of entirely truncated Mesolithic sites, with residual artefacts trapped in later (Neolithic) features, reflect the reality of this process of erosion, which of course does not imply that every pit-site was originally associated with an occupation layer.

The possible functions of these pits are numerous. By morphological analogy with later features, the simplest hypothesis is that they are storage pits, particularly for gathered food such as hazelnuts and acorns. But although long-term storage has been recognized as a recurrent feature in hunter-gatherer societies (Ingold 1983; Testart 1982), with conclusive experimental work confirming this possibility (Cunningham 2005), the general applicability of this

hypothesis can still be questioned. Work on the V/Y-shaped hunting pits (*Schlitzgruben*), which integrates ethnographic and ethno-archaeological evidence, suggests that hunting, with a range of techniques and prey, is also a plausible use for such features. Moreover, these two functions are not necessarily exclusive: both have been proposed to explain the systems of pits known

since the Upper Palaeolithic on the Japanese archipelago (Sato 2010). Other functions are also possible, whether related to potential domestic or symbolic uses. As research progresses, observations of the increasing plurality of pit forms and their time range takes us further away from a single explanation for these pits.

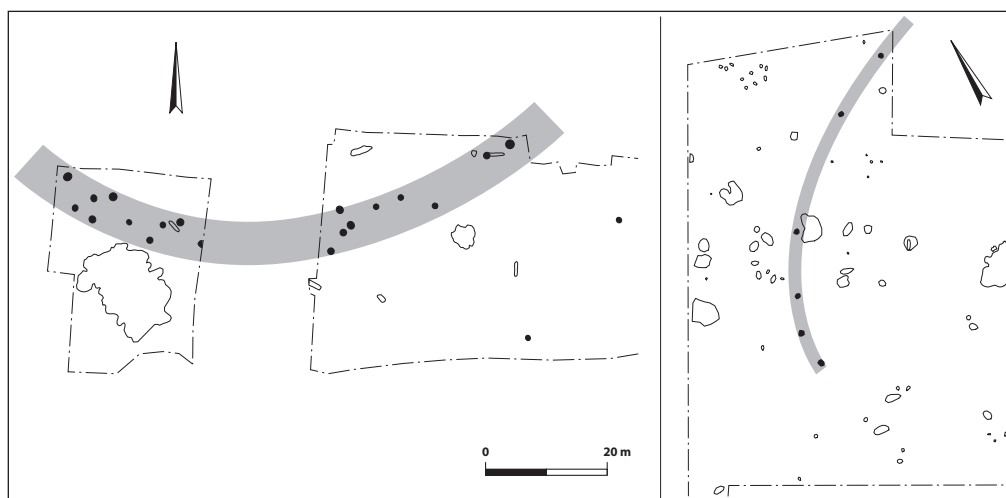
While the function of these pits is clearly a key issue, the mere identification of these sites as a recurrent element in the Mesolithic landscape has in itself fundamental implications for understanding the social organization of these populations. By increasing the density and diversity of the site network, the recognition of these multiple systems of deep pits dramatically changes our perception of the pattern of Mesolithic occupation, which had previously been limited to evidence from sites with artefact scatters. The unexpected scale on which these pits have been dug certainly entails a more marked territoriality of Mesolithic populations than has commonly been observed up to now in inland northern France (Valdeyron 2008). Consistently, it suggests a more stable settlement pattern and a more complex social organization than the basic forager model that has generally been proposed (Séara *et al.* 2010).

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**Fig. 29.5.** Example of the linear distribution pattern of Mesolithic pits at the sites of Chouilly and Lesmont (Marne).

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***Foraging Assemblages*** is the publication of the proceedings of the Ninth International Conference on the Mesolithic in Europe, held in Belgrade in September 2015. The two volumes of these proceedings gather 121 contributions on Mesolithic research in Europe, covering almost every corner of the continent. The book presents a cross-section of recent Mesolithic research, with geographic foci ranging from the Mediterranean to Scandinavia, and from Ireland to Russia and Georgia. The papers in the volumes cover diverse topics and are grouped into 11 thematic sections, each with an introduction written by prominent Mesolithic experts. The reader will learn about changes in forager lifeways and the colonization of new territories at the end of the Ice Age and the beginning of the Holocene warming; the use of diverse landscapes and resources; climatic instabilities that influenced patterns of settlement and subsistence; the organization of settlements and dwelling spaces; the formation of regional identities expressed through various aspects of material culture and technologies of artefact production, use, and discard; aspects of social relations and mobility; symbolic, ritual, and mortuary practices; diverse ways in which Mesolithic communities of Europe were transformed into or superseded by Neolithic ways of being; and how we have researched, represented, and discussed the Mesolithic.



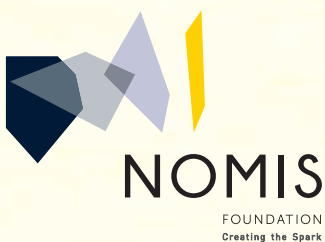
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