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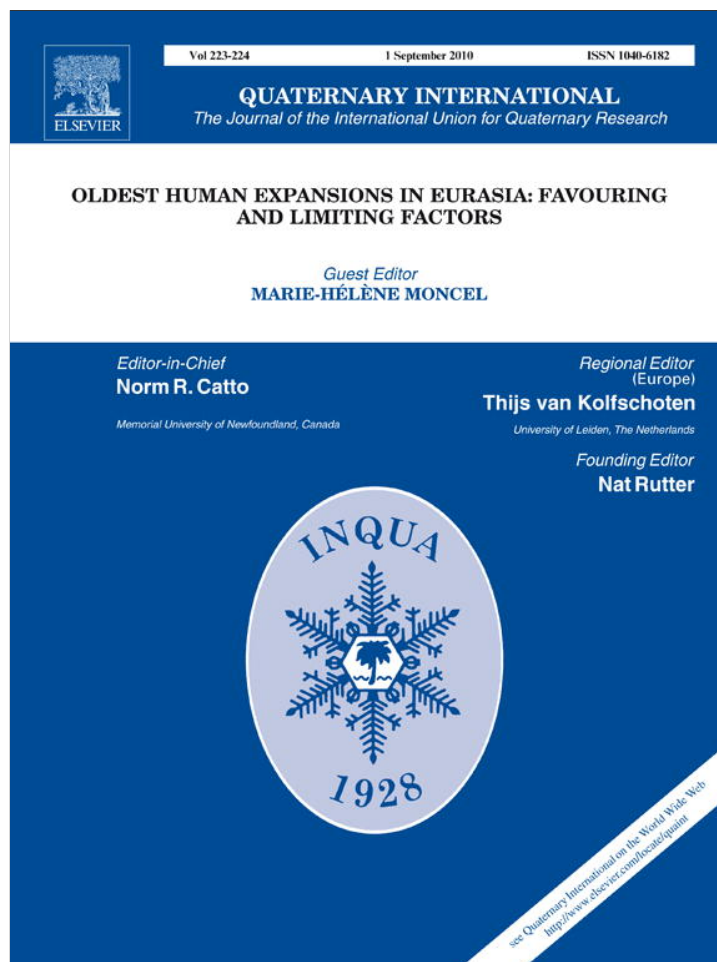


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The southern Po plain area (Italy) in the mid-late Pleistocene: Human occupation and technical behaviours

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ABSTRACT

The Middle Pleistocene lithic assemblages of the Southern Po Plain are one of the most investigated Palaeolithic case-studies of the Italian peninsula. This paper focuses on the industries identified between the modern towns of Bologna and Imola which have yielded particularly abundant assemblages. The chronological attribution of these industries is based on the reconstruction of a lithostratigraphic sequence for the region. The aim here is to present a general framework of the different characteristics of the assemblages between Marine Isotopic Stages (MIS) 9 and 6. The results of previous studies are re-interpreted by application of a techno-economical approach aimed at recognising the technical objectives of the knappers and the reduction schemes employed.

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1. Introduction

Several open-air localities dating to the second half of the Middle Pleistocene have been discovered along the southern margin of the Po Plain (Italy). In particular, the region between the modern towns of Bologna and Imola contains a very dense network of sites which, in most cases, occupy the hilly areas of the northern margin of the Apennines (Fig. 1). All the sites, which are mostly located on the terraces of the main river courses, appear rich in lithic artefacts while largely lacking organic remains.

The lithic series are mainly the result of intensive surveys that started in 1950s. Thanks to collaboration between the Museo della Preistoria "L. Donini" of San Lazzaro di Savena, Ferrara University and Bologna University, some stratigraphic trenches were also opened during 1980s and 1990s. The analysis of these sequences and their correlations with that of San Mamante near Ravenna, have facilitated the reconstruction of the lithostratigraphic scheme for the region and produced a chronology for the different complexes (Farabegoli and Onorevoli, 1990, 1996, 1998; Farabegoli et al., 1997, 2000).

The numerous lithic assemblages discovered had been subjected to previous morpho-typological analyses (Nenzioni and Vannelli, 1982; Lenzi et al., 1985; Lenzi and Nenzioni, 1996; Farabegoli et al., 2000; Fontana et al., 2004). More recently new studies which aim at detecting the techno-economical features of these assemblages have been started. The preliminary results of these studies are part of this paper.

2. The geological framework

The lithostratigraphic sequence for this area indicates that different geomorphological units, which may be related to the marine isotopic stratigraphy (oceanic cores V28-238 and V28-239 and ODP 677) calibrated to the orbital parameters are present (Farabegoli and Onorevoli, 1990; Farabegoli et al., 1997) (Fig. 2).

The sequence begins with a marine cycle, which may be traced through the presence of various sedimentary – mostly clayey – layers. It is characterised at the top by littoral sandy deposits, known locally as "Sabbie Gialle" ("Yellow Sands"). The subsequent continental series is separated from the marine sequence by an unconformity. Several sedimentation cycles that correspond to the periods of transition between glacial and interglacial phases are documented in the continental series. During these cycles, wet climatic conditions allowed the transport of sediments derived from the erosion of the rocky substratum not yet covered by vegetation. These phases of sedimentation alternate with events of fersiallitic soil formation (interglacial periods). By contrast, the glacial phases are seldom represented in the sedimentary record, as is the case of the silts and loess deposits dated to MIS 6 which are known locally as B6 cycle. As a whole, the continental units are related to river deposition driven by the combined action of tectonics and climate. These processes resulted in the formation of more than ten terraces and eight different soils along the main Apennine valleys, between Bologna and Ravenna. The widest alluvial fans that are located at the foot of these hills represent the natural extension of these deposits in the plain area.

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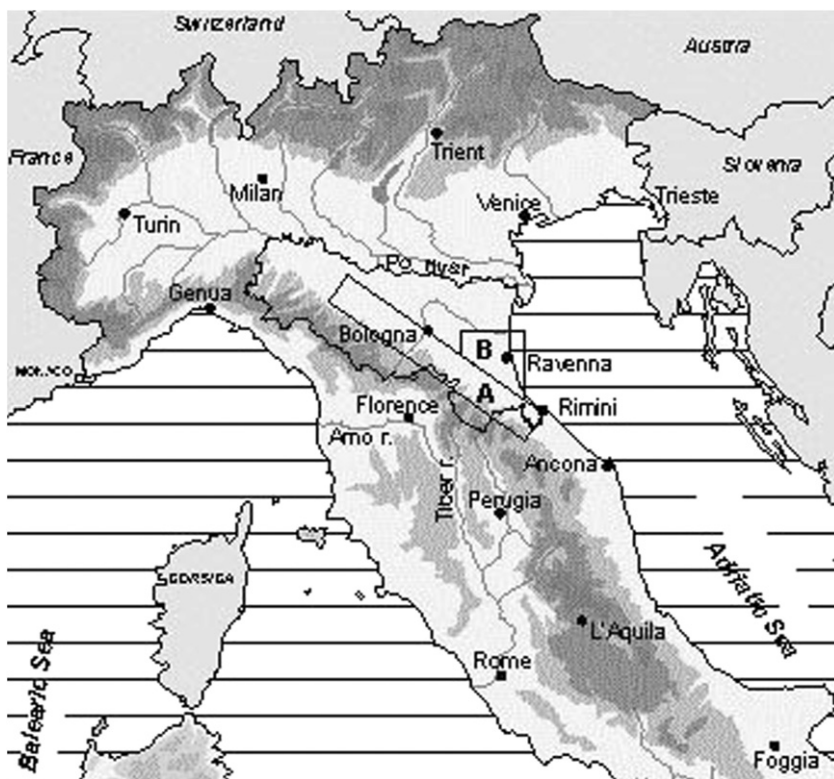


Fig. 1. Geographic setting of the deposits discussed (from Farabegoli et al., 2000, modified).

3. The oldest evidence of human occupation before MIS 8

The oldest evidence of human presence in the eastern Bologna area dates to immediately before the Matuyama–Brunhes inversion. These are represented by a group of open-air sites which are found at the top of the local marine sequence, along the present hilly belt of the Apennines. The best-known deposits of this area are Bel Poggio and Romanina Bianca. They belong to the same chronological and stratigraphic horizon as the more famous deposit of Monte Poggiolo, located further east, near Forlì (Antoniazzi et al., 1993, 1998a,b; Bisi et al., 1992; Fontana and Nenzioni, 1998; Fontana et al., 2004; Peretto et al., 1998). At the time of human occupation these areas were occupied by wide deltas opening directly onto the Adriatic coast which were favourable settings for the settlement of human groups at this early stage. The lithic assemblages indicate the use of simple and unpredetermined reduction schemes, which were carried out by the exclusive use of small to medium-sized flint pebbles coming from the same deposits where the sites are located.

A consistent chronological gap separates these assemblages from the subsequent complexes, which date to the second half of the middle Pleistocene before MIS 8 i.e. older than 0.32 Myr. These localities are placed close to the main river valleys, and have been largely discovered within the alluvial gravel deposits found in the Apennine river terraces and the alluvial fans that lie at the foot of the hills (Cave SAFRA, Chiuse d'Idice, Cave Dall'Olio) (Bisi and Peretto, 1985; Biagioli et al., 1998; Lenzi and Biagioli, 1996; Lenzi and Nenzioni, 1996). More than 80 deposits have been identified from this phase. During the deposition of this material, the area had become fully continental due to the advance of the alluvial Po plain resulting from both tectonic processes and high sedimentation levels. The richest site is Cave dall'Olio (with approximately 500 lithic artefacts) which was first identified during quarry activities in

the 1970s. Here, the lithic assemblages were recovered from a depth of more than 20 m, amongst the gravel deposits. These deposits have been altered at the top by a *fersiallitic lessivé* soil (Molino Unit, final phase of MIS9), which developed to a thickness of about 5 m. Most artefacts are characterised by altered and polished surfaces and damaged edges due to their provenance from secondary deposits.

Raw material sources differ from those of the previous phase, and are dominated by the use of the large-sized silicified siltstone pebbles and nodules. These raw materials had become available along the river terrace deposits where human populations were present. The recent re-analysis of the series has allowed several *débitage* reduction schemes to be identified, along with some *façonnage* which is demonstrated by the presence of 15 bifaces (Fontana et al., 2009). Most *débitage* schemes show a remarkable level of control and predetermination of the flaking surfaces (Fig. 3). These include examples of unidirectional recurrent parallel and convergent schemes, together with some recurrent orthogonal and also recurrent bipolar and lineal schemes (*sensu* Boëda, 1994). In certain cases, the unidirectional/bidirectional scheme either transforms into or is in association with laminar *débitage sensu lato*. In contrast, centripetal and kombewa schemes appear to be of secondary importance. The preparation and the maintenance of the flaking surfaces was carried out by means of lateral, distal and, rarely, centripetal removals. In particular, the laminar *débitage* is strictly dependant on the natural convexities of the blocks. Therefore the production usually starts by the removal of the first blade along a natural convexity of the nodule or a natural ridge. Surface maintenance is carried out by the extraction of backed lateral blades and plunging distal blades and sometimes by the opening of an opposite platform.

The end-product analysis indicates the presence of different objectives: along with some irregular non-standard blanks (discoid

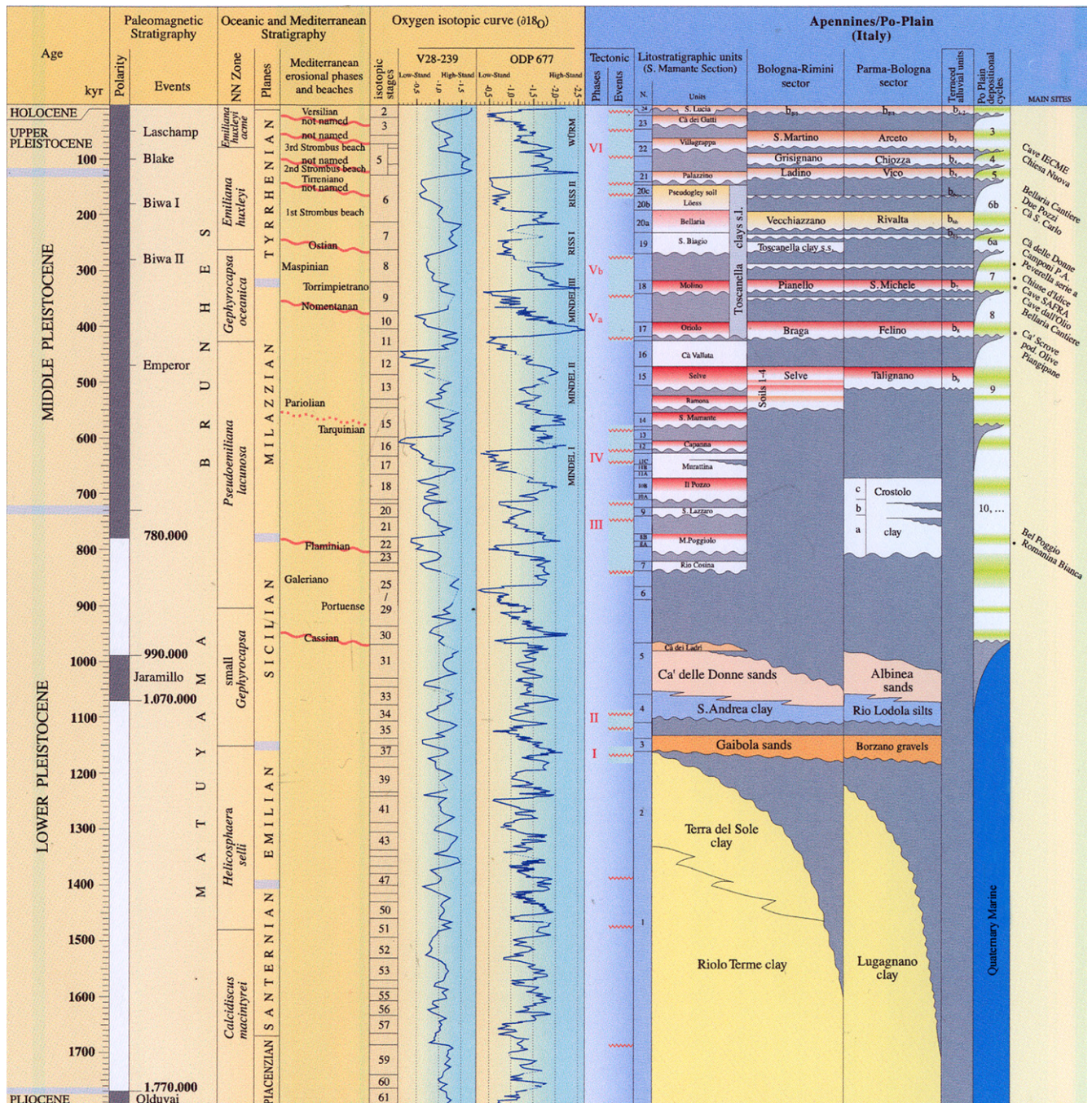


Fig. 2. Framework of the stratigraphic and allostratigraphic units of the Apennine margin and the Emilia Romagna Po Plain (from Farabegoli et al., 1997).

or kombewa schemes), elongated products with sub-parallel edges dominate (recurrent parallel and convergent schemes, laminar reduction sequences) with many backed lateral and plunging distal elements. Most blanks have large dimensions and notable thicknesses. Retouched flaked tools are represented by simple scrapers with either a rectilinear or a convex profile and some rare notches and denticulates. These types of tools are difficult to recognise because of the high level of damage to the assemblage.

Bifaces are mostly characterised by either biconvex or plano-convex irregular profiles, with one example of a trihedral tool. Most bifaces have sinuous edges and profiles and a high variability of sizes (lengths between 100 and 200 mm) has been observed. Different shapes, often retaining some cortical surfaces, are present,

mostly amigdaloid and lanceolate. The exclusive use of hard hammer-stones for shaping has been inferred for these assemblages. Blanks are represented by either large-sized flakes or flat nodules which are shaped by a short series of wide, deep removals and do not show finer retouches on the edges (Fig. 4).

4. Human peopling between MIS 8 and MIS 6

Another group of sites indicates the subsequent occupation of the area. These sites correspond to the main terrace systems inside the silty deposits located at the top of the Molino-b7 stratigraphic unit. They may refer to at least two different occupation phases (MIS 8-7 and MIS 6). Raw materials are still mainly represented by

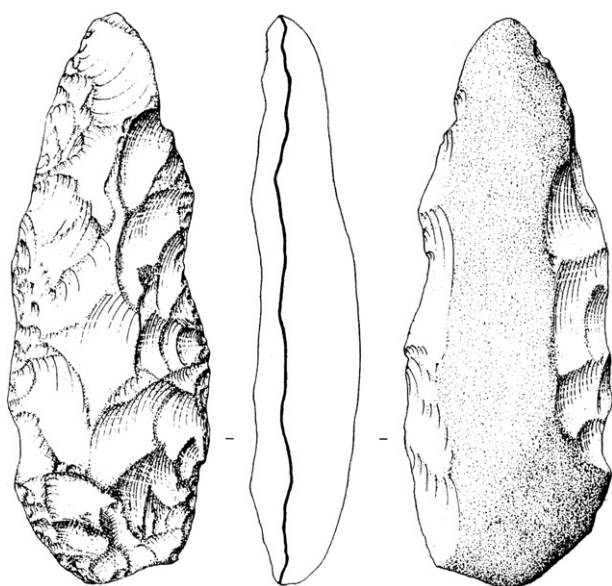


Fig. 3. Cave dall'Olio. Lithic industry: biface (size 2:3, drawing D. Mengoli).

the large-sized silicified siltstone pebbles/nodules which are abundantly available along the river terraces, but also include some smaller flint pebbles (length about 10 cm) of a more regular shape coming from the local marine deposits.

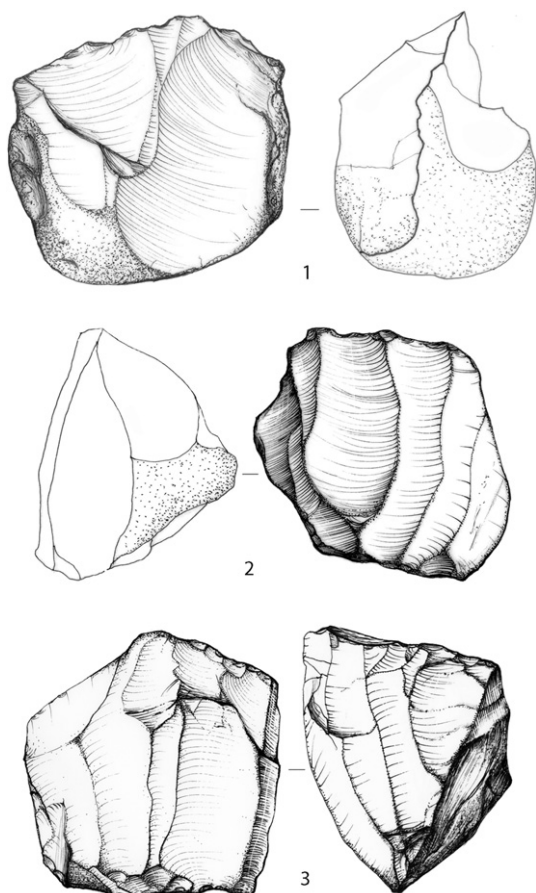


Fig. 4. Cave dall'Olio. Lithic industry: laminar cores (size 1:3, drawing G. Nenzioni).

The group of sites belonging to the first phase – roughly between 320 and 220 ka – is best represented by the “Alpha Series” from the site of Peverella (Chili et al., 1996). At present, this assemblage has not been re-analysed, and therefore it is not possible to define its particular technical aspects. Nonetheless it includes a bifacial *chaîne opératoire* (mostly carried out on large-sized flakes) (Fig. 5) which is present along with several well-controlled and predetermined *débitage* reduction sequences.

The second group (200–150 ka) is associated with predetermined *débitage* characterised by numerous and varied reduction sequences and a secondary scheme of bifacial shaping. In general, these sites are particularly numerous and rich in archaeological remains, relative to the earlier sites in this region. They appear to suggest an intensive phase of human occupation of the area.

In their entirety the sites are spread over 50 km between the towns of Bologna and Imola, along the strip of territory of the northern Apennine, located between 80 and 120 m above sea level (Peretto, 1985, 1996; Farabegoli and Onorevoli, 1996; Lenzi and Nenzioni, 1996). The four most representative deposits are Due Pozzi, Scornetta, Pescatore Piccolo and Ca' San Carlo, each of which has yielded thousands of artefacts (Giusberti, 1985; Biagioli et al., 1996; Fontana and Peretto, 1996; Milliken et al., 1996).

The *débitage* is dominated by Levallois reduction schemes, indicating an excellent control of the flaking surfaces. A wide range of methods are employed, most notably the uni- and bi-directional, the centripetal and the lineal. Conversely the laminar *sensu lato*, which had played an important role in the most ancient complexes of the middle Pleistocene (*cf.* Cave dall'Olio), as well as the recurrent unidirectional convergent and the orthogonal schemes, are rarer or they are complete absent.

Generally the cores are carefully prepared using either centripetal or lateral/backed removals, while flaking platforms are sometimes faceted (5–10% of end-products). Simplified preparations, almost solely by backed removals and a basically unidirectional exploitation is reserved for flint pebble cores, probably due to their smaller sizes and more regular shapes. Some secondary reduction sequences, such as the discoid and a kombewa, are present.

Regarding end-product morphology, these assemblages show a slight increase in the laminar trend and a reduction in thickness. The end-products of the Levallois schemes are often further modified by retouch (on an average 20%) (Fig. 6). The best represented group is simple scrapers, with a convex lateral edge, and they are accompanied by some double and transversal scrapers. A few deposits have also yielded some foliated elements.

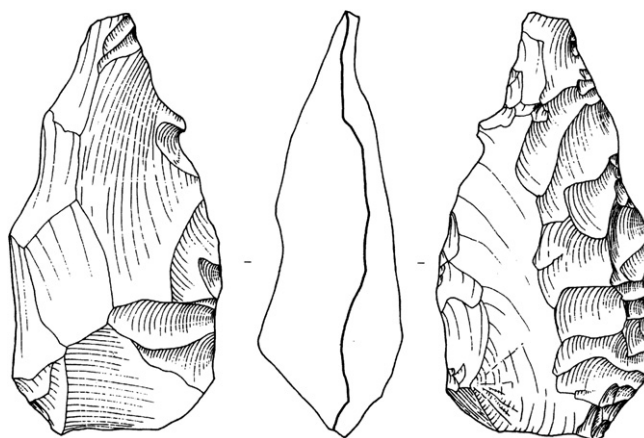


Fig. 5. Peverella, alpha series. Lithic industry: biface (size 2:3, drawing D. Mengoli).

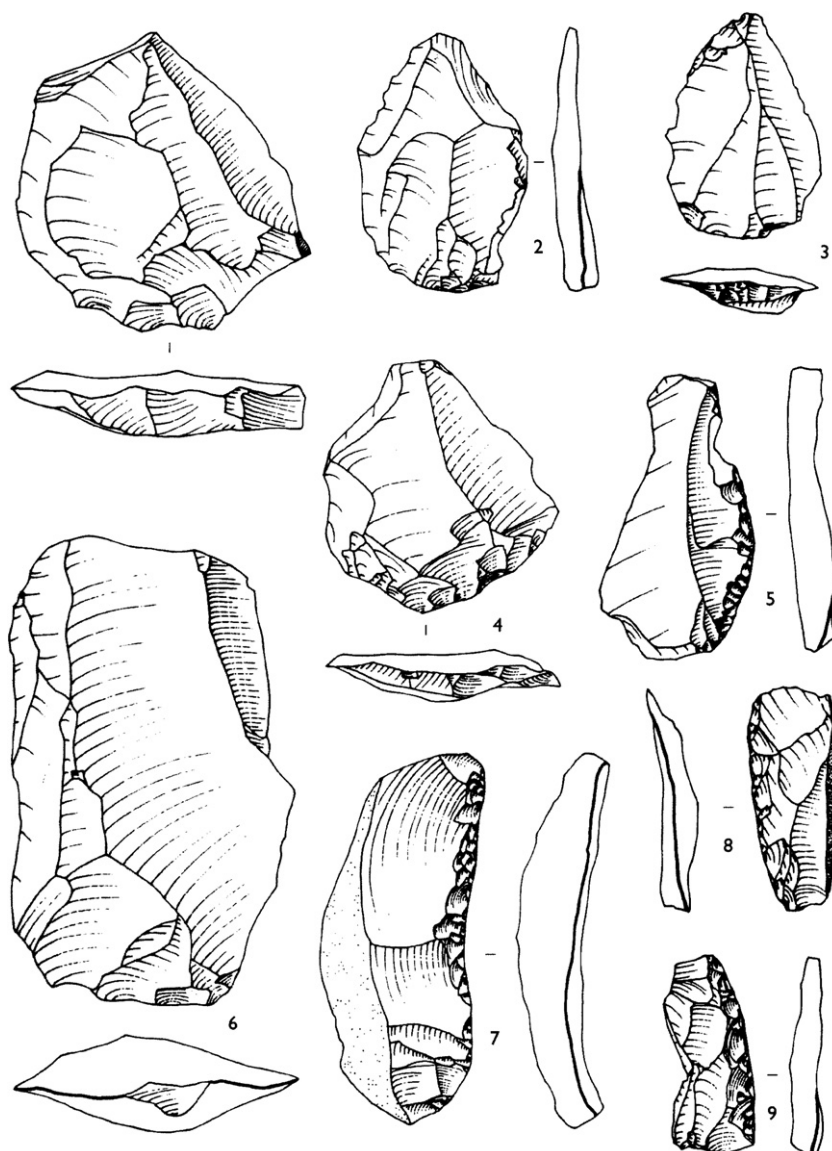


Fig. 6. Scornetta. Lithic industry: 1–4, 6 levallois blanks; 5, 7–9 side-scrapers (size 2:3 drawing D. Mengoli).

While bifaces are not abundant, they do show a considerable variability. This is related not only to the constraints imposed by the morphology of the original blanks, but also to some evident traces of re-shaping of the cutting edges and the re-utilisation of broken elements by changing their functional role. Thus some bifaces have been transformed into cores while some others have been employed as blanks for the preparation of retouched tools. The rich morpho-typological variety can be also observed and a general reduction in size, with no decrease of thickness (Fig. 7).

5. Concluding remarks

Numerous Palaeolithic deposits have been identified, due mainly to the intensity of the research carried out in the southern Po Plain region, particularly in the area of Bologna. The reconstruction of a chrono-stratigraphic sequence has facilitated their assignment to the second half of the Middle Pleistocene, starting at least from MIS 9 to MIS 6. Only a small group of sites – representing the earliest occupation of the region – has been referred to a period immediately preceding the lower-middle Pleistocene transition,

with a considerable chronological gap between these occupations, and those of the later levels (Antoniazzi et al., 1998a,b; Fontana and Nenzioni, 1998; Fontana et al., 2004).

Using their stratigraphic provenance and the analysis of the technological features, these middle Pleistocene assemblages have been grouped into at least three main technical complexes each corresponding to a specific occupation phase and characterised by particular technical behaviours. The analysis of settlement dynamics points to an intensive, repeated exploitation of certain topographic positions, specifically the terminal portions of the main Apennine streams, with a higher concentration in the areas which are located close to the eroded limits of the river terraces (Lenzi and Nenzioni, 1996; Farabegoli et al., 2000; Fontana et al., 2004).

Present research documents the occurrence of the first complexes with bifaces right before MIS 8 (probably MIS 9). Also present is the development of certain well-controlled *débitage* reduction sequences, which are characterised by subordination between the *débitage* surface and the flaking platform. The assemblage of Cava dall'Olio (Fontana et al., 2009) represents the

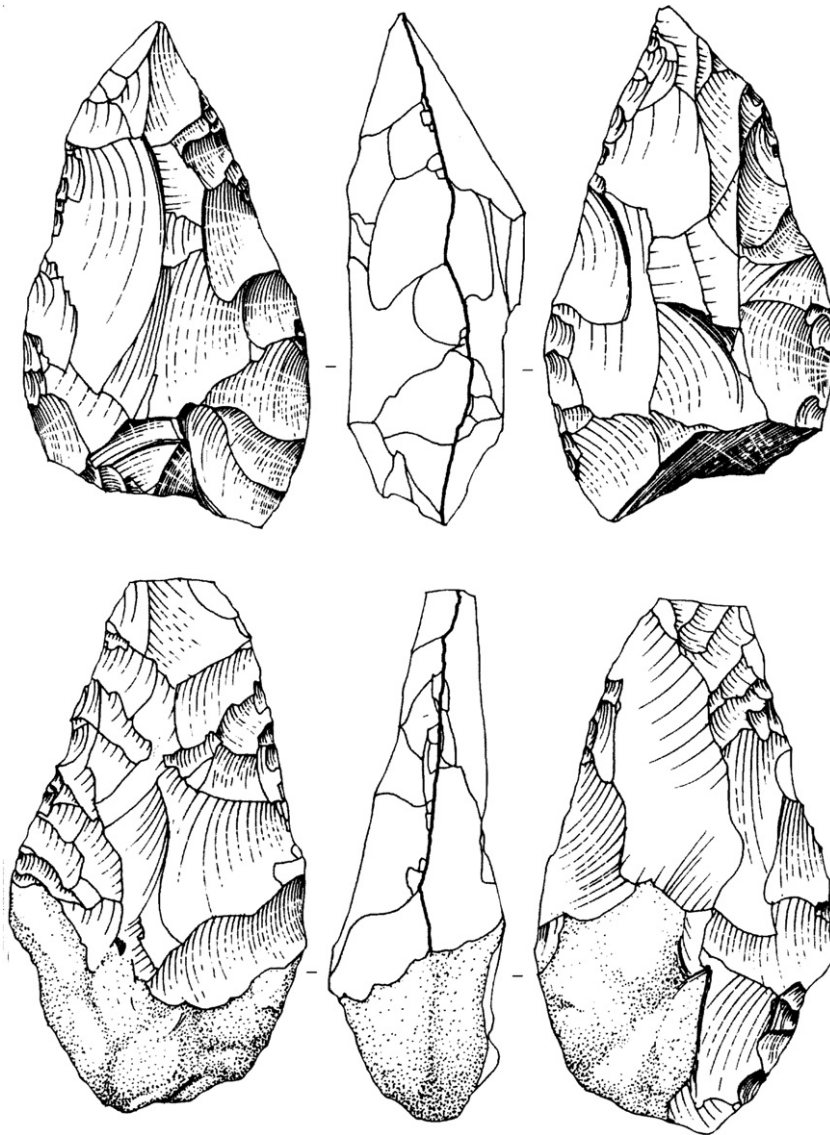


Fig. 7. Due Pozzi. Lithic industry: bifaces (size 2:3, drawing D. Mengoli).

most important deposit from this temporal period. The end-products of these reduction schemes are a wide range of preferably elongated and rather thick blanks, with some shorter products. Biface shaping appears already to play a secondary technical role in these assemblages in comparison to the high variability of the *débitage* reduction schemes.

Further lithic series apparently yielding similar features have been discovered along the Adriatic coast of Italy, down to Puglia and into Tuscany (Cremaschi and Peretto, 1977, 1986, 1988; Coltorti et al., 1982; Giunti, 2001). Although the complexity of the reductions schemes which characterise these industries had been previously observed, to date the application of a basically morphotypological approach does not facilitate the specific comparison with the assemblage of Cave dall'Olio. Thus following previous analyses, these assemblages had been included into a specific cultural group, known as "Clactonian and protolevallois" (Palma di Cesnola, 1967). According to this study it appears that the complex of Cave dall'Olio may be more properly assigned to an advanced stage of the Acheulean, as it is proved by the presence of some predetermined reduction sequences along with *façonnage* schemes. These complexes find a parallel with those dating to 400 ka–350 ka

at Orgnac, southern France (Moncel, 1998) and in the middle terrace of the Somme, at Cagny la Garenne, northern France. In particular, the latter assemblage shows some closer similarities with respect to the palaeoenvironmental context, and also indicates the presence of laminar *sensu lato* reduction sequences (Tuffreau and Revillon, 1996).

The subsequent complexes of this region show some obvious changes from the point of view of the "savoir-faire" and the technical objectives of *débitage*. Until such time as more accurate studies are published, it is preferable to consider these assemblages as a unit, even if they may belong to at least two different chronological periods. In particular, the most recent group (MIS 6) is marked by the development of all the "classical" Levallois methods (*sensu* Boëda, 1994) while the reduction schemes that had played the most important role in the previous MIS 9 complexes either become secondary or disappear altogether. The technical objectives have also changed: there is a reduction in the general size of the products, in their thickness, and a slight increase in the laminar trend. The nodule exploitation is more controlled and intensive and a reduction of the minimum threshold of the size of end-products is observed. These assemblages find several parallels

in the peninsula (Cremaschi and Peretto, 1988; Longo and Giunti, 2007) and should probably be assigned to the Middle Paleolithic following recent proposals for some other regions of western Europe (Tuffreau and Revillon, 1996; Moncel, 1998; Cliquet, 2001).

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References

- Antoniazzi, A., Antoniazzi, A., Failla, A., Peretto, C., Piani, G., 1998a. The stratigraphy of the site of Ca' Belvedere di Monte Poggiolo. Proceedings of the XIII International Congress of Prehistoric and Protohistoric Sciences, Forlì, 8–14 September 1996, 6, Workshops, Tome II, pp. 853–968.
- Antoniazzi, A., Antoniazzi, A., Barogi, M., Fontana, F., Peretto, C., Piani, G., Sabatini, S., Ungaro, S., 1998b. The Pebble industry of the Rimini area. Proceedings of the XIII International Congress of Prehistoric and Protohistoric Sciences, Forlì, 7–14 September 1996, Workshops, 6, II, pp. 991–1000.
- Antoniazzi, A., Ferrari, M., Peretto, C., 1993. Il giacimento di Ca'di Monte Poggiolo del Pleistocene inferiore con industria litica (Forlì). *Bullettino di Paleontologia Italiana* 84, 1–56.
- Biagioli, F., Boninsegna, A., Lenzi, F., Peretto, C., 1998. The industries of the Pleistocene alluvial fan of the Idice river (Bologna-Italy). Actes du XIII International Congress of Prehistoric and Protohistoric Sciences, 8–14 September 1996, 2, Sections, Forlì, pp. 75–89.
- Biagioli, F., Nenzioni, G., Peretto, C., Valeriani, V., 1996. Scornetta. In: Lenzi, F., Nenzioni, G. (Eds.), *Lettere di Pietra. I depositi pleistocenici: sedimenti, industrie e faune del margine appenninico bolognese*. Editrice Compositori, Bologna, pp. 418–446.
- Bisi, F., Fontana, L., Peretto, C., Proli, F., 1992. L'industria di Ca' Belvedere di Monte Poggiolo. In: Peretto, C. (Ed.), *I primi abitanti della Valle Padana: Monte Poggiolo nel quadro delle conoscenze europee*, pp. 347–356. Milano.
- Bisi, F., Peretto, C., 1985. I reperti di tecnica clactoniana e protolevallois con bifacciali delle Chiuse d' Idice e Cave S.A.F.R.A. In: Lenzi, Nenzioni, G., Peretto, C. (Eds.), *Materiali e documenti per un Museo della Preistoria. S. Lazzaro di Savena e il suo territorio*. Nuova Alfa, Bologna, pp. 61–70.
- Boëda, E., 1994. Le concept Levallois: variabilité et méthodes. In: *Monographie du C.R.A.*, n. 9. CNRS Ed., p. 275, 179 fig.
- Chili, M., Gasparri, F., Milliken, S., Nenzioni, G., 1996. Peverella. In: Lenzi, F., Nenzioni, G. (Eds.), *Lettere di Pietra. I depositi pleistocenici: sedimenti, industrie e faune del margine appenninico bolognese*. Editrice Compositori, Bologna, pp. 644–658.
- Cliquet, D., 2001. Les industries à outils bifaciaux du Paléolithique moyen d'Europe occidentale, vol. 98. ERAUL, Liège, 236 pp.
- Coltorti, M., Cremaschi, M., Peretto, C., Sala, B., 1982. Il Paleolitico inferiore nella Lombardia orientale, nel Veneto, nell'Emilia Romagna e nelle Marche. *Atti XXIII Riunione Scientifica I.I.P.P.*, Firenze, pp. 123–146.
- Cremaschi, M., Peretto, C., 1977. Il Paleolitico dell'Emilia Romagna. *Atti XIX Riunione Scientifica I.I.P.P.*, Firenze, pp. 15–78.
- Cremaschi, M., Peretto, C., 1986. I siti del Paleolitico inferiore dell'area padana e dell'Italia centrale. Modello di organizzazione delle ricerche e di analisi ed interpretazione dei dati. *Dialoghi di Archeologia* 2 (4), 155–165.
- Cremaschi, M., Peretto, C., 1988. Le Paléolithique inférieur de la Plaine orientale du Pô. *L'Anthropologie* tome 92 (2), 643–682.
- Farabegoli, E., Lenzi, F., Nenzioni, G., Onorevoli, G., Peretto, C., 2000. Lithostratigraphie et evolution des industries du Paléolithique inférieur et moyen à l'est de Bologne (Italie). In: *Actes du Congrès International sur Science et Technologie pour la sauvegarde du patrimoine culturel dans les Pays du Bassin Méditerranéen*, vol. II. Elsevier, Paris., pp. 1179–1188.
- Farabegoli, E., Onorevoli, G., 1990. La sezione di S. Mamante (Faenza) nel quadro evolutivo neotettonico ed eustatico del Quaternario dell'Appennino romagnolo. *Memorie Descrittive della Carta Geologica d'Italia*, Bologna, pp. 417–432.
- Farabegoli, F., Onorevoli, G., 1996. Il margine appenninico emiliano-romagnolo durante il Quaternario: stratigrafia ed eventi. In: Lenzi, F., Nenzioni, G. (Eds.), *Lettere di Pietra. I depositi pleistocenici: sedimenti, industrie e faune del margine appenninico bolognese*. Editrice Compositori, Bologna, pp. XXXIX–LIV.
- Farabegoli, E., Onorevoli, G., 1998. Struttura del sottosuolo quaternario continentale della Pianura Padana meridionale (Provincia di Ravenna – Italia). In: *Agip, Geodinamica e Ambiente. S.ELCA*, Firenze.
- Farabegoli, E., Onorevoli, G., Ruffino, C., Costantini, B., 1997. Subsurface Structure of Southern Po Plain Quaternary Deposits (Ravenna Province, Italy). Special publ., Bologna University, In: *Agip (Ed.)*, 12 Tavv. SELCA, Florence.
- Fontana, F., Lenzi, F., Nenzioni, G., Peretto, C., 2004. The Po plain in the Lower Pleistocene in the context of ancient industries in Southern Europe. *Actes du XIV Congrès U.I.S.P.P.*, Université de Liège, Section 4. In: *Toussaint, Draily, Cordy (Eds.)*, *Premiers Hommes et Paléolithique inférieur*. General Sessions and Posters, Belgique, 2–8 settembre 2001. *BAR International Series* 1272. Oxford, England, pp. 41–48.
- Fontana, F., Nenzioni, G., 1998. The pebble industry from Bel Poggio (Bologna, Italy): reconstruction of the techniques and chaînes opératoires by means of experimentation. *Proceedings of XIII U.I.S.P.P. Congress*, 7–14 September 1996, Forlì, Workshops, vol. 6 (II), pp. 759–764.
- Fontana, F., Nenzioni, G., Peretto, C., 2009. First recognition of predetermined core reduction sequences in the Southern Po Plain area before MIS 8 at the site of Cave dall'Olio (Bologna, Italy): an "ancient series" revisited. *Human Evolution* 24 (1), 43–56.
- Fontana, F., Peretto, C., 1996. Pescatore Piccolo, Ca' Due Pozzi, Portone. In: Lenzi, F., Nenzioni, G. (Eds.), *Lettere di Pietra. I depositi pleistocenici: sedimenti, industrie e faune del margine appenninico bolognese*. Editrice Compositori, Bologna, pp. 523–540.
- Giunti, P., 2001. Prime considerazioni sull'Acheuleano antico del Val d'Arno inferiore (Toscana). *Origini* XXIII, 7–23.
- Giusberti, G., 1985. Tipologia, tipometria e distribuzione delle industrie del Paleolitico inferiore sulle superfici terrazzate del Torrente Quaderna. *Il potere Ca' S. Carlo (prov. Bologna)*. In: Lenzi, Nenzioni, G., Peretto, C. (Eds.), *Materiali e documenti per un Museo della Preistoria. S. Lazzaro di Savena e il suo territorio*. Nuova Alfa Editrice, Bologna, pp. 108–145.
- Lenzi, F., Biagioli, F., 1996. Cave dall'Olio. In: Lenzi, F., Nenzioni, G. (Eds.), *Lettere di Pietra. I depositi pleistocenici: sedimenti, industrie e faune del margine appenninico bolognese*. Editrice Compositori, Bologna, pp. 202–220.
- Lenzi, F., Nenzioni, G., Peretto, C., 1985. *Materiali e documenti per un museo della preistoria. S. Lazzaro di Savena e il suo territorio*. Nuova Alfa Editrice, Bologna.
- Lenzi, F., Nenzioni, G., (Eds.), 1996. *Lettere di pietra. I depositi pleistocenici: sedimenti, industrie e faune del margine appenninico bolognese*, Bologna.
- Longo, L., Giunti, P., 2007. Modalità di sfruttamento delle risorse litiche durante il Paleolitico medio nei Monti Lessini (Verona). *Rivista di Scienze Preistoriche* LVII, 33–50.
- Milliken, S., Malisardi, S., Nenzioni, G., 1996. Due Pozzi. In: Lenzi, F., Nenzioni, G. (Eds.), *Lettere di Pietra. I depositi pleistocenici: sedimenti, industrie e faune del margine appenninico bolognese*. Editrice Compositori, Bologna, pp. 480–506.
- Moncel, M.-H., 1998. Le Paléolithique moyen dans la moyenne vallée du Rhône en France: la question de la variabilité des assemblages lithiques des stades isotopiques 9 à 3. *L'Anthropologie* 36 (3), 181–199.
- Nenzioni, G., Vannelli, F., 1982. I depositi quaternari e le industrie del Paleolitico inferiore tra i torrenti Savena ed Idice (Bologna). *Atti XXIII Riunione Scientifica I.I.P.P.*, Firenze 1980, pp. 273–292.
- Palma di Cesnola, A., 1967. Il Paleolitico della Puglia (giacimenti, periodi, problemi). *Memorie del Museo Civico di Storia Naturale di Verona* XV, 1–84.
- Peretto, C., 1985. Le industrie di tecnica levallois con bifacciali del Pedepennino emiliano-romagnolo. In: Lenzi, Nenzioni, G., Peretto, C. (Eds.), *Materiali e documenti per un Museo della Preistoria. S. Lazzaro di Savena e il suo territorio*. Nuova Alfa Editrice, Bologna, pp. 144–148.
- Peretto, C., 1996. Il Paleolitico del territorio bolognese: considerazioni sulla tipologia e sulla cronologia delle industrie litiche. In: *Lettere di Pietra. I depositi pleistocenici: sedimenti, industrie e faune del margine appenninico bolognese*. Editrice Compositori, Bologna, pp. VII–XVIII.
- Peretto, C., Longo, L., Milliken, S., Ollé, A., Sozzi, M., Verges, J., 1998. The significance of the lithic industry from Ca' Belvedere di Monte Poggiolo in the context of the origin of the human population of Europe. *Actes du XIII International Congress of Prehistoric and Protohistoric Sciences*, 8–14 September 1996, 6, Workshops, tome II, Forlì, pp. 921–927.
- Tuffreau, A., Revillon, S., 1996. Variabilité des chaînes opératoires levallois et laminaires au Paléolithique moyen en Europe du Nord-Ouest. *Quaternaria Nova* VI, 31–55.