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HUNTING CAMPS IN PREHISTORY

Current Archaeological Approaches



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Article outline

**SMALL SPECIALIZED HUNTING SITES AND
THEIR ROLE IN EPIGRAVETTIAN
SUBSISTENCE STRATEGIES**

A Case Study in Northern Italy

**Marco PERESANI, Rossella DUCHES, Riccardo MIOLO
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1 - Introduction	253
2 - Grotta del Clusantin: presentation	255
3 - Discussion and considerations	263
Acknowledgments	264
Bibliographic references	265

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SMALL SPECIALIZED HUNTING SITES AND THEIR ROLE IN EPIGRAVETTIAN SUBSISTENCE STRATEGIES

A Case Study in Northern Italy

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Abstract

This case study focuses on the debate concerning “hunting camps” (“halte de chasse”). Zooarchaeological, lithic and functional data lead us to interpret the Epigravettian site of Grotta del Clusantin as being linked with activities oriented toward the hunting of rodent colonies living near the site, along with a small number of ungulates. In the context of an advanced occupation of the highlands, this site appears to have been a specialized, perhaps intermittently occupied camp, oriented toward immediate consumption rather than being a part of a structured economic system involving a spatio-temporal division in the exploitation of marmot carcasses. In terms of ecological evolution, the Pradis Plateau can be thus viewed as one of the first hunting basins occupied during the middle Late Glacial interstadial and even shortly after, before the Epigravettian dispersion to other pre-alpine plateaus above 1000 m in altitude. The recent discovery of this marmot hunting camp contributes to our knowledge of hunter-gatherer behavior from the Late Glacial period until the beginning of the Holocene.

Keywords

Tardiglacial, human occupation, marmot, Italy, Alps.

1- Introduction

In light of the still imprecise definition of “hunting camps” (“haltes de chasse”), we believe that the first requirement for the identification of the predation activities of Paleolithic nomadic groups is to reconstruct the succession of events that took place (Gowlett, 1997). This implies the resolution of palimpsests (Baily, 2007), adapted in function of the research objectives, as well as the exploitation of evidence that is limited in its physical and temporal dimensions. In particular, this latter category can provide elements for an evaluation of the pertinence of a “predatory behavior” (considered here as a term based on the foundations of Paleolithic subsistence), associated with models of society, mobility, economic organization and technical innovation. The possibilities for interaction are so broad that with the progress of research they have rendered the taxonomic limits of this specific occupation type extremely flexible. They cover a great diversity of activities directly or indirectly linked to the acquisition of a particular food resource. Our aim

is to limit the taxonomic definition to an environment strictly related to hunting activities based on a specific case study in the eastern Italian Alps. In addition to emphasizing the importance of small specialized hunting sites to explain a complex and varied system such as that of the Epigravettian, this case study offers new possibilities for reconstructing subsistence organization in this region and its evolution during the Tardiglacial period.

Current knowledge of Italian Epigravettian settlement dynamics is based on data acquired through research in The Triveneto region at sites located between the subalpine limit and the middle of the main fluvial basins. The main contribution of the pre-alpine regions is thus supported by the presence of key sites located between the plain and the high karstic plateau, up to 1500 m altitude. From the retreat of the alpine glaciers to the beginning of the Holocene, the range of information that characterizes these occupations provides data on mobility, settlement organization and economic activities, as well as more spiritual aspects (Bertola *et al.*, 2007).

Zooarchaeological data play a key role in the reconstruction of settlement dynamics. The objective of recent studies conducted from a more general perspective were to validate or invalidate the existence of an evolution of human predation strategies and mobility patterns along the Italian peninsula (Phoca-Cosmetatou, 2009). The following elements were taken into account: the spectrum of the dominant hunted species (Single Prey Species Dominance – SPSD) and the broadening of hunting spectra toward small-sized species and their caloric value (Broad Spectrum Exploitation – BSE). While new analyses mostly revealed sites with a highly unbalanced SPSD during the Tardiglacial, they also revealed that the changes in the SPSD were not related to specific choices in predation, which were always oriented towards ungulates (red deer and ibex). We nonetheless observed a few particularities linked to the mountain ecosystem (Riparo Dalmeri, Dalmeri *et al.*, 2006; Fiore *et al.*, 2008) where the animal biomass and diversity appear to be reduced relative to that in the plain zones. Data on the broadening of the predation spectrum can also provide new information on the annual economic and dietary cycle of Epigravettian hunter-gatherers and its organization. These considerations are integrated into a general scenario of the dietary behavioral changes that occurred during the period in question (see Phoca-Cosmetatou, 2009, for a brief synthesis). Along the peninsula, there are indications of an exploitation of small animals at the sites of *Grotta della Madonna* and *Grotta Romanelli*, as well as in a few cavities around the *Fucino* plain – if we accept the correlation between an increase in ichtyofauna remains and the anthropogenic activity noted by Mussi (Mussi *et al.*, 2008) – but they remain too few to support the hypothesis of a diversification of resources and to reconstruct the annual dietary economy. It remains difficult to understand the organization of this cyclical system in relation to the mobility of groups. Other obstacles persist as well concerning hunting periods at high altitudes, which probably involved the movement of the entire human group, rather than a small part of it, as was assumed to be the case for the Venetian Pre-alps.

The evolution of Epigravettian mobility remains one of the key elements for the reconstruction of the settlement processes of the Italian eastern Alps. The first occupations, dated to approximately 16.5 ka BP at the foot of the Pre-alps, attest to a significant presence. They precede other more rare traces beyond the subalpine level during an advanced phase of the Tardiglacial interstadial, when the vast territories below 1500 m altitude were progressively covered with forests (Ravazzi *et al.*, 2007). In the second part of the interstadial, we observe a full development of occupation networks through the peripheral installations around the mountain ecotone, at the limit between the coniferous woods and the alpine prairies. This organization corresponds to a seasonal mobility strategy that sometimes included sites that are functionally complementary to each other. The lithic production, the working of raw materials and the spatio-temporal fractioning of activities (Lemorini *et al.*, 2005; Ziggiotti 2008), as well as the specialized hunting of ibex (Fiore and Tagliacozzo, 2005), play a key role in the recognition of sites with a high functional specialization.

These data are insufficient, however, to understand the influence of the predation of small animals in the subsistence strategy and methods used to capture them. Recent studies of the *Grotta del Clusantin*, a small cavity in the Carnic Pre-alps, provide new directions for addressing this topic. The goal of this research was to obtain new zooarchaeological, techno-functional and economic data related to Epigravettian mobility.

2 - Grotta del Clusantin: presentation

The mountainous zone to the north of the Venetian region has a lower Epigravettian population level relative to the western portion. With the exception of the high plateau of *Piancavallo* and *Pradis* and the *Natisone* valley (figure 1), the reasons for this low population cannot be attributed solely to the scarcity of flint in the territory between the alpine border and the watershed, but also to the paucity of research conducted in this region. With the goal of developing new research programs, two test trenches were first made at the *Grotta del Clusantin* in 2001 and 2002, followed by an extensive excavation in 2005, with a complete exploration of the occupation zone (Peresani *et al.*, 2008).

The cavity, which opens to the east in a large sinkhole at 520 m altitude, is approximately 9 m wide and slightly more than 2 m high. It collapsed several times at its entrance and inside, where it is almost entirely obstructed by fill deposits (figure 2). The surface of the deposit has a horizontal topography in the southern sector and a hump in the entrance zone, which is delimited by a talus outside the limit of the ceiling. The Epigravettian level (stratigraphic unit 4 and correlated units) covers a surface of more than 15 m² and is around 10 cm thick. It inclines with a slight slope from the interior, then diminishes until it disappears, in concordance with the ceiling limit, toward the exterior. The level laterally touches a protruding block in square O8. The stratigraphic sequence

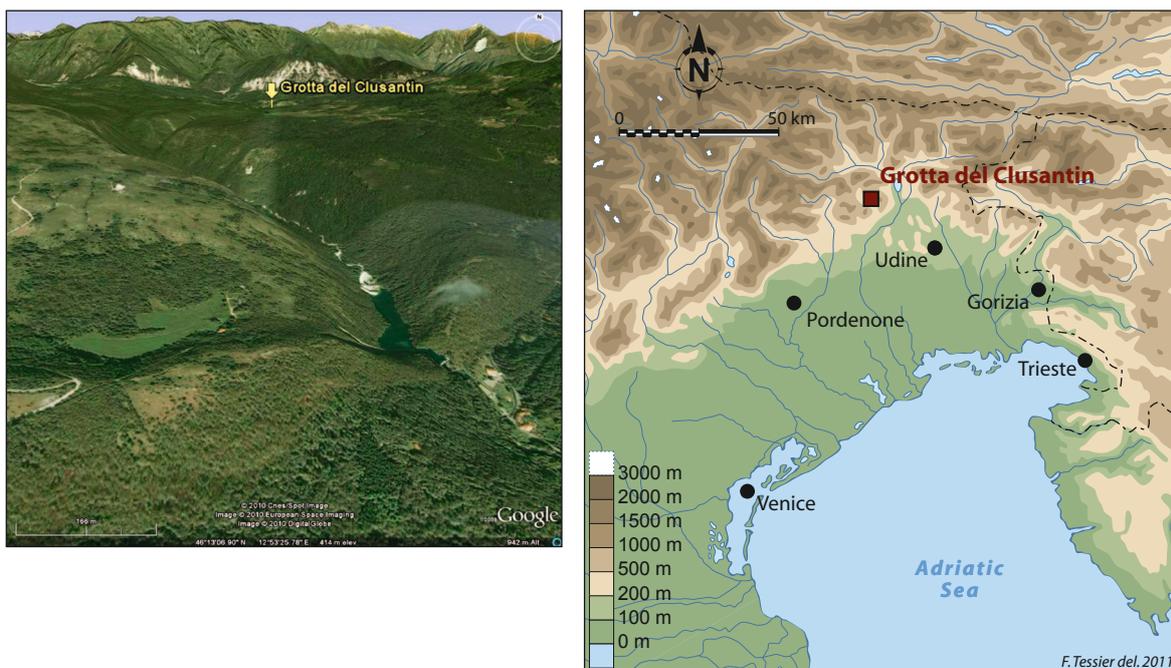


Figure 1 - View from the south toward the Pradis plateau with the position of the Grotta del Clusantin (Carnic prealps, Clusantio Village, Pordenone province) and its collocation in northeast Italy and in the Friuli-Venezia Giulia region.



Figure 2 - Grotta del Clusantin: view from the southeast toward stratigraphic unit 4 (photograph: M. Peresani).

yielded charcoal, bones (often burned fragments) and lithic artifacts. Stratigraphic units 13 and 12 correspond respectively to a combustion feature lying directly on the substratum and an accumulation of combustion residues, as well as other remains of activities that compose the fill of a natural depression. Three dates obtained from charcoal fragments place the human occupation in the middle of the Tardiglacial interstadial (Peresani *et al.*, 2008).

The existence of an anthropogenic activity zone limited to the entrance of the cavity, which was fully in the excavation zone, was dictated by the morphology of the internal part of the cavity, the intensive fissuring of the ceiling and walls and the limited extension of usable space. This hypothesis is supported by the spatial distribution of artifacts and ecofacts, most of which were found around the block and on its periphery. No den or other feature created by a burrowing animal was found.

Currently, the information relevant to the reconstruction of the paleoecological context of the Epigravettian occupation is based on analyses of associations of micro- and macro-mammals and charcoals. The paleoecological study of the associations of micro-mammals reveals an open forest environment characterized by an ecotonal zone between the woods and the continental and alpine prairie, sometimes steep, and by the presence of aquatic zones (Peresani *et al.*, 2008).

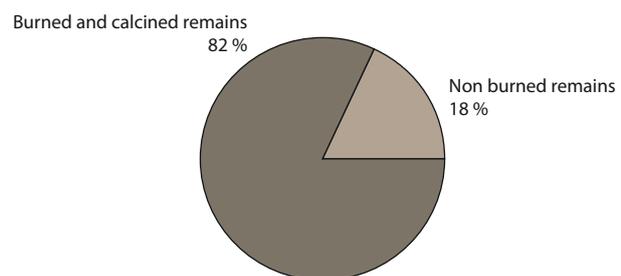
The macro-mammal remains show a clear dominance of *Marmota marmota* over the other taxa identified, which include ungulates (*Capra ibex*, *Rupicapra rupicapra*, *Cervus elaphus*, *Sus scrofa*, *Alces alces*) and carnivores (*Mustela erminea* and *Canis lupus*) (table 1). It confirms the existence of alpine or subalpine prairies beyond the altimetric level of the tree and bush line, probably on the slopes that delimited the high plateau. Many marmot and ungulate remains display cutmarks that are often associated with traces of combustion or calcinations. Pock marks interpreted as resulting from mastication were observed on the distal diaphysis zone of a burned radius and on the distal diaphysis of a fibula (Romandini *et al.*, in press). Concerning marmots, we observe disarticulation and defleshing striations on one left mandible, on the diaphysis zone of a clavicle, on two proximal radius epiphyses (one of which is calcined) and on the proximal extremity of a femur (also calcined)

(figure 3). In association with the high percentage of marmot and the presence of combustion traces revealed in some cases, these elements suggest a specific utilization of this sciurid, which could have been hunted for its meat, fur and high fat content.

Calculated based on the lower left incisors, the minimum number of adult *Marmota marmota* individuals is 13, while on the basis of the deciduous teeth, the minimum number of individuals between 0 and 1 is 7. Among the available data, the number and type of anatomical elements of marmots is significant: the vertebral column is totally absent, while the ribs, scapulae and clavicles are represented by only a few fragmentary elements. The cheek teeth and incisors, on the other hand, are among the most numerous, followed by phalanges and metapodials. Despite their preservation potential, the second and third phalanges (which are sometimes burned) are represented by less than ten elements. This deficit can likely be explained to their remaining embedded in the fur of the animal when it was skinned. The spatial distribution of the marmot remains and the dispersion of pieces with anthropogenic traces on the surface (figure 4) shows a concentration in the sector located approximately one meter to the inside of the current limit of the cave roof, around the block and in other locations. We do not have sufficient data to determine the season of occupation of the site. Nonetheless, if we consider that the young marmots were hunted by humans, they were probably captured between late April and early October, after they came out from hibernation, even if the most economically productive period for the hunting/capture and exploitation of marmots is autumn.

GROTTA DEL CLUSANTIN		
	TOTAL	
Taxa	NR	%
<i>Lepus</i> sp.	1	0,2
<i>Marmota marmota</i>	470	90,6
<i>Canis lupus</i>	1	0,2
<i>Mustela</i> sp. cfr. <i>erminea</i>	1	0,2
<i>Mustelidae</i>	1	0,2
<i>Carnivora</i>	1	0,2
<i>Sus scrofa</i>	2	0,4
<i>Alces alces</i>	2	0,4
<i>Cervus elaphus</i>	3	0,6
<i>Cervidae</i>	3	0,6
<i>Capra ibex</i>	5	1,0
<i>Rupicapra rupicapra</i>	2	0,4
<i>Caprinae</i>	1	0,2
<i>Ungulata</i>	26	5,0
TOTAL determined	519	100,0
Large mammals	8	
Medium mammals	159	
Small mammals	452	
TOTAL undetermined*	619	
Determined + Classed by size	1138	4,2
Mammals undetermined	26020	95,8
TOTAL mammals	27158	100,0
<i>Aves</i>	2	
TOTAL remains	27160	

Tableau 1 - Synthetic table of the faunal remains of unit 4 and the correlated units. Graphic and count of remains affected by fire (*remains undetermined, but classes by size).



Remains modified by fire	TOTAL	
	NR	%
Total remains	27160	
Non burned remains	4903	18,05
Burned and calcined remains	22257	81,95
Burned remains	16083	59,22
Calcined remains	6174	22,73

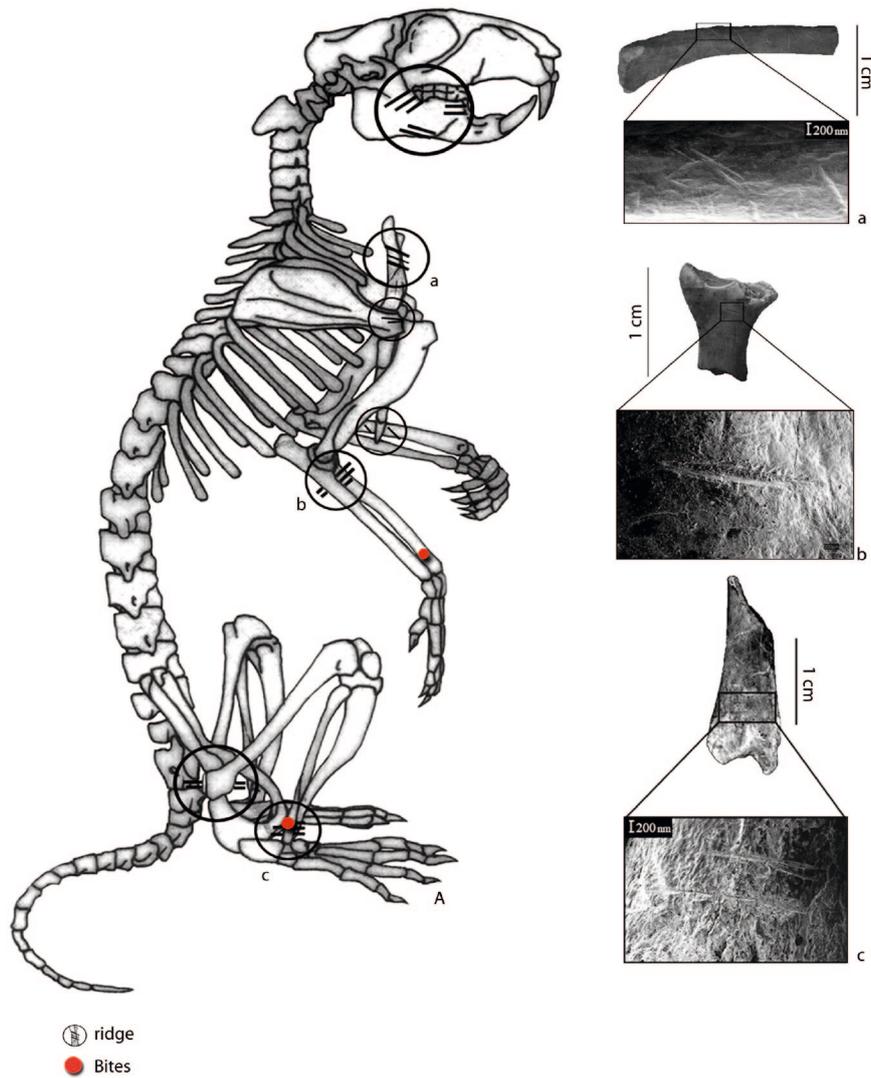


Figure 3 - Marmot skeleton with the position of the striations and depressions of bite marks; SEM photos of a clavicle (a), radius (b) and a tibia (c) with details of the butchery marks (CAD: M. Romandini).

The faunal remains are associated with a lithic industry that is composed of 1856 artifacts, in addition to a few thousand fragments less than 4 cm long. The 1856 artifacts are subdivided into 1359 debitage by-products, 397 pieces corresponding to retouched tools and weapon elements, 12 cores and 85 by-products of the fabrication of weapon elements. We identified several flint types originating from the geological formations outcropping on the high Vento-Friulan plain, in the *Treviso* Pre-alps, in the *Valbelluna*, in the middle basin of the *Piave*, until the high basin of *Tagliamento* and its morainic amphitheater, as well as in the western Julian Pre-alps. The main directional axes of provisioning are: to the southwest, in the *Alpago-Cansiglio* (along the outcrops and detritic scarp of the Rosso di Col Indes and Scaglia Grigia formations) and in the *Piave* basin (Maiolica, Scaglia Rossa, Scaglia Variegata: angular blocks originating from residual sheets and slope deposits, rolled and rounded blocks and pebbles resulting from fluvial transport; to the northeast, along the entire *Tagliamento* basin Scaglia Rossa, Soverzene, Encrinite: angular and rounded blocks) until the beginning of the Julian Pre-alps (Flysh del Grivò, slightly rolled pebbles); to the south, in the high Friulan plain; to the north, beyond the *Tagliamento* (Livinallongo) and; to the west, on the *Lessini* mountains (oolitic flint).



Figure 4 - Total distribution of the burned and calcined marmot remains (A). Distribution of marmot remains and location of the elements with butchery marks and bite marks (B) (CAD: M. Romandini; large squares: 1 m, small squares: 0.25 m).

The lithic productions were mainly lamellar, with a few laminar elements. This is shown by the cores, which have lamellar or even microlamellar removal scars, the few unretouched lamellar blanks, and especially, the large number of weapon elements. The laminar production thus appears to have played a secondary role; it is represented by only a few unretouched blanks and rejuvenation flakes. The absence of blade cores can be explained by a successive reduction of them into bladelet cores or by their later use outside of the cave. There are also ten cores on flakes (flake-cores), which is a high number relative to the total in this typological category, and several

bladelets originating from the initialization of the flake-cores used as mobile resources of raw material. The morpho-technical categories show all phases of the *chaîne opératoire*, even if they are limited to only a few of the lithological types identified (table 2). The discard of cores occurred in the final phase of exploitation, as is shown by their low number and small dimensions.

Tableau 2 - Total count of lithic remains in unit 4 and correlated units.

GROTTA DEL CLUSANTIN		
Morpho-technical categories	NR	%
CMT1 - initial shaping out	328	17,7
CMT2 - bladelet debitage initialization on flake-cores	83	4,5
CMT3 - full debitage blade-bladelet blanks	639	34,5
CMT4 - management products	186	10,0
CMT5 - non differentiated products/residues/debris	188	10,1
CMT6 - diverse	41	2,2
CMT7 - cores	12	0,7
CMT8 - undetermined fragments	376	20,3
Total	1 853	100,0

Weapon elements are much more numerous than the other tool types (table 3). The latter are dominated by scrapers, mostly frontal and short. Bipolar flakes are well represented. Some were detached from previous flake-cores and they are more numerous than burins, backed knives and the rare becs and flakes with abrupt retouch. The weapon elements include backed points, characterized by their high typological and dimensional variability, backed bladelets and truncated backed bladelets. There are few geometric microliths (figure 5). The microburin technique is attested by 17 ordinary pieces. The large number of back fragments, incomplete weapon elements, Krukowski microburins and a very large quantity of waste products indicate intensive weapon fabrication and rejuvenation activities.

The functional analysis of these artifacts consisted of optical microscopic observations at low and high magnifications of all the retouched pieces and debitage products (265 pieces), except for those that were excessively fragmented, altered, burned or which had no functional potential (debris or blanks with hinged edges). The function of the weapon elements, which dominate the assemblage, is one of the main aspects of this study. The results of functional analyses of the currently known Epigravettian sites (*Riparo Dalmeri*: Lemorini *et al.*, 2005; *Riparo Cogola*: Ziggiotti *et al.*, 2008; *Val Lastari*: Ziggiotti, 2008; *Piancavallo*: Ziggiotti, 2006) all concur with an interpretation of the armatures as projectile weapon elements due to the presence of morphologies created by impact. In the case of *Grotta del Clusantin*, despite a high fragmentation rate, we observe a low percentage of traces diagnostic of impact forces (11%); these traces consist of bending fractures, sometimes accompanied by lateral crushing of the edge or cracks compatible with use as projectile weapon elements (O'Farrell, 2005), or sometimes, in the case of points, burin spall type removals oriented perpendicularly to the longitudinal axis of the point (figure 6A). The use of armatures to cut slightly resistant materials is very sporadic; these traces are observed on two back fragments and on one bladelet truncation.

The low percentage of impact fractures is associated with a low number of fractures in general: the impacts probably required lower degree of energy than at the other sites studied (*Riparo Cogola* and *Riparo Dalmeri*, for example). This information can perhaps be linked to the hunting of small sized animals. The few geometric pieces (triangles and segments) also appear to be related to predation activities, given the presence on a few of them of chips typical of impacts and cracks and fractures in significant positions (Philibert, 2002).

GROTTA DEL CLUSANTIN		
	NR	%
Unworked debitage products (size > 4cm)	1 359	73,3
Retouched debitage products	397	21,4
Weapon elements	319	17,2
Backed bladelets	33	
Backed points	73	
Truncated backed bladelets	23	
Truncated bladelets	3	
Undetermined back fragment	158	
Undet. weapon element fragment	22	
Geometric microliths	7	
Tools	78	4,2
Burins	6	
End scrapers	38	
Becs	4	
Backed knives	5	
Points	1	
Flakes with abrupt retouch	2	
Bipolar flakes	13	
Undetermined fragments	9	
Weapon element fabrication residues	85	4,6
Cores	12	0,7
Total	1 853	100,0

Tableau 3 - Frequencies of the main morpho-technical categories identified among the unworked and retouched debitage products of the lithic industry of unit 4 and correlated units.

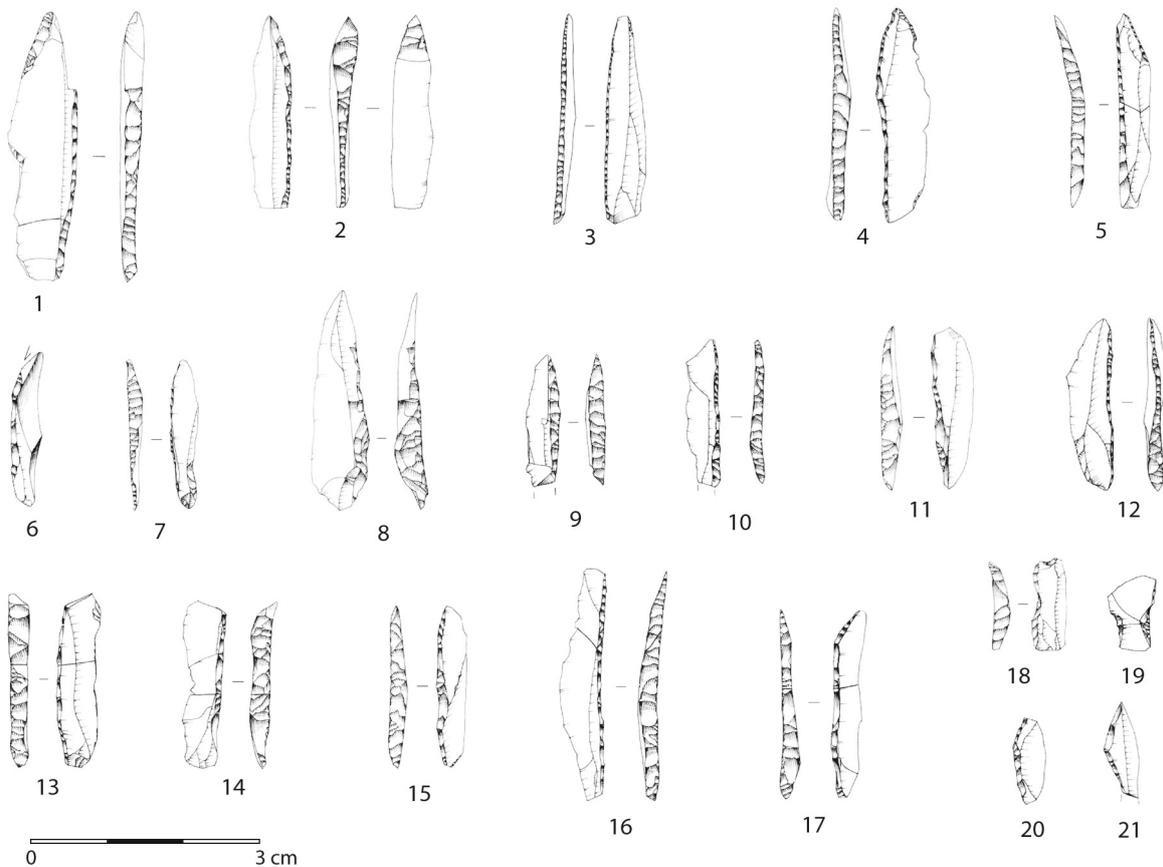


Figure 5 - Weapon elements: backed points (1-8); fragmented backed bladelets/points (9-10); backed bladelets (11-16); truncated backed bladelets (17-18); trapeze (19); geometric armatures (20-21) (drawings: S. Muratori).

Usewear analysis of the retouched tools provided other information indicating specialized exploitation activities at the *Grotta del Clusantin*, particularly concerning the category of scrapers, some of which are extremely small. They have frequent use traces (28 pieces), even if the polishes are too light to enable a determination of the material worked. When the worked material could be identified, it was mainly fresh hide (11 cases; [figure 6B](#)), or less often, dry hide (2 cases). On the other end scrapers, even the smallest ones, more or less intensively smoothed zones on the active end indicate their use to work abrasive and slightly resistant materials, thus corresponding to the working of hides. The light intensity of these traces is probably due to a minimal and relatively short tanning process, perhaps on the skins of small animals. Among the other tools, one burin was used to scrape resistant materials (bone or red deer antler, for example). One of the backed knives displays clear traces that can be attributed to the cutting of animal tissue; the use of this tool type to cut meat and, more generally, to process hunted animals, has been clearly demonstrated by functional studies of other Epigravettian sites as well (Ziggiotti, 2008). It appears that a few non retouched blades were also used to cut animal carcasses, as is shown by some traces attributable to the working of slightly resistant animal tissues (6 cases). Other non retouched blanks were used to work wood (4 cases) or undetermined materials (4 cases). Some bipolar flakes (3 cases) appear to have been used to split or notch a resistant material, such as hard wood or an osseous material (bone or antler).

The general spatial distribution of the industry is located under the cave entrance, suggesting that the block in O8 had a structural function. The artifacts fan out from around this block, becoming progressively more dispersed toward the north. The proximity of the combustion feature (US13) appears to confirm the central function of this part of the cavity, where marmot remains were also found ([figure 4B](#)). The activities associated with marmot carcass processing and the preparation of weapon armatures are correlated, as is demonstrated by the distribution of back retouch flakes, which are most abundant in the north-western sectors of square N8, with a concentration around the block and a decreased quantity toward the north and beyond the limit of the roof ([figure 7](#)).

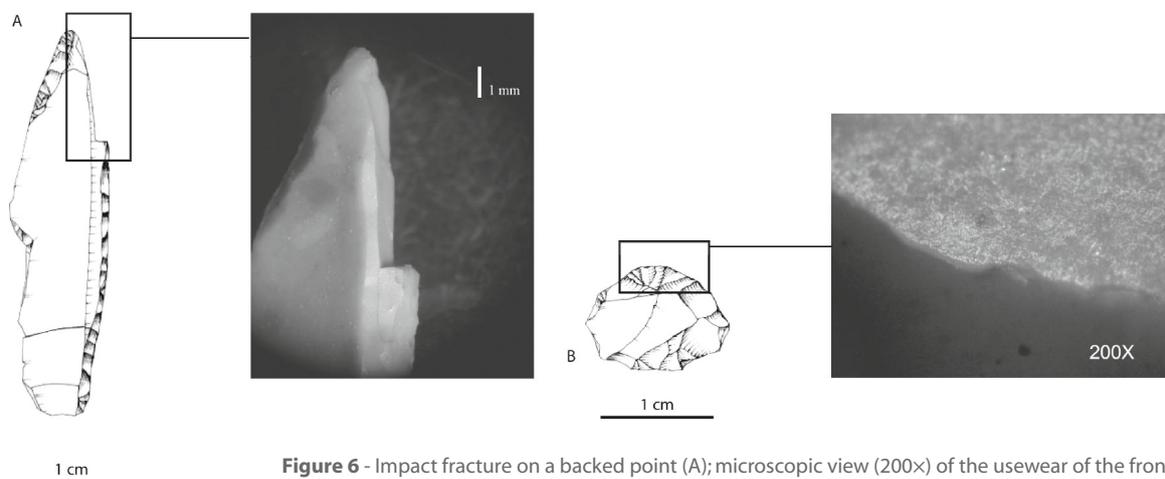


Figure 6 - Impact fracture on a backed point (A); microscopic view (200 \times) of the usewear of the front of an end scraper: fresh/fat skin (B) (drawings: S. Muratori; photographs: S. Ziggiotti).

3 - Discussion and considerations

The characteristics of *Grotta del Clusantin* clearly indicate that this site had a specific function. The location of the cavity, the organization of the space during the occupation and the sedimentological profile of the anthropogenic units permit us to interpret the central locus as being strongly conditioned by the morphology of the sheltered zone. This part of the cavity is therefore the most well adapted to the majority of the exploitation activities, as is shown by the archaeological, zooarchaeological and functional analyses. In addition, the spatial distribution of the artifacts shows a superposition of faunal remains, lithic artifacts and features. The different sectors of the exploitation zone are also linked by a few refits between debitage by-products and weapon armatures. The general context of the occupation is compatible with a human presence during the cycle of predation, processing and consumption of rodents. Their number is among the highest recorded thus far in the faunal diagrams of Alpine Epigravettian sites located above 500 m altitude (Aimar *et al.*, 1992; Fiore and Tagliacozzo, 2004, 2005, 2008). These other diagrams show only a tenuous presence of marmot remains and thus do not indicate a systematic economic interest for this resource, which was probably sufficiently available in the mountain system.

The *Grotta del Clusantin* is also distinct in its altimetric position clearly above the upper limit of the tree line, which is estimated at approximately 1700 m altitude for the alpine region during the first part of the interstadial (Ravazzi *et al.*, 2007). According to modern ethological references, marmots typically occupy the alpine and sub-alpine prairies located beyond the upper limit of the tree line, which varies along the alpine along with to the reduction in the reliefs and high altitude plains. To satisfy the need for deep burrows in order to survive during hibernation, the habitat of this species must be sufficiently adapted to digging, in addition to the parameters linked to the adequate exposure of the slope and the presence of boulders, especially during the phases of colonization of new territories. Meanwhile, in zones where the demographic increase attains critical thresholds, marmots may also inhabit the scattered forest environments (larch and Swiss pine) surrounding the prairies. Nonetheless, while the majority of the modern species, taking into account the typical composition of the periglacial fauna, occupy cold steppes, tundra or high altitude prairies, the remains found in Pleistocene cave deposits, sometimes in the form of whole skeletons inside the galleries, clearly attest to the colonization of these contexts. In the Alps, the taphonomic record of the Upper Pleistocene shows that this large sciurid descended from the high mountain altitudes into the foothill zones, and sometimes into the low hill zones, after traversing the plains (see Romandini *et al.*, in press). We can suppose the existence of colonies near the site due to the abrupt slopes surrounding the high plateau. Whatever the case, this presence is proven by the considerable number of remains associated with a series of galleries found in the incoherent cryoclastic levels of the *Grotte Verdi* at Pradis, situated a few hundred meters from the *Clusantin* sinkhole and known for its human occupations dated to the second half of the Bølling-Allerød interstadial (Bartolomei *et al.*, 1977).

The general context of the site presents several elements indicating that the Epigravettian occupation of Pradis was oriented toward activities focused on rodent colonies, perhaps accompanied by the hunting of a few ungulates. The site would thus have had a specialized, though occasional, function as a vanguard station for the exploitation of animal resources in the mountainous regions. The site is characterized by an immediate exploitation of food resources, while the sites of the Vercors region show subsistence strategies characterized by a spatial and temporal division of the treatment of rodent carcasses (Griggo, pers. comm.).

Undergoing a full forest evolution, the high plateau of Pradis thus appears to be one of the first hunting basins exploited during the middle of the Tardiglacial interstadial. It was also occupied during the periods immediately following this time, when the Epigravettian colonization was extended by the occupation of the other high plateaux and the altimetric level between 1000 and 1500 m (Bertola *et al.*, 2007; Cusinato *et al.*, 2003; Peresani *et al.*, 2009).

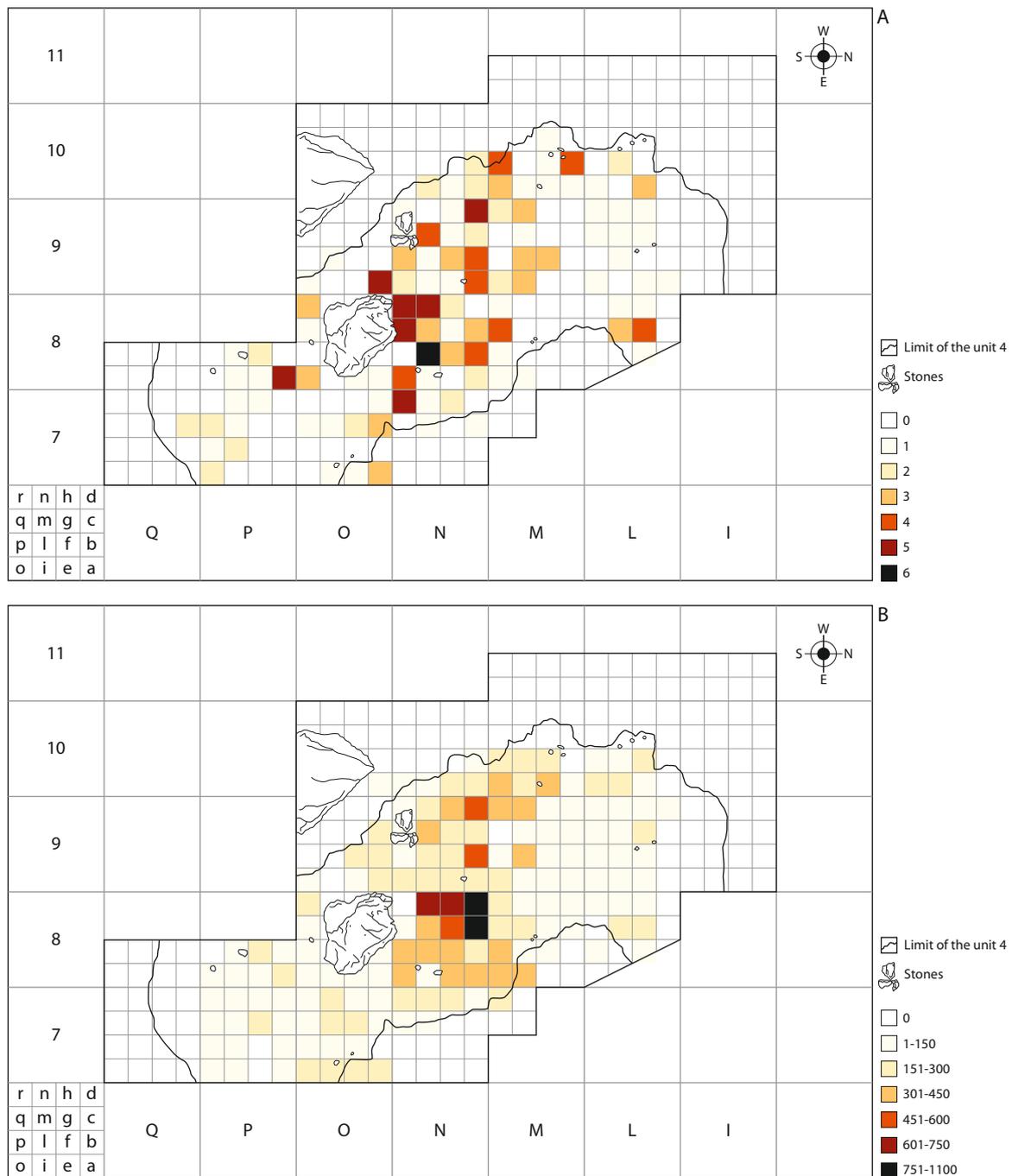


Figure 7 - Total distribution of weapon elements (A) and retouch micro-flakes (B)
(CAD: R. Duches, R. Miolo; drawings: S. Muratori).

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