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# MESOLITHIC PALETHNOGRAPHY

RESEARCH ON OPEN-AIR SITES  
BETWEEN LOIRE AND NECKAR

PROCEEDINGS FROM THE INTERNATIONAL ROUND-TABLE MEETING  
IN PARIS (NOVEMBER 26–27, 2010)

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**Boris VALENTIN, Bénédicte SOUFFI, Thierry DUCROCQ,  
Jean-Pierre FAGNART, Frédéric SÉARA, and Christian VERJUX**



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Head office : 22, rue Saint-Ambroise, 75011 Paris (France)  
Tel. : 00 33 1 43 57 16 97 – Fax : 00 33 1 43 57 73 95 – E-mail: [spf@prehistoire.org](mailto:spf@prehistoire.org)  
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**Office adress:**

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# CONTENTS

Boris VALENTIN, Bénédicte SOUFFI, Thierry DUCROCQ, Jean-Pierre FAGNART, Frédéric SÉARA and Christian VERJUX — <i>Introduction: Towards a mesolithic palethnology</i> .....	7
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## CURRENT RESEARCH CONCERNING MESOLITHIC OPEN-AIR SITES

Bénédicte SOUFFI, Fabrice MARTI, Christine CHAUSSÉ, Anne BRIDAULT, Éva DAVID, Dorothée DRUCKER, Renaud GOSSELIN, Salomé GRANAI, Sylvain GRISELIN, Charlotte LEDUC, Frédérique VALENTIN and Marian VANHAEREN — <i>Mesolithic occupations on the edge of the Seine: spatial organisation and function of the site of 62 rue Henry-Farman, Paris (15th arrondissement)</i> .....	13
Daniel MORDANT, Boris VALENTIN and Jean-Denis VIGNE — <i>Noyen-sur-Seine, twenty-five years on</i> .....	37
Joël CONFALONIERI and Yann LE JEUNE — <i>The Mesolithic site of Haute-Île at Neuilly-sur-Marne (Seine-Saint-Denis): preliminary results</i> .....	51
Christian VERJUX, Bénédicte SOUFFI, Olivier RONCIN, Laurent LANG, Fiona KILDÉA, Sandrine DESCHAMPS and Gabriel CHAMAUX — <i>The Mesolithic of the Centre region: state of research</i> .....	69
Frédéric SÉARA and Olivier RONCIN — <i>Mesolithic valley floor occupations: the case of Dammartin-Marpain in the Jura</i> .....	93

## ELEMENTS OF PALETHNOGRAPHY: FUNCTIONAL DYNAMICS OF MESOLITHIC OPEN-AIR SITES

Lorène CHESNAUX — <i>Microliths from 62 rue Henry-Farman, Paris (15th arrondissement): specific arrows for different types of game hunted in particular places?</i> .....	119
Sylvain GRISELIN, Caroline HAMON and Guy BOULAY — <i>Manufacture and use of Montmorencian prismatic tools: the case of 62 rue Henry-Farman, Paris (15th arrondissement)</i> .....	133
Colas GUÉRET — <i>Character and variability of Early Mesolithic toolkits in Belgium and Northern France: the contribution of a functional approach</i> .....	147
Olivier BIGNON-LAU, Paule COUDRET, Jean-Pierre FAGNART and Bénédicte SOUFFI — <i>Preliminary data concerning the spatial organisation of Mesolithic remains from locus 295 of Saleux (Somme): a faunal perspective</i> .....	169
Thierry DUCROCQ — <i>The ‘Beuronian with crescents’ in Northern France: the beginnings of a palethnological approach</i> .....	189
Gabrielle BOSSET and Frédérique VALENTIN — <i>Mesolithic burial practices in the northern half of France: isolated burials and their spatial organisation</i> .....	207
Gunther NOENS — <i>Intrasite analysis of Early Mesolithic sites in Sandy Flanders: the case of Doel-“Deurganckdok J/L, C3”</i> .....	217
Philippe CROMBÉ, Joris SERGANT and Jeroen DE REU — <i>The use of radiocarbon dates in unraveling Mesolithic palimpsests: examples from the coversand area of North-West Belgium</i> .....	235
Claus Joachim KIND — <i>Tiny stones in the mud. The Mesolithic sites of Siebenlinden (Rottenburg, Baden-Württemberg, South West Germany)</i> .....	251





*Mesolithic Pale ethnography*  
*Research on open-air sites between Loire and Neckar*  
Proceedings from the international round-table meeting, Paris, November 26–27, 2010  
BORIS VALENTIN, BÉNÉDICTE SOUFFI, THIERRY DUCROCQ, JEAN-PIERRE FAGNART,  
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## Mesolithic valley floor occupations: The case of Dammartin-Marpain in the Jura

Frédéric SÉARA and Olivier RONCIN

**Abstract:** Preliminary information from the site of Dammartin-Marpain further highlights the key role played by valley floors for the study of prehistoric populations. At Dammartin we note important Mesolithic activity linked to a succession of camps radiocarbon dated to between 8300 and 7200 BC, as well as a Final Mesolithic occupation identified by typological criteria. The intensity of occupation is reflected in the more than 27,000 lithic elements recovered, including 620 microliths, to which can be added used and unused cobbles, occasional bone remains, ochre fragments and hazelnut shells. Beyond these initial assessments, petrographic determinations, a preliminary functional analysis, initial lithic refits, as well as the beginnings of a spatial analysis also reveal interesting perspectives. The overall aspect of the cultural material is clearly Sauveterrian, which to some extent redraws the boundaries of Beuronian techno-complex still considered as the main cultural component of the regional Mesolithic.

### EXCAVATION CONTEXT

THE PROJECT for a bypass road around the small village of Pesmes in the Haute-Saône (fig. 1) allowed this valley floor site to be investigated over an area of approximately 10,000 m<sup>2</sup>. The site's particular topographic position on the left bank of the Ognon River at the base of a line of cliffs cut by a well-defined valley could partly explain the repeated occupation of this alluvial plane (Séara et al., 2010). The natural corridor created by this small valley channelled the movement of animals thus making it a particularly favourable landscape for hunting from the Mesolithic onwards (fig. 2). This feature is but one of many that probably drew Mesolithic groups to this location.

The nature of the construction project largely determined the limits of the excavation area resulting in the exposure of a narrow 250 m by 40 m rectangle perpendicular to the river (fig. 3). The spatial distribution of the archaeological material reflects variable occupation intensities which are particularly dense at the edges of the main paleochannel ('chenal 2') and considerably less substantial to the east of a small, more central channel (fig. 4).

### GENERAL STRATIGRAPHIC INFORMATION

AN approximately 180 m long profile made it possible to define the composition and geometry of the generally very homogeneous deposits that vary little throughout the sequence. The Mesolithic material was found systematically at the top of a horizon composed of silty clays with fine sands which was consistently present across the excavated area, apart from the banks of the present river (fig. 5). The geometry of the deposits demonstrates a clear incision within the main paleochannel, while the more pronounced profile of the central paleochannel indicates low-energy hydrological activity or standing water.

The small number of fairly linear paleochannels combined with the geometry and nature of the deposits depicts a different alluvial dynamic than that of the Seille River characterised by numerous, sometimes sinuous channels (Rotillon in Séara et al., 2002). The situation at Dammartin-Marpain seems most similar with the Doubs floodplain near Dole at the level of the site of Choisey (*ibid.*).



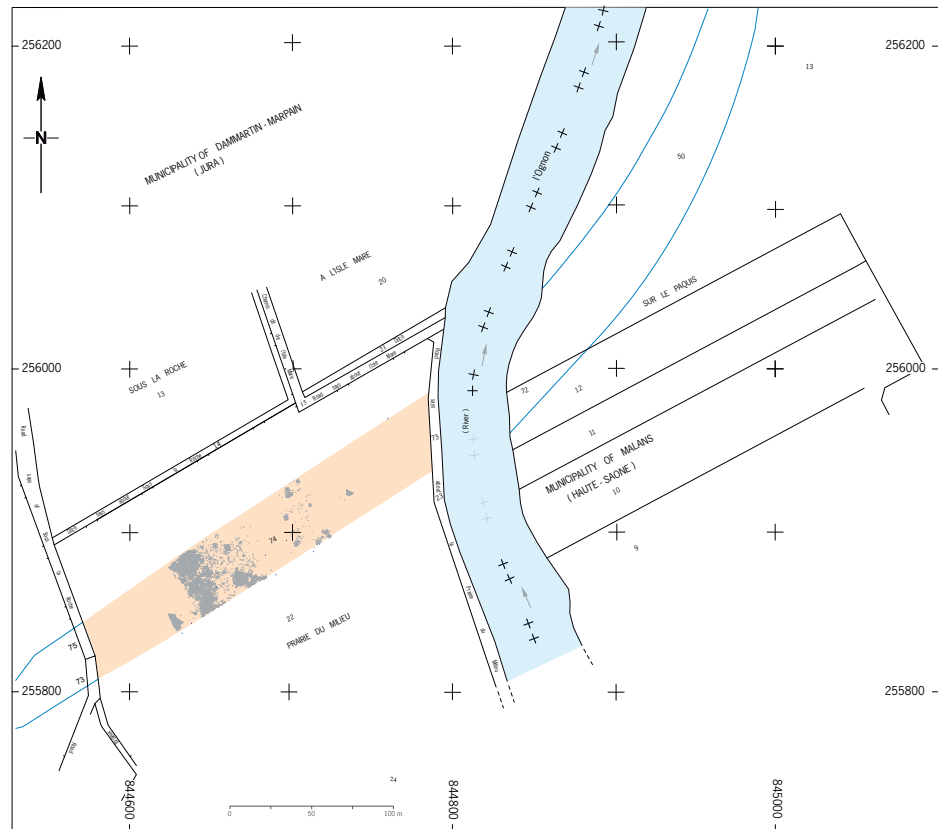
1 : Les Basses Veuves à Pont-sur-Yonne (Yonne); 2 : Le Haut des Nachères à Noyen-sur-Seine (Seine-et-Marne); 3 : La Presle à Lhéry (Marne); 4 : Les Cloiseaux à Rueil-Malmaison (Hauts-de-Seine); 5 : Le Marais de Merlemont à Warluis (Oise); 6 : La Grippe à Lihus (Oise); 7 : Le Marais à Conty (Somme); 8 : Le Marais à Thennes (Somme); 9 : Le Marais à Boves (Somme); 10 : Les Baquets à Saleux (Somme); 11 : Étrouvie à Amiens (Somme); 12 : Le Petit Marais à La Chaussée-Tirancourt (Somme); 13 : Gravières à Hangest (Somme); 14 : Les Varennes à Val-de-Reuil (Eure); 15 : Déviation à Saint-Pierre-du-Bû (Calvados); 16 : La Canne à Pannes (Loiret); 17 : Le Chêne des Fouteaux à Saint-Romain-sur-Cher (Loir-et-Cher); 18 : La Croix de Bagneux à Mareuil-sur-Cher (Loir-et-Cher); 19 : La Guériverie à Langeais (Indre-et-Loire); 20 : La Prairie d'Ingrandes à Ingrandes-de-Touraine (Indre-et-Loire); 21 : L'Essart à Poitiers (Vienne); 22 : La Grange à Surgères (Charente-Maritime); 23 : La Grande Pièce à La Vergne (Charente-Maritime); 24 : La Pierre-Saint-Louis à Geay (Charente-Maritime); 25 : Al Poux à Fontanes (Lot); 26 : Le Camp de Jouannet à Réalville (Tarn-et-Garonne); 27 : Le Gourmier à Montélimar (Drôme); 28 : Blachette-Sud à Sinard (Isère); 29 : A Daupharde à Ruffey-sur-Seille (Jura); 30 : Aux Champs à Choisey (Jura); 31 : Prairie du Milieu à Dammartin-Marpain (Jura); 32 : La Croix Audran à Carnac (Morbihan); 33 : Rue Farman à Paris (Hauts-De-Seine); 34 : La Haute-Île à Neuilly-sur-Marne (Seine-Saint-Denis)

**Fig. 1 – Main Mesolithic sites excavated in rescue contexts over the last 20 years in France (F. Séara).**



**Fig. 2 – Dammartin-Marpain. View of the excavation from the valley. The small rockshelters are found on the left side of the valley (F. Séara).**





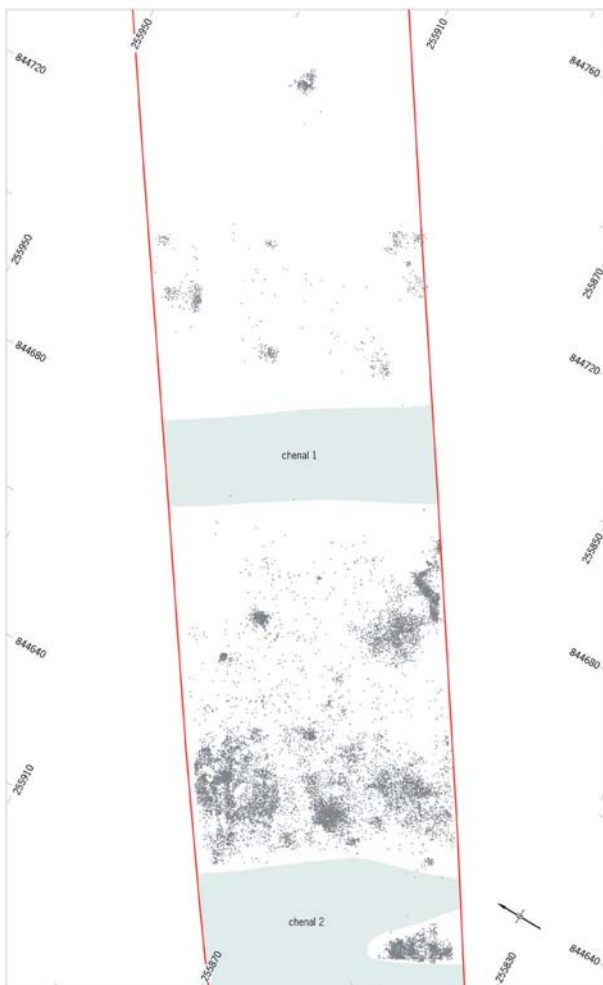
**Fig. 3 – Dammartin-Marpain. General context of the excavation (F. Séara).**

Repeated occupations of the edges of the main paleo-channel reflect the attractiveness of this particular area of the site. While the archaeological material is most dense at the edges of the channel, the fairly well-defined boundaries of concentrations is especially noteworthy as the various occupations are spread over time (see below).

### NUMEROUS AND DIVERSE ARCHAEOLOGICAL DATA

The considerable quantity of archaeological material (more than 30,000 artefacts comprised mainly of lithics) illustrates the intensity of the occupation. Unfortunately the acidity of the sediment limited bone preservation to the occasional series of teeth and burnt elements from which Charlotte Leduc (*in Séara and Roncin, 2010*) could nonetheless identify aurochs, wild boar and deer.

The extremely abundant lithic industry is composed of 25,576 pieces including 12,800 chips, 2,100 bladelets,



**Fig. 4 – Dammartin-Marpain. General plan of the Mesolithic artefacts.**



Fig. 5 – Dammartin-Marpain. Central part of the stratigraphy at the the level of the main channel incision.

500 cores, 300 domestic tools and 620 complete or broken microliths (fig. 6). These elements are distributed across 16 loci representing well-demarcated artefact concentrations whose size or function were not considered in their definition (fig. 7). This explains the significant variability in the numbers of remains found within each locus, ranging from 27 pieces in locus 15 to more than 8,000 in locus 7, which probably reflects very different archaeological realities (table 1).

It could be expected that high artefact densities in certain loci represent the accumulation of material from successive occupations. Such a scenario is confirmed by a series of 25 radiocarbon dates made possible by the presence of numerous burnt hazelnut shells. Four major occupation phases could be distinguished (fig. 8 and fig. 9): the first between 8350 and 8200 BP, the second between 8150 and 8000 BP, the third between 7650 and 7450 BP and the fourth between 7250 and 7150 BP. A fifth Late/Final Mesolithic occupation phase also was identified based solely on the associated lithic industry.

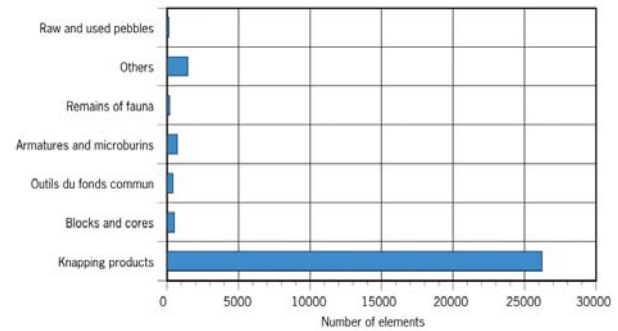


Fig. 6 – Dammartin-Marpain. Composition of the Pre-boreal/Boreal Mesolithic assemblage by major artefact categories (F. Séara).

## Lithic Industry

### Raw material provenances

Despite the considerable size of the lithic assemblage, preliminary studies concerning the major aspects of the lithic industry have already produced very interesting results supplementing already available information for the region. This is especially the case for the petrographic determinations made by Jehanne Affolter (in Séara and Roncin, 2010). For the moment, only the industry from locus 2 has been examined, revealing extremely diverse raw material procurement strategies primarily centred around local sources such as chert from the Serre Massif or flint from the Tertiary Haute-Saône Basin (Cupillard et al., 1995). While these two sources comprise 95% of the exploited raw material, other materials were introduced to the site from considerable distances, for example Swiss Intingen flint transported 170 km (Affolter, 2002). At least three provisioning territories with distances equal to or greater than 100 km were identified (fig. 10). Although locus 7 has not been the subject of a detailed petrographic analysis, two small rock crystal flakes, whose provenance could not be precisely determined,

	L1	L2	L3	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14	L15	L16	Cleaning	Total
Chips	815	3591	19	30	1305	3572	104	239	817	1954	120	22	95	15	21	173	12892
Flakes	1148	2041	33	93	1111	3318	144	204	319	1076	162	71	125	11	28	164	10048
Bladelets	200	444	12	23	255	589	18	64	189	133	36	6	25	0	9	99	2102
Blades	74	94	1	3	51	123	10	18	16	43	7	5	0	0	2	0	447
Bladelets with crest	19	19	0	0	15	24	1	11	7	12	0	0	0	0	1	13	122
Chunks	21	42	2	6	54	203	4	0	0	61	3	3	1	0	0	36	436
Cores and blocks	75	83	4	5	33	160	5	5	0	34	6	6	4	0	1	81	502
Microburins and bladelets broken in a notch	17	15	0	0	18	34	1	0	0	13	2	0	0	0	0	1	101
Armatures	65	146	3	4	61	217	5	1	8	51	36	2	5	0	0	19	623
Outils du fonds commun	44	63	3	0	41	54	7	6	2	32	5	0	5	1	0	40	303
<b>TOTAL</b>	<b>2478</b>	<b>6538</b>	<b>77</b>	<b>164</b>	<b>2944</b>	<b>8294</b>	<b>299</b>	<b>548</b>	<b>1358</b>	<b>3409</b>	<b>377</b>	<b>115</b>	<b>260</b>	<b>27</b>	<b>62</b>	<b>626</b>	<b>27576</b>

Table 1 – Dammartin-Marpain. Number of lithic pieces by category and locus.

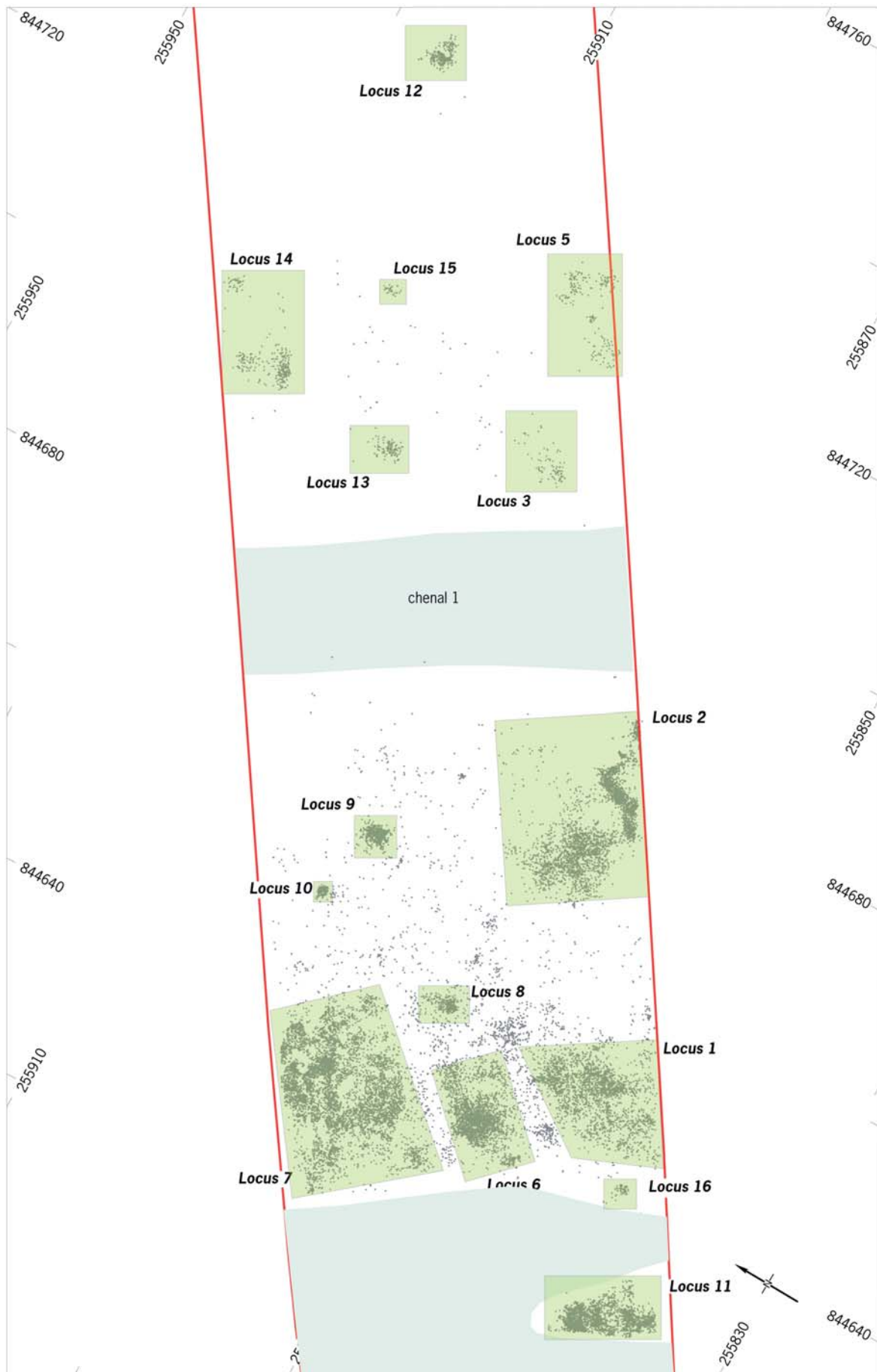


Fig. 7 – Dammartin-Marpain. Arrangement of the loci (F. Séara).

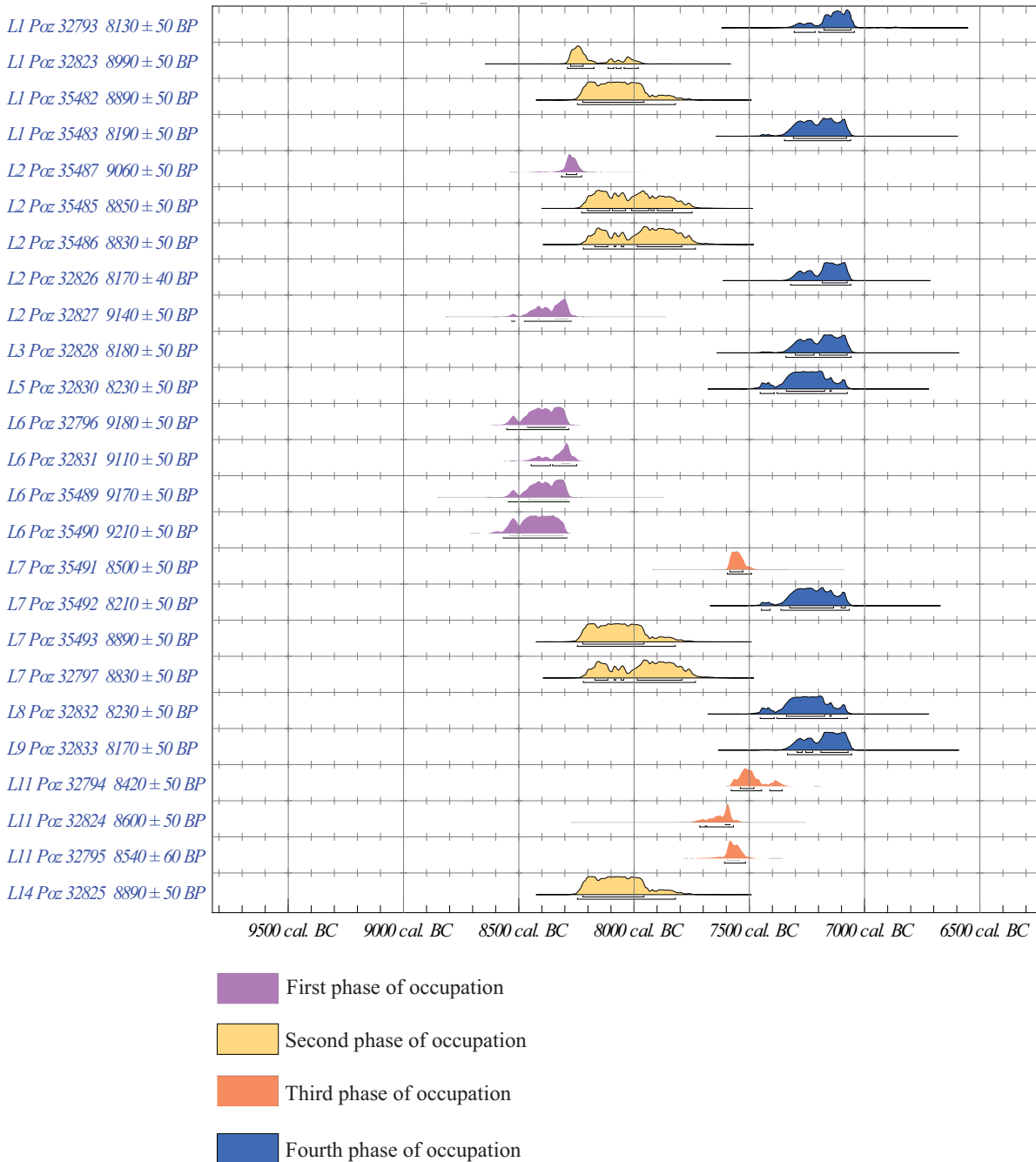


Fig. 8 – Dammartin-Marpain. Chronological framework of the occupations based on radiocarbon dates (F. Séara).

were however identified. Mapping these two major categories of raw materials (flint and chert) reveals a certain spatial integrity within this apparent hodge-podge of occupations that incorporates discrete procurement zones defined by different raw material types (fig. 11).

### Debitage

Furthermore, this spatial coherence is reinforced by the existence of very clearly demarcated debitage posts (fig. 12). These sometimes very small posts, for example cluster 1, generally involve a single raw material category. Their composition exposes a general lack of bladelets, apart from cluster 2 composed of 1,220 lithic

artefacts including 184 bladelets and cluster 3 containing 36 bladelets amongst 998 lithic artefacts. The 14 cores recovered from cluster 3 demonstrate a significantly more important production of bladelets that can be deduced from the number of debitage products alone and can only be explained by the transport of bladelets. This sorting and selective transport of bladelets also constitutes one of the main factors underlying the dispersion of certain knapping posts (Séara, 2008). In fact, taphonomic factors do not satisfactorily explain the coexistence of concentrated and diffuse debitage posts in a limited area and within same sedimentary context.

Cluster 3 also produced numerous refits further demonstrating the selective transport of bladelets. Amongst

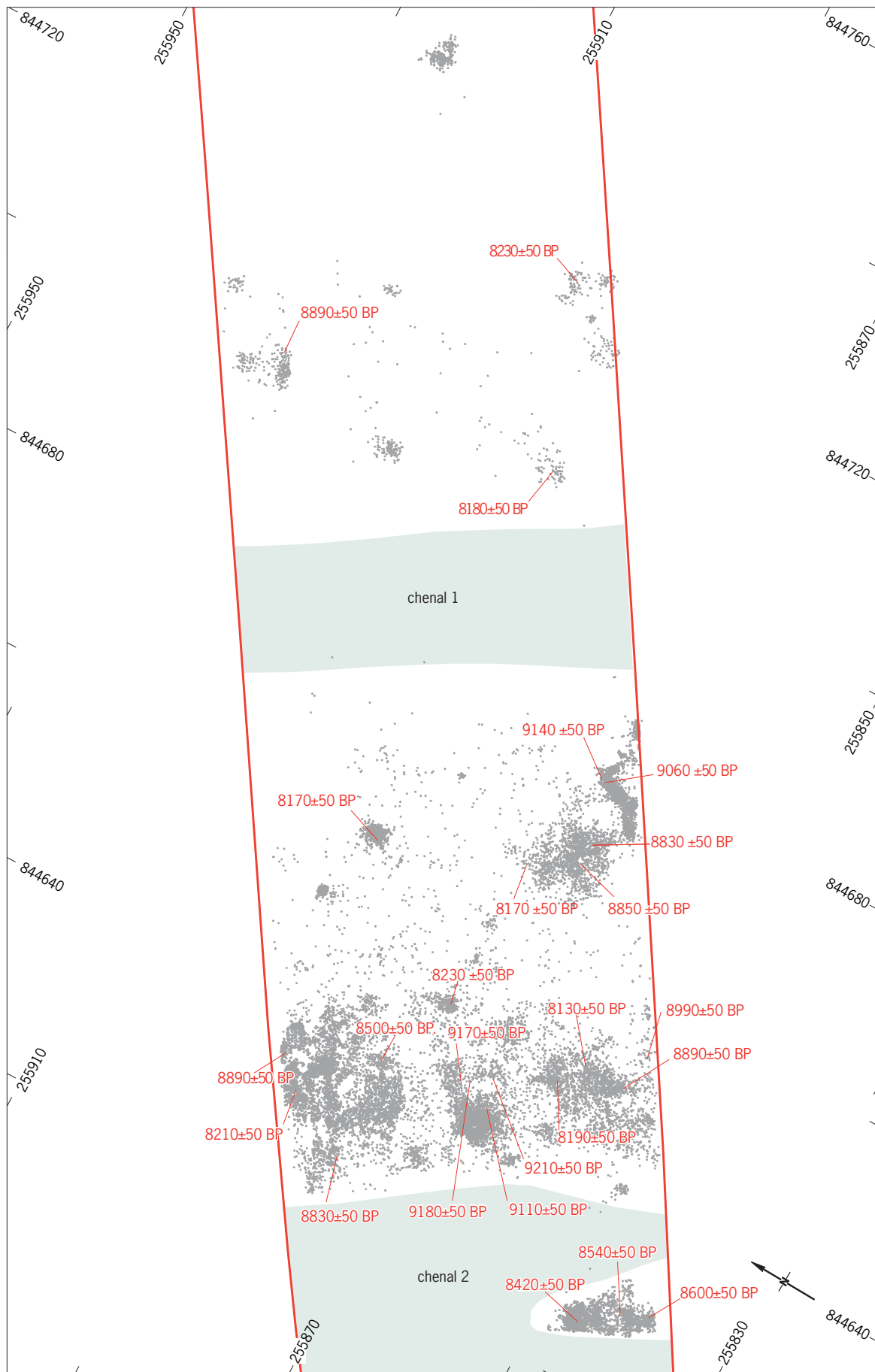


Fig. 9 – Dammartin-Marpain. Location of the radiocarbon dates (F. Séara).

the most significant elements is a small slab of flint from the Tertiary Haute-Saône Basin broken into six units along natural cleavage planes and composed of 91 different elements weighing a total of 740 grams (fig. 13). The exploitation of this block involved seven more or less intensively reduced bladelets cores. Refitting represents an essential key for understanding the activities carried out at each locus, a fact illustrated by our first very productive results.

The 500 cores demonstrate extremely varied production strategies—one or two striking platforms, *tournant* or *semi-tournants* reduction patterns. Raw material was introduced to the site as unaltered or tested blocks, very occasionally represented by small caches or simple stock piles. The majority of the cores measure between 2 and 4 cm when discarded with the negatives observable on the cores. The intense exploitation of these blocks partly explains the numerous knapping accidents apparent on the cores corresponding perfectly with the length of the unmodified bladelets. Evidence for on-site knapping also takes the form of spherical quartz cobbles and elongated cobbles used as hammers. The frequency of elongated examples could be explained by the technical advantage they afforded when used with a tangential motion. This elongated character is reflected in the fact that the major-

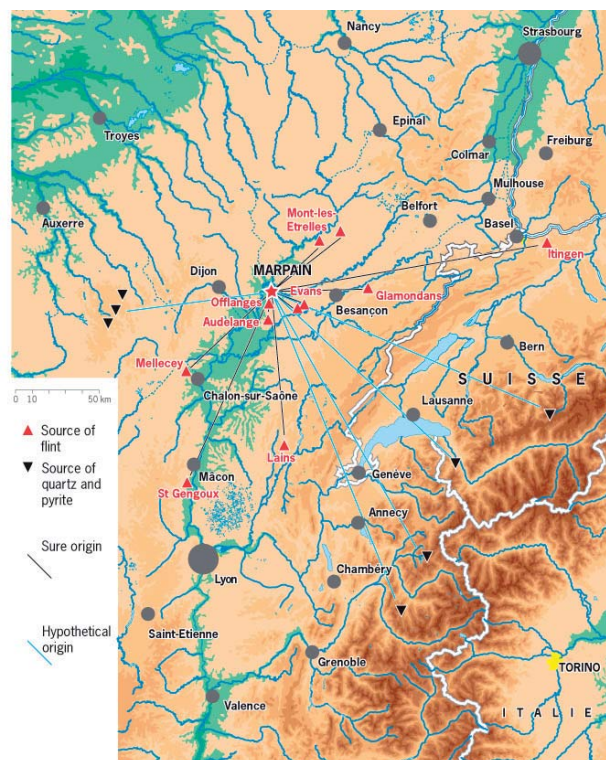


Fig. 10 – Dammartin-Marpain. Provenance of the various flints exploited on the site (J. Affolter).

Réf. Locus	Réf. labo.	Date BP	Date cal. B.-C.
Locus 1	Poz-35482	8890 ± 50 BP	8242 - 7936
Locus 1	Poz-35483	8190 ± 50 BP	7338 - 7066
Locus 1	Poz-32793	8130 ± 50 BP	7310 - 7040
Locus 1	Poz-32823	8990 ± 50 BP	8300 - 8160
Locus 2	Poz-32826	8170 ± 40 BP	7310 - 7060
Locus 2	Poz-32827	9140 ± 50 BP	8490 - 8270
Locus 2	Poz-35485	8850 ± 50 BP	8220 - 7788
Locus 2	Poz-35486	8830 ± 50 BP	8022 - 7749
Locus 2	Poz-35487	9060 ± 50 BP	8351 - 8208
Locus 3	Poz-32828	8180 ± 50 BP	7330 - 7060
Locus 5	Poz-32830	8230 ± 50 BP	7380 - 7070
Locus 6	Poz-32796	9180 ± 50 BP	8550 - 8280
Locus 6	Poz-32831	9110 ± 50 BP	8460 - 8240
Locus 6	Poz-35489	9170 ± 50 BP	8489 - 8285
Locus 6	Poz-35490	9210 ± 50 BP	8557 - 8298
Locus 7	Poz-35491	8500 ± 50 BP	7596 - 7492
Locus 7	Poz-35492	8210 ± 50 BP	7356 - 7071
Locus 7	Poz-35493	8890 ± 50 BP	8242 - 7936
Locus 7	Poz-32797	8830 ± 50 BP	8210 - 7740
Locus 8	Poz-32832	8230 ± 50 BP	7380 - 7070
Locus 9	Poz-32833	8170 ± 50 BP	7320 - 7060
Locus 11	Poz-32794	8420 ± 50 BP	7580 - 7350
Locus 11	Poz-32824	8600 ± 50 BP	7730 - 7540
Locus 11	Poz-32795	8540 ± 60 BP	7680 - 7480
Locus 14	Poz-32825	8890 ± 50 BP	8250 - 7910

Table 2 –Dammartin-Marpain. References and results of radiocarbon dating.

ity measure between 6 and 8 cm, although examples with lengths around 12 cm are also well-represented. The greater part of the cobbles fall within the 150-200 gram weight class.

### The toolkit

#### Domestic tools

Although domestic tools are well-represented with more than 300 examples, they portray no specific character, apart from the low number of endscrapers

However, the presence of a knife with a basal notch, or ‘Rouffignac knife’, should be mentioned. This particular tool type is known from only a small number of sites (Dujardin, 1999 and 2009; Gouraud and Thévenin, 2000) divisible into two groups: one on the western edges of France and the other gradually emerging in the east (fig. 14). The example from Dammartin-Marpain can be compared with the one recovered from the Sauveterrian at Ruffey-sur-Seille and dated to the end of the Preboreal.

#### Microliths and the cultural framework

The diversity of the 620 microliths expresses an occupational diachrony which is sometimes difficult to discern based solely on typological grounds. In locus 1, crescents, well attested to it regionally from final Preboreal and early Boreal sites where they are associated with points with transversely retouched bases, portray the older character of the assemblage (fig. 15; Thévenin, 2008). On the other hand, elongated scalene triangles

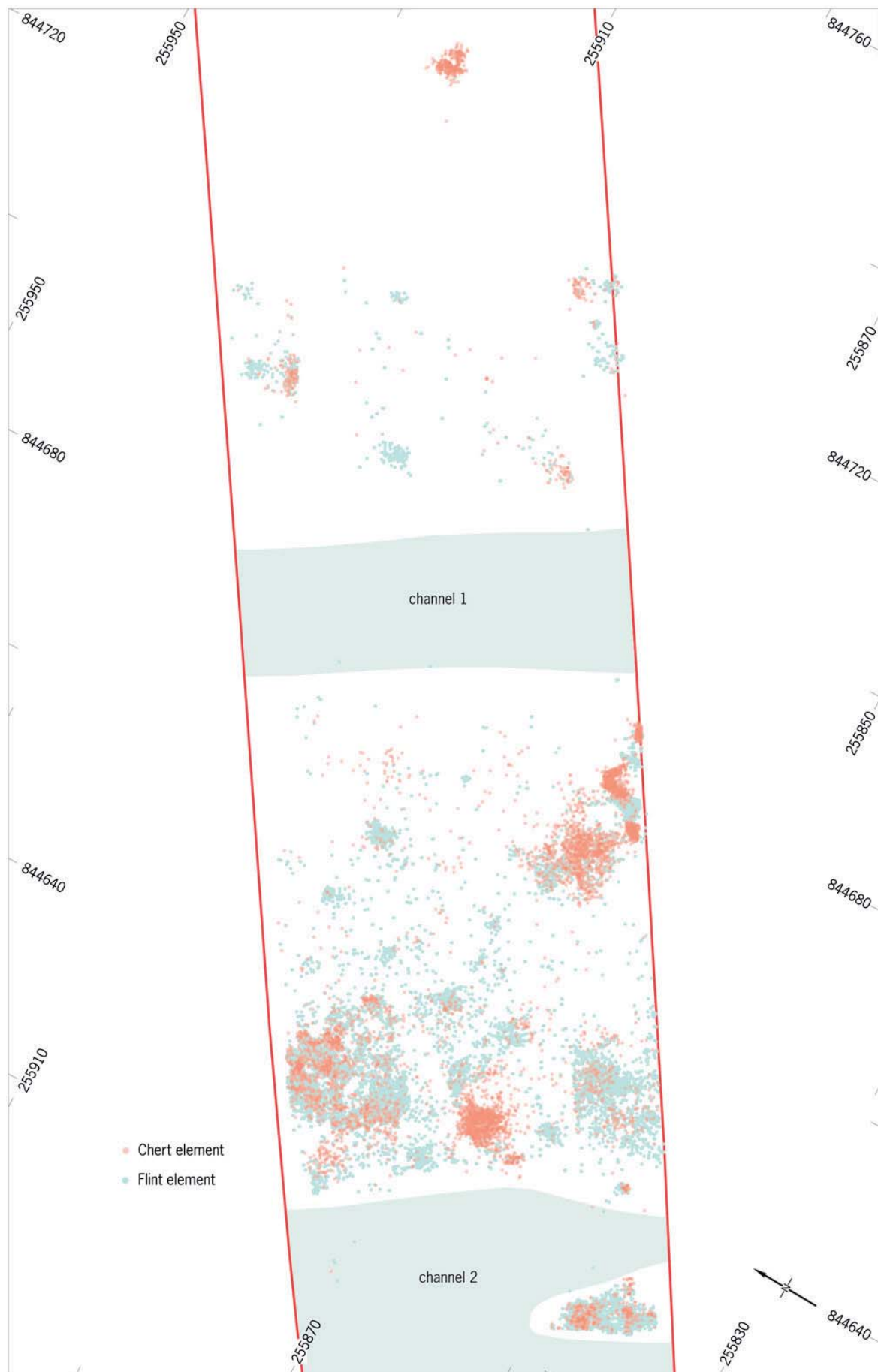
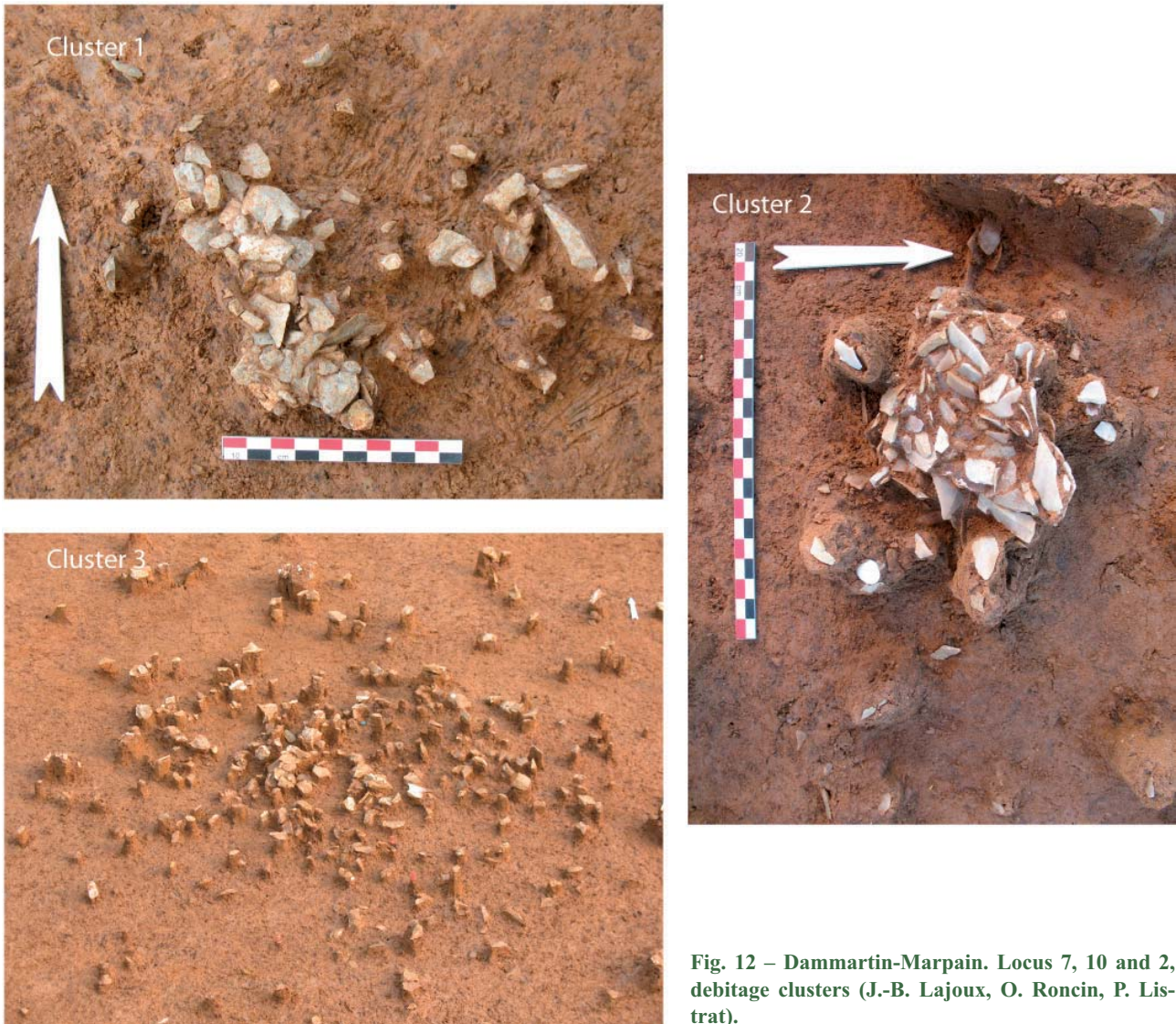


Fig. 11 – Dammartin-Marpain. Distribution of chert and flint (F. Séara).



**Fig. 12 – Dammartin-Marpain. Locus 7, 10 and 2, debitage clusters (J.-B. Lajoux, O. Roncin, P. Listrat).**



**Fig. 13 – Dammartin-Marpain. Refit composed of several bladelet cores derived from the same small slab of flint from the Tertiary Basin of the Haute-Saône (P. Haut).**

seem to be more characteristic of final Boreal assemblages (Aimé, 1993).

Microliths from locus 2 demonstrate the same diachrony (fig. 16) with several relatively tapered isosceles triangles possibly correlating with the oldest dates (Séara, 2002). The presence of several crescents and points with transversely retouched bases are reminiscent of the assemblage from locus 1. Fusiform elements, similar to Sauveterre points, provide evidence of a Sauveterrian component forming at least part of the assemblage, while micro-isosceles triangles also represent a distinctive character specific to final Boreal assemblages (Pignat and Winiger, 1998; Bintz and Pelletier, 2000).

The assemblage from locus 11 shows the same characteristics with micro-isosceles and scalene triangles associated with bilaterally retouched points (fig. 17). An invasively retouched point (fig. 17, no. 25) and a scalene triangle bearing the same type of retouch are conspicuous elements of the assemblage (Gob, 1985). Furthermore, this type of retouch is equally found, although somewhat more marginally, in the assemblage from locus 7. However, these assemblages are far from comparable with



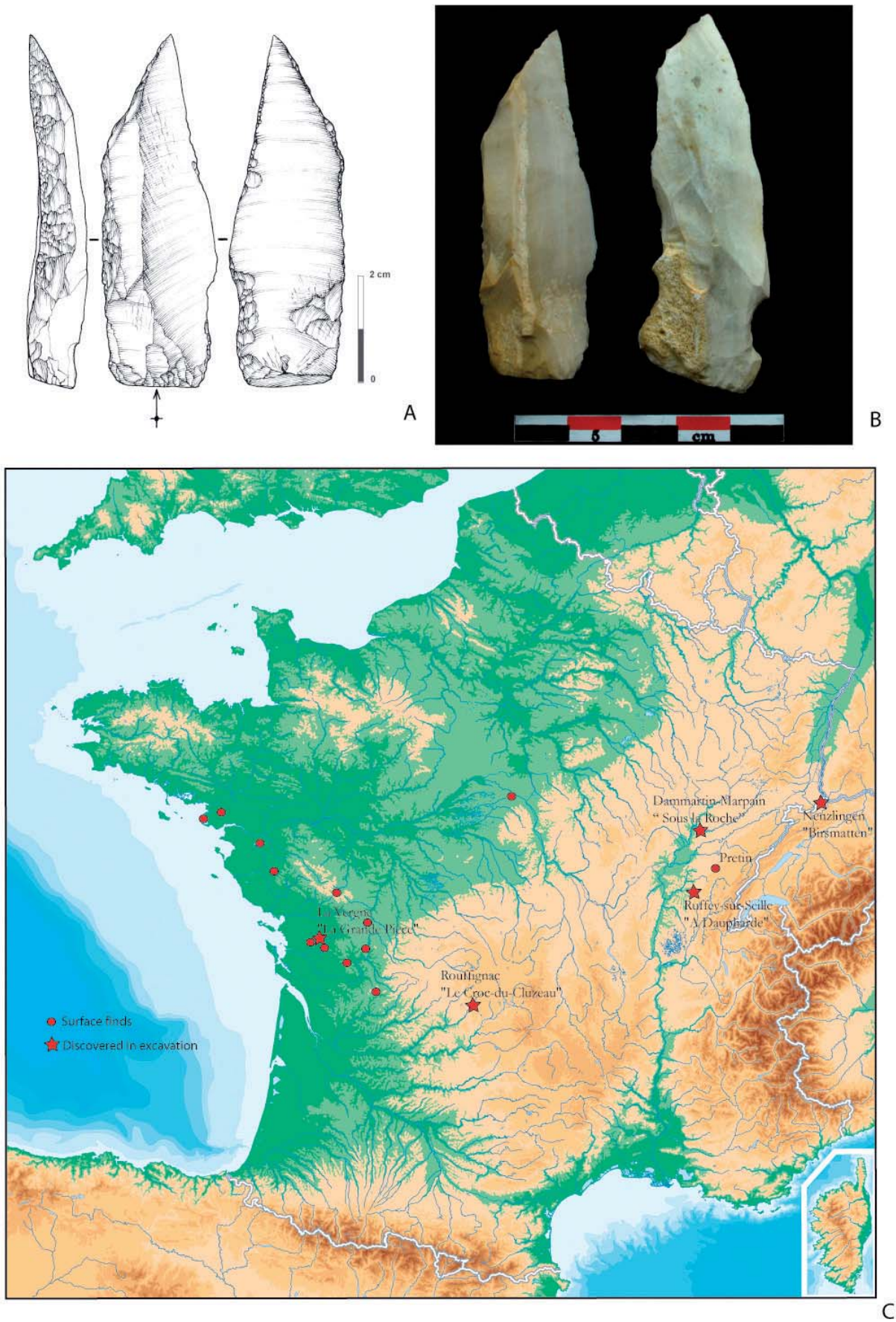


Fig. 14 – Rouffignac knives. A: Dammartin-Marpain, locus 6 (E. Boitard-Bidault); B: Dammartin-Marpain, left (photo E. Boitard-Bidault) and Ruffey-sur-Seille, right (photos P. Haut); C: Distribution of Rouffignac knives (F. Séara).

‘mistletoe point’ assemblages from Northern France dated to around 8200 BP (7400 to 7000 calBC). While the precise chronological context of locus 7 remains difficult to untangle, radiocarbon dates from locus 11 are more uniform, but still do not connect this assemblage to the ‘mistletoe point’ traditions. As a reminder, layers 6 and 7 from the site of Bavans in the Doubs, with dates  $8560 \pm 100$  (7939 to 7367 calBC),  $8190 \pm 85$  (7471 to 7050 calBC) and  $8180 \pm 80$  BP (7467 to 7042 calBC), has produced a similar assemblage but with backed bladelets (Aimé, 1993). Although this data clearly needs to be treated with caution, the coherence of the assemblage from locus 11 is undeniable and it is clear that the invasively retouched components are not intrusive.

The last Mesolithic occupation of Dammartin is represented by an industry composed of Montbani bladelets associated with the microburin technique which is practically absent from the Preboreal/Boreal Mesolithic occupations at the site. Trapezes, for the most part asymmetrical, are generally very small and associated with darts with concave bases, as well as two ‘Bavans points’. This combination demonstrates that at least part of the assemblages can be attributed to the Final Mesolithic (fig. 18; Perrin, 2002; Perrin et al., 2010). Based on available information, it is difficult to be certain about the clear association of trapezes with ‘evolved’ microliths. It is equally possible that the Late/Final Mesolithic is represented by several phases of occupation.

#### Grooved cobbles and polishers

Particular attention should be paid to the elongated cobbles, especially those with flat surfaces, given their frequency at certain Mesolithic sites. All the occupation phases from Ruffey-sur-Seille, apart from those assigned to the Late Mesolithic, produced several examples with only one from the early level bearing traces of use—striations, a worn face and traces of crushing on a corner. We have previously suggested that these objects could be connected to fracturing bladelets supported on the most acute angle formed between an edge and the flat surface of these objects. (Séara et al., 2002). Recent work by Sylvain Griselin (this volume) on prismatic sandstone tools with a flat surface delimited by edges with sharp angles also connected this type of sandstone object to the fracturing of bladelets (Griselin et al., 2009). While this type of function can be envisaged for several objects from Dammartin, it is likely that these cobbles served multiple purposes.

Sandstone is also well-represented on the site; however elements bearing traces of use are rare. Two small grooved polishers suggest a very particular type of use probably connected to the abrasive properties of this material. The first example is made from a small block of fine sandstone (fig. 19, no. 1), measuring 40 mm by 28 mm by 14 mm, and comes from locus 1. The second slightly curved example (56 mm by 50 mm by 20 mm) was made from significantly less granular sandstone and bears a much deeper groove than the previous example (fig. 19, no. 2). The flat surface presents fairly pronounced

traces of use and poses questions as to whether this flattening can be connected to the use of the object or results from a compulsory preparation prior to use.

The cobbles, sandstone blocks, as well as at least one polisher were generally found interspersed with the archaeological material. However, three other isolated elements made from different materials could be considered as a cache - a block of slightly heat-altered ferruginous sandstone on which lay an elongated cobble of an indeterminate greenstone, as well as a sandstone polisher with a curved groove (fig. 19, no. 3). This association poses questions as to the nature of this grouping (reserves or abandoned objects), as well as a possible functional complementarity between the different components.

## SPATIAL STRUCTURE

### Hearths

This type of feature, although normally well-represented on this type of site, could only be clearly identified in locus 11. The predominately clayey soil preserved thermal alterations in the form of rubified sediments (Sergent et al., 2006). This evidence, coupled with traces of charcoal and several burnt elements, indicates the existence of essentially simple flat hearths. The small number of heated stones from locus 11 attests to the almost exclusive use of this type of hearth often found on Mesolithic occupations. Only a single example takes the form of an indistinct and irregular ring of heated cobbles.

In the sandier sectors, two hearths could be distinguished based on concentrations of significant numbers of burnt hazelnut shells (fig. 20). The first (locus 8) is dated to  $8230 \pm 50$  BP (7380 to 7070 calBC) [Poz-32832] and the second (locus 9) to  $8170 \pm 50$  BP (7320 to 7060 calBC) [Poz-32833]. The distinctiveness of these hearths is linked to their marginal position on the site and the under-representation of lithic artefacts. Similar cases are known from Germany at the site of Duvensee-Wohnplatz 13 and the recently excavated site of Siebenlinden-Horizon IV (Bockelmann, 1986; Kind and Beutelspacher, 2009; Kind, this volume). The presence of large numbers of hazelnuts clearly highlights the interest of this resource for Mesolithic groups. These concentrations could simply represent areas where fire cracked fruits were consumed after having being roasted on embers at the edges of a hearth.

### Spatial analysis

Given the small size of the study area a focused spatial analysis was decided upon (Kind, 2003 and 2006; Crombé et al., 2006; Séara, 2008). Questions concerning the internal chronology of the loci aside, several very general patterns can already be noted.

Locus 2 shows the coexistence of a uniform area of material alongside a partially excavated sector composed

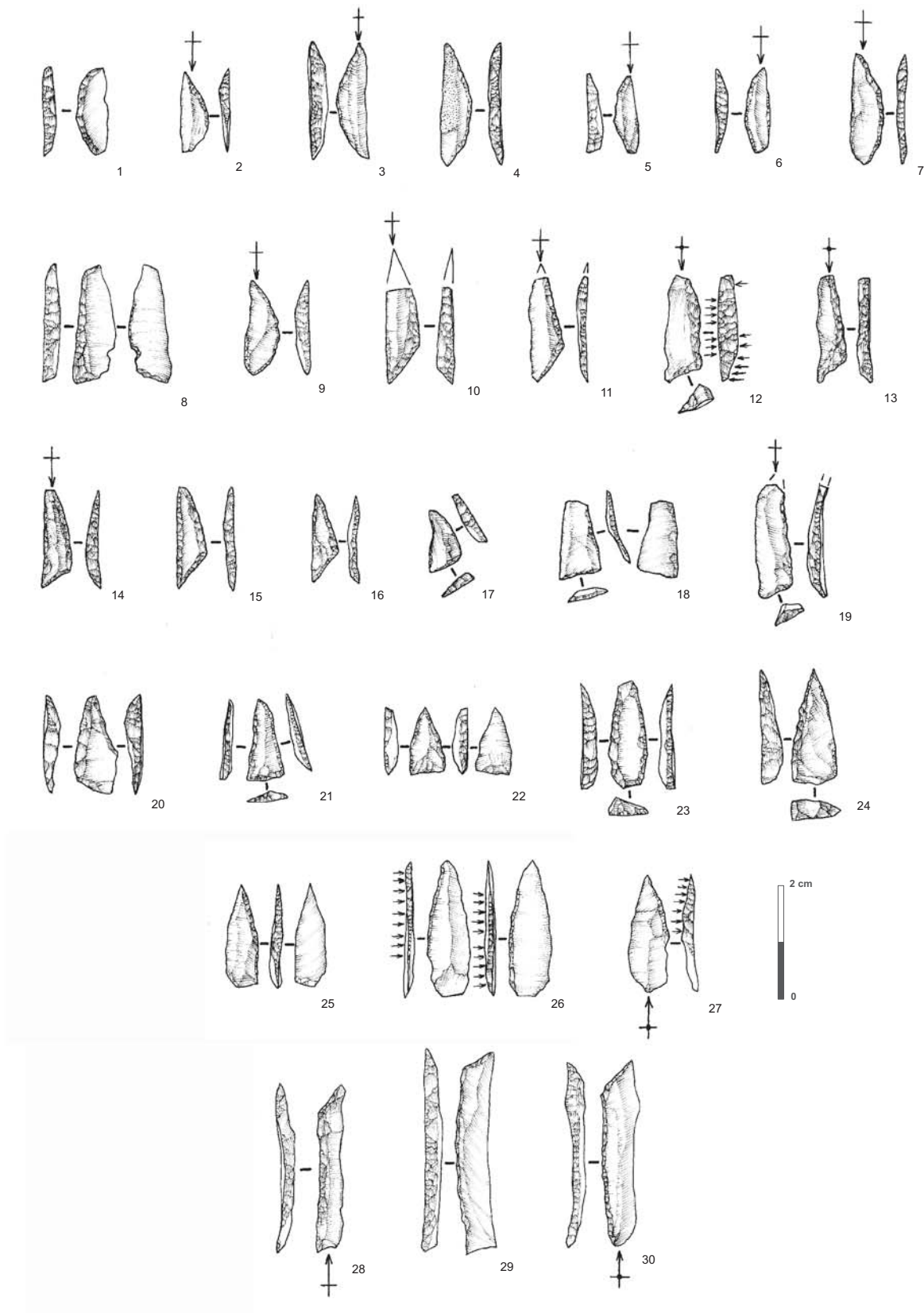


Fig. 15 – Dammartin-Marpain. Locus 1: microliths. 1-7 and 9: crescents; 8: indeterminate microlith; 10-17: scalene triangles; 18, 19, 28-30: scalene bladelets; 20-25: points with transversely retouched bases; 26-27: points with unretouched bases (E. Boitard-Bidault).

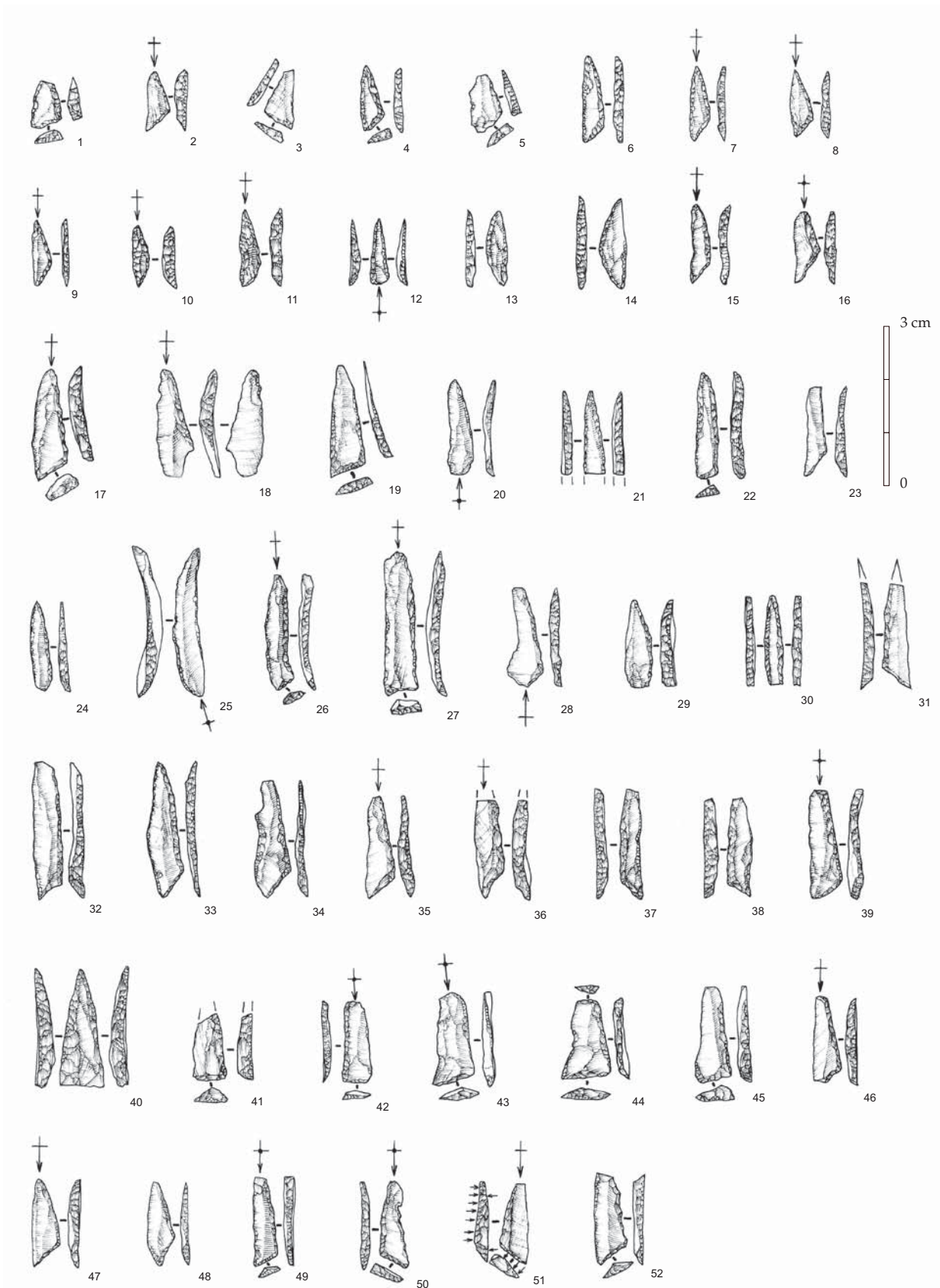
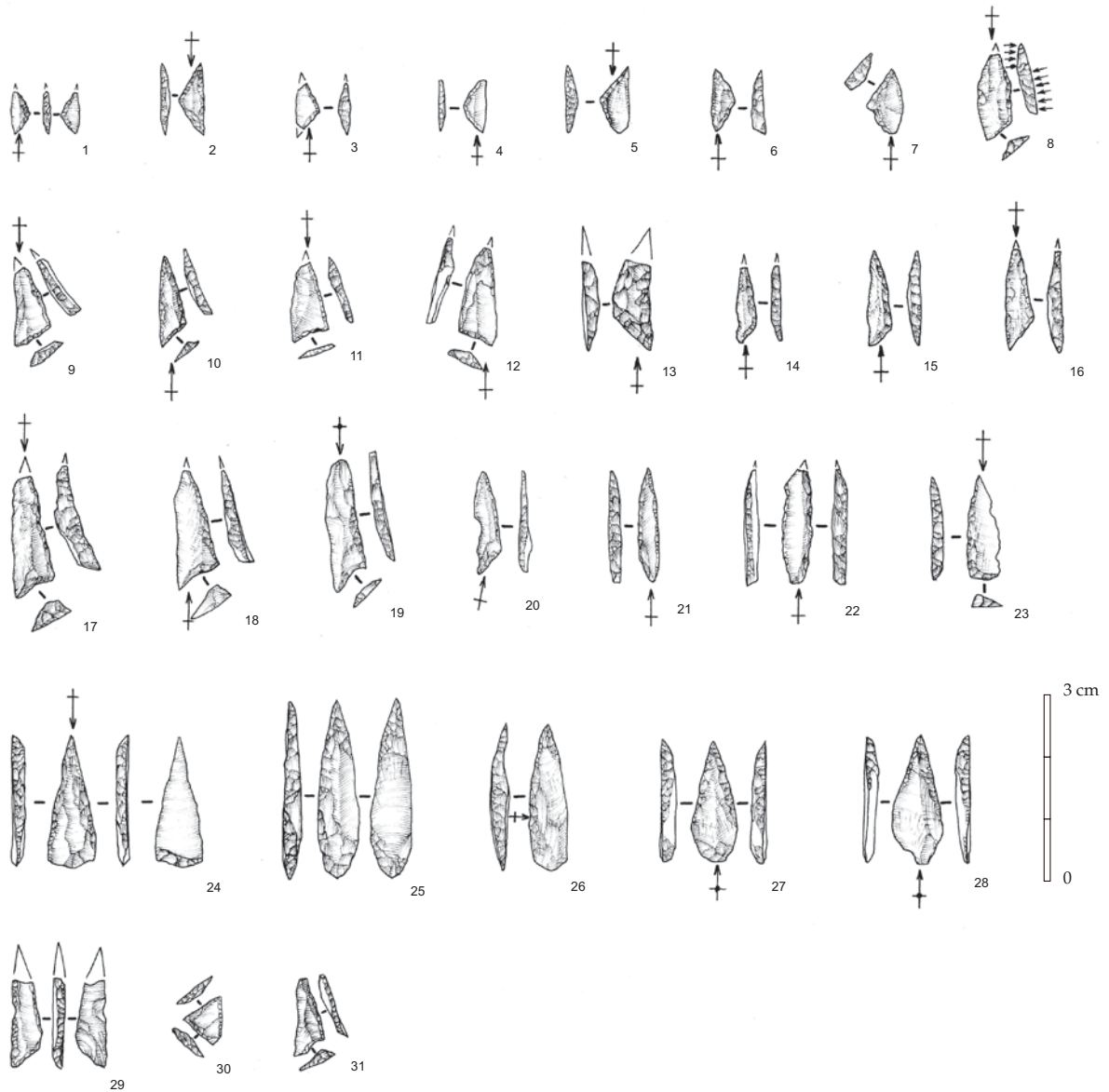


Fig. 16 – Dammartin-Marpain. Locus 7: microliths. 1: micro-scalene; 2-9, 15-17, 19, 31, 33-38, 46, 51: scalene triangles; 10, 11, 20, 21, 25: indeterminate microliths; 13-14: crescents; 18: point with an unretouched base; 22, 26, 27, 32: scalene bladelets; 23, 39, 42-46, 52: blunted scalene triangles; 24, 30: Sauveterre points; 40-41: points with transversely retouched bases (E. Boitard-Bidault).



**Fig. 17 – Dammartin-Marpain. Locus 11: microliths. 1-7, 30: micro-isosceles; 8-20, 29, 31: scalene triangles; 21: Sauveterre point; 22: Sauveterre point?; 23-24: points with transversely retouched bases; 25: point with invasively retouched and ogival base; 26: point with unilateral retouch; 27-28: points with bilateral retouch (E. Boitard-Bidault).**

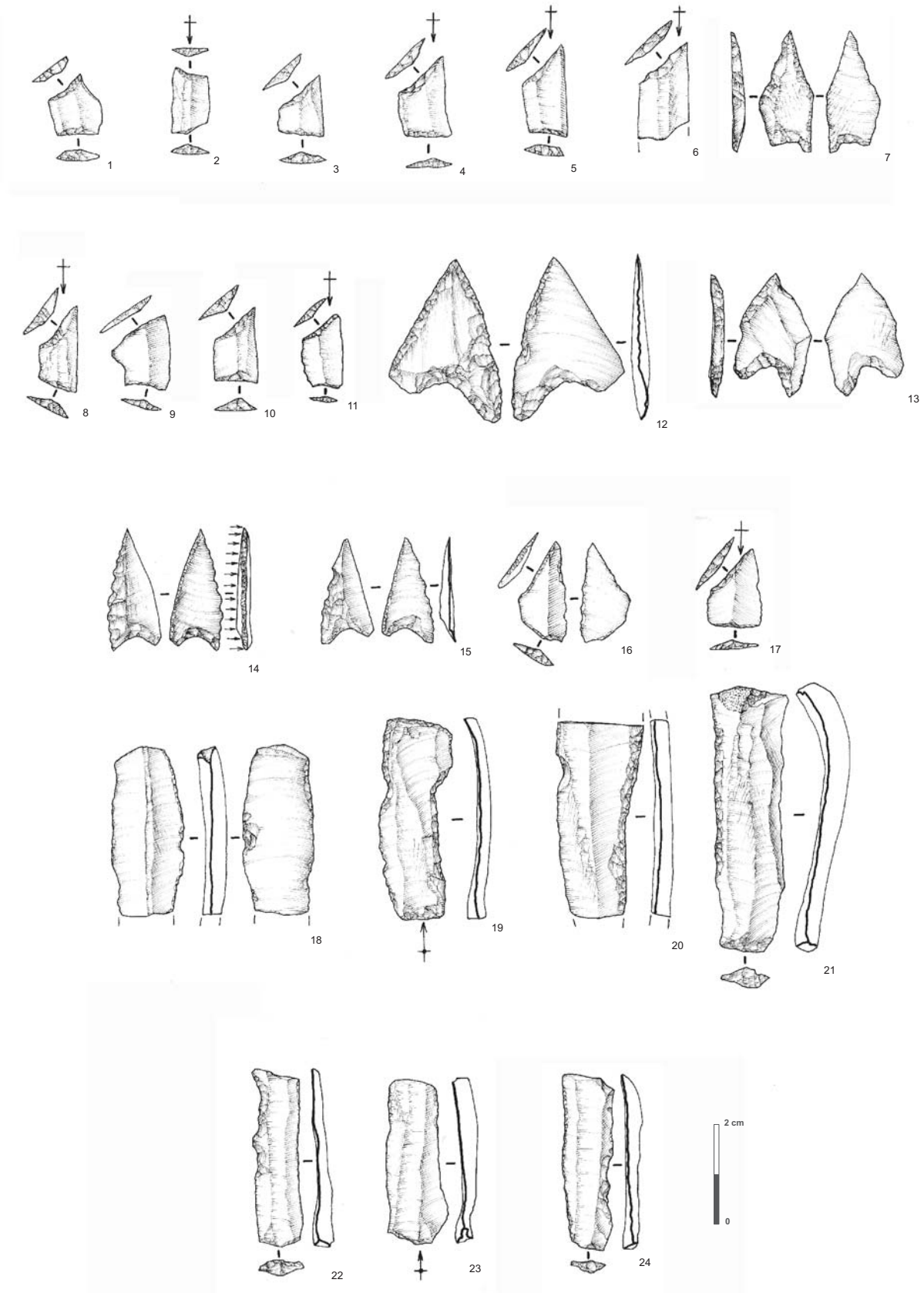
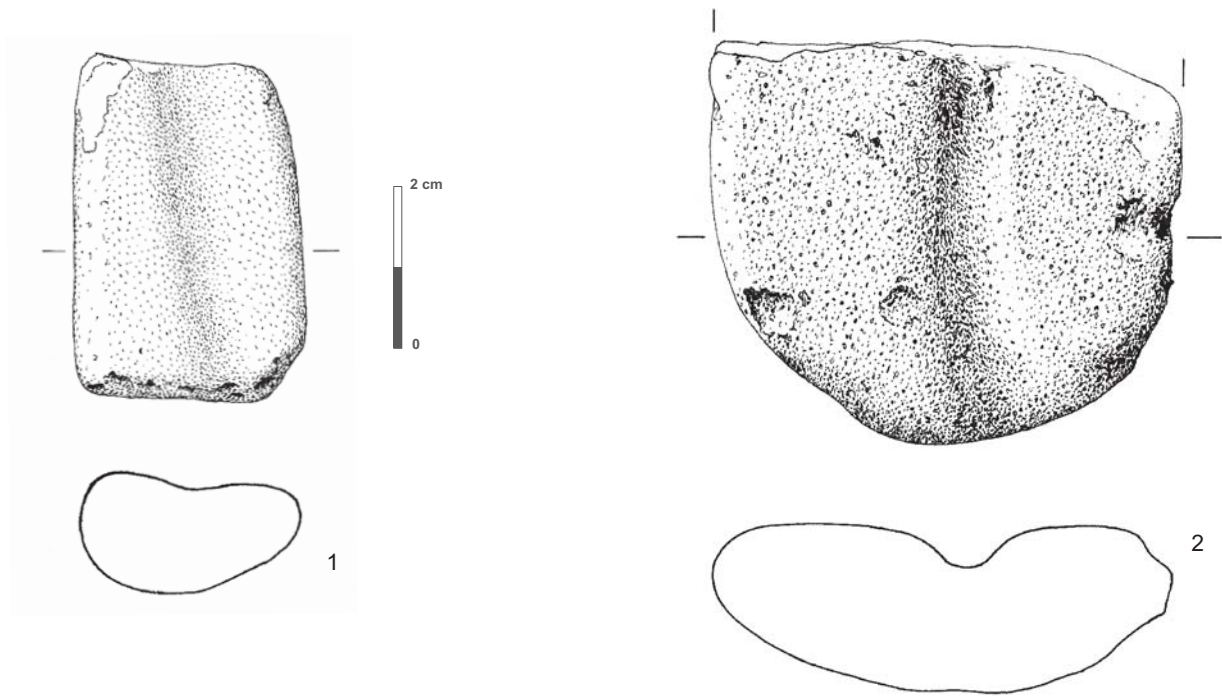


Fig. 18 – Dammartin-Marpain. Locus 1, 6, 7, 14 and removal of top soil: microliths. 1 and 2: locus 6, symmetric trapezes; 3-5 and 8: locus 6, asymmetric trapezes; 6: locus 6, fragment of a trapeze; 7: locus 6, dart with a concave base; 9: locus 7, symmetric trapezes; 10 and 11: locus 7, asymmetric trapezes; 12: locus 7, dart with a concave base; 13: removal of top soil, dart with a concave base; 14 and 15: locus 1, Bavans points; 16 and 17: locus 1, trapezes; 18-21: locus 1, Montbani bladelets; 22-24: locus 14, Montbani bladelets (E. Boitard-Bidault).



3

**Fig. 19 – Dammartin-Marpain. 1: locus 1, grooved sandstone polisher; 2: locus 8, grooved sandstone polisher associated with the above deposit (J. Gelot); 3: deposit containing a greenstone cobble, a block of sandstone and a grooved polisher (F. Séara).**

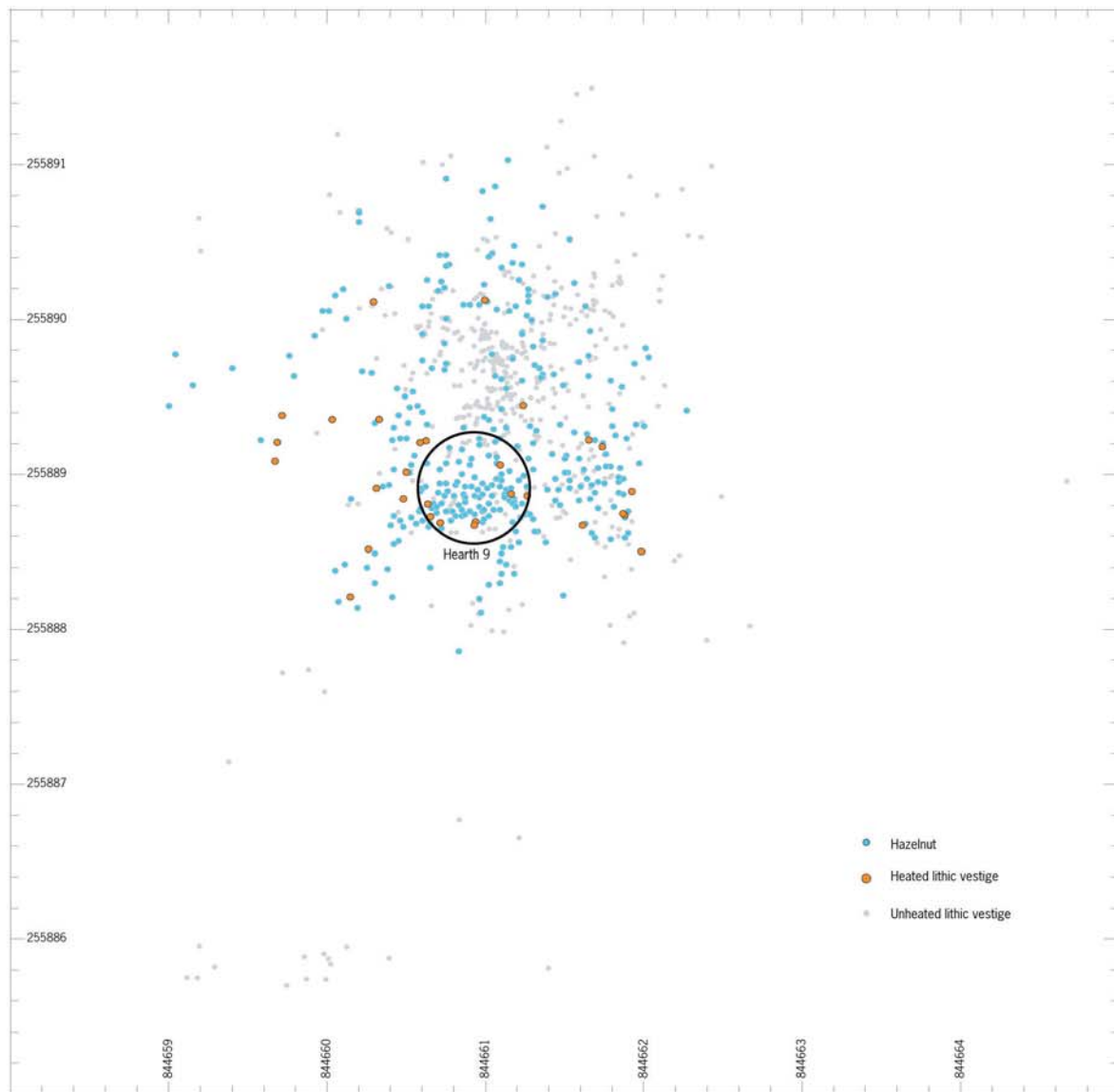


Fig. 20 – Dammartin-Marpain. Locus 8: distribution of burnt hazelnut shells outlining the location of a hearth (V. Merle, O. Roncin) and a more detailed view of a dense concentration of large remains (F. Séara).



of knapping zones possibly associated with a hearth at the immediate limits of the exposed area (fig. 21). The near total absence of preserved faunal remains renders even the zones apparently devoid of material difficult to interpret and provides only a partial picture of the original spatial organisation.

The spatial distribution of debitage products by type for the densest locus 7 does not reveal any particular patterns. In fact, bladelets and cores are uniformly spread across the entire surface. Despite important chronological differences implied by the associated radiocarbon dates, the existence of debitage clusters suggests the commixture of different industries to be relatively limited. Refitting may represent a means for not only isolating the different occupations, but also defining their composition and spatial distribution (fig. 22). It should be noted that the most substantial cluster 7.3 is very similar to the large cluster from locus 2 (numerous cores, small numbers of bladelets and significantly diffuse remains). Although the distribution of microliths in locus 7 is no more distinct, they are centred around two large zones.

To conclude this very general overview, locus 12 represents a well-defined occupation zone with a fairly

average density of material (fig. 24). Its spatial configuration was the easiest to establish and is similar in many respects to one of those documented at Ruffey-sur-Seille. This configuration corresponds to what we have previously referred to as ‘simple activity units’ (Séara, 2000, 2006 and 2008).

## CONCLUSION

The numerous results of this phase of the study open new perspectives for the site of Dammartin-Marpain. This new data provides additional information regarding a pronounced regional chronological hiatus at the second half of the Boreal, previously documented only from the site of Bavans (Aimé, 1993; Thévenin, 1990 and 1991). Despite the less reliable chronological framework for both the beginning and the end of the Mesolithic, certain cultural influences are more easily perceptible and are probably connected to the fact that the Franche-Comté region witnessed complex demographic phenomenon linked to its position as a geo-

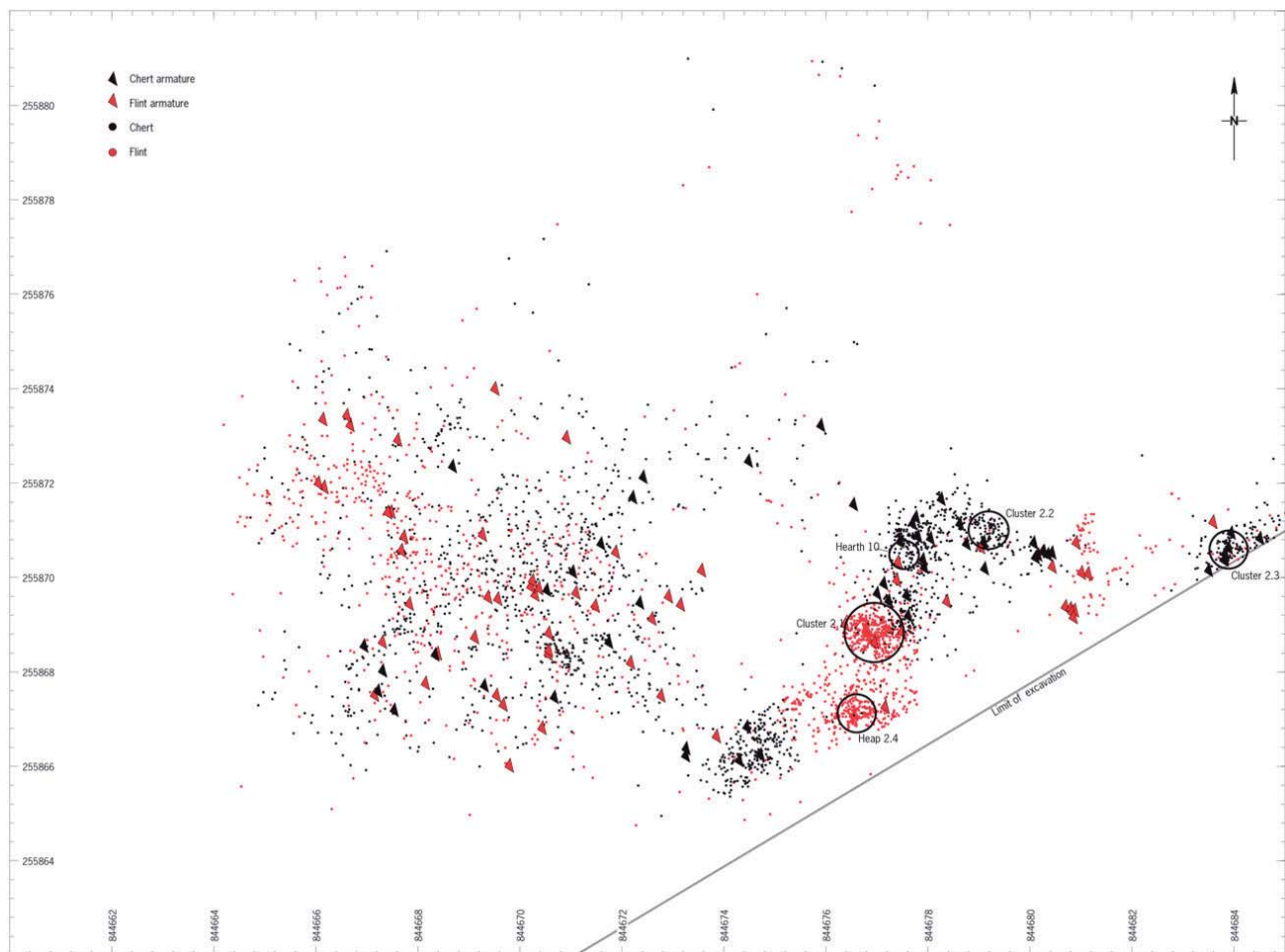


Fig. 21 – Dammartin-Marpain. Locus 2: spatial distribution of lithic remains and microliths by major raw material categories (V. Merle, O. Roncin).

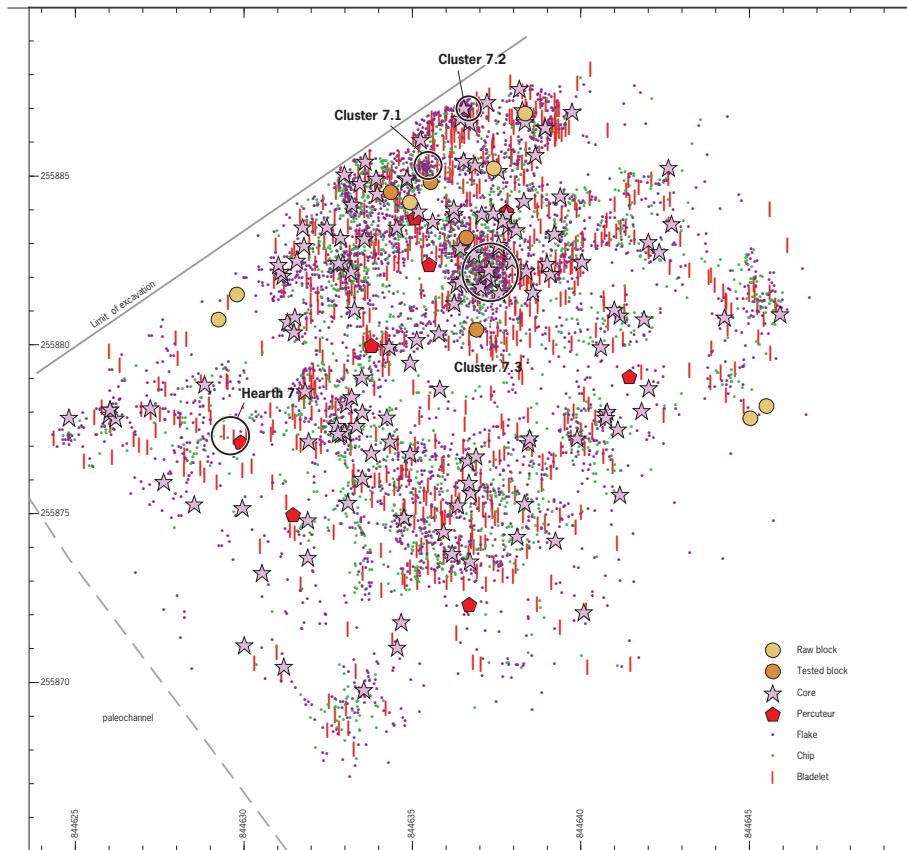


Fig. 22 – Dammartin-Marpain. Locus 7: spatial distribution of the major categories of debitage products (V. Merle, O. Roncin).

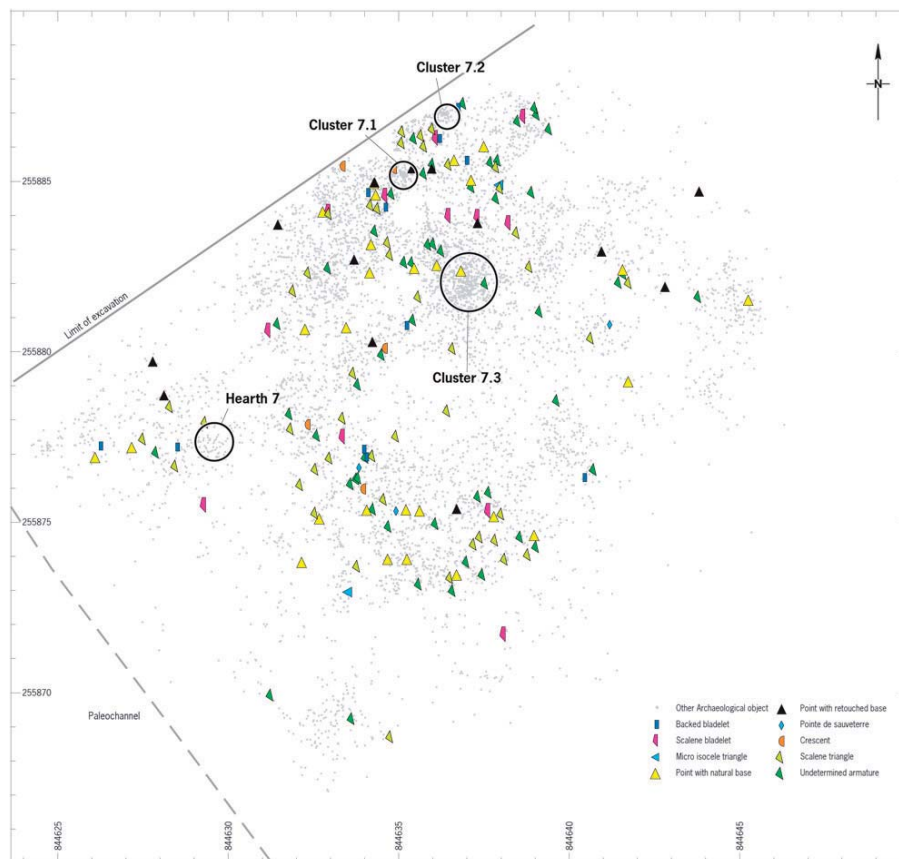


Fig. 23 – Dammartin-Marpain. Locus 7: spatial distribution of microliths by type (V. Merle, O. Roncin).

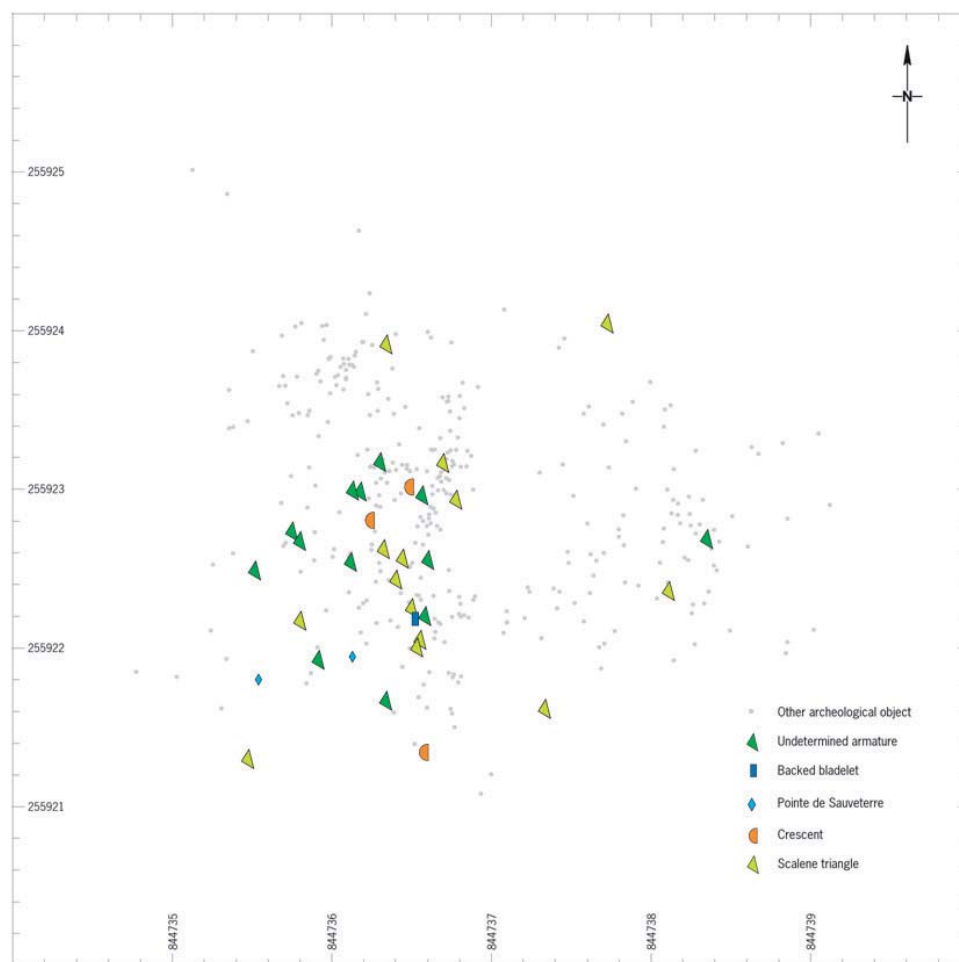


Fig. 24 – Dammartin-Marpain. Locus 12: spatial distribution of microliths by type (V. Merle, O. Roncin).

graphic cross-road (Thévenin, 1995). Until recently the Beuronian was considered as the principal regional culture, however new evidence demonstrates a much larger Sauveterrian territory than previously envisaged. It is present at Ruffey-sur-Seille (Séara et al., dir., 2002) from the end of the Preboreal and continues throughout the Boreal, however the situation becomes less clear from the middle Boreal onwards where the Sauveterrian takes on particular form. The matter is complicated by the lack of comparable assemblages in the region, but especially hindered by inadequate theoretical considerations in terms of available data. Finally, the appearance of particular elements such as micro-isosceles triangles and occasional pieces with invasive retouch should not be neglected when adding further detail to this still very general chrono-cultural framework.

The context of the site and the general configuration of the occupations at Dammartin-Marpain are similar to those frequently identified from other valley floor sites, namely large floodplain areas occupied over very long periods, but without a sustained frequentation. This character is reflected in the maintenance of the same type of territorial exploitation throughout most of the Mesolithic with valley floors ecosystems playing an important role (Ducrocq, 2001; Séara et al., 2002 and, 2008; Kind, 2003 and 2006, Fagnart et al., 2008).

Although it is still necessary to further clarify the exact role and function of these occupations, the density of material together with the weak spatial structure seems to reflect short occupations probably connected to high group mobility. The valley floor site of Ruffey-sur-Seille presents a slightly different case with the clear spatial and chronological separation of the different zones suggesting that generalised occupation patterns are only partially transferable to other sites. These different occupations were adapted to both environmental variability and the role played by valley floors in the settlement system.

The site of Dammartin-Marpain has enormous potential for addressing numerous regional and extra-regional questions. To this end, we have emphasised approaches that are still in their early phases, such as a functional analysis of stone tools which clearly has a significant role to play for the study and interpretation of this type of occupation (Crombé et al., 2001; Claud in Séara and Roncin, 2010).

The existence of occupation types specific to valley floors remains difficult to address given the lack of comparable data from other contexts. A more detailed characterisation of these floodplain sites, including the continuation of the promising studies already begun at Dammartin, is necessary before we can hope to answer this question.

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Frédéric Séara

UMR 7041 « Ethnologie préhistorique »  
INRAP Grand-Est sud,  
Centre Archéologique de Besançon,  
9 rue Lavoisier, 25000 Besançon, France  
frederic.seara@inrap.fr

Olivier Roncin

INRAP Île-de-France,  
34/36 avenue Paul Vaillant-Couturier,  
93120 La Courneuve, France

# MESOLITHIC PALETHNOGRAPHY

RESEARCH ON OPEN-AIR SITES BETWEEN LOIRE AND NECKAR

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**Boris VALENTIN, Bénédicte SOUFFI, Thierry DUCROCQ,  
Jean-Pierre FAGNART, Frédéric SÉARA, Christian VERJUX**

‘Mesolithic Pale ethnography...’: part of this volume’s title represents a sort of methodological and theoretical mission statement designed to convey the idea that research concerning the last hunter-collectors is today in desperate need of this type of insight. Since the beginning of the 1990s, a spectacular crop of occasionally vast open-air sites has emerged, one of the notable contributions of preventive archaeology. Several long-term excavations have also added to this exponentially increasing body of information that has now come to include a growing number of well-preserved sites that have allowed us to address pale ethnographic questions. This volume represents a first step towards revitalising Mesolithic research. Here we have focused on occupations from the 8th millennium cal BC, currently the best documented periods, and limited the scope to Northern France and certain neighbouring regions. The first part contains several preludes to monographs highlighting potential future studies as well as various patterns in the structuring of space and the location of camps. These, as well as other complementary discoveries, provide material for the second part of the volume dedicated to new data concerning the functional dynamics of Mesolithic camps.



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