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New data on the first human settlements in western Trentino: The site of Pozza Lavino in the Ledro valley (Trentino, Italy)

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ABSTRACT

Until 2011, the Ledro valley (Trentino, northern Italy) was known only for the pile-dwelling site of Molina di Ledro, dating to the Bronze Age. During 2011, a survey campaign was carried out in the Ledro valley by the Museo delle Palafitte del Lago di Ledro to check for the presence of further prehistoric archaeological sites. The surveys, using both field walking and remote sensing analyses, identified 15 archaeological sites. One of these is Pozza Lavino, on Mount Tremalzo at 1800 m asl, dating to the Mesolithic. This new site is significant because in all of western Trentino only four other Mesolithic sites are known, while in the east of the province there are more than 200. Recent research shows that this is not a problem of the morphology of the landscape or the “visibility” of the archaeological evidence, but, rather, the gap is mainly due to the different intensities of research to date. At the site of Pozza Lavino some scattered pottery fragments also suggest another occupational phase after the Mesolithic. Two radiocarbon determinations and two arrowheads indicate a Middle/Late Neolithic presence: this is particularly exceptional because no other Neolithic site in Trentino is above 1000 m asl. The third remarkable aspect of this site is the presence of four double-backed points typologically dated to the Epigravettian. The excavation is still in progress and so here we can provide only some preliminary results and thoughts. The sites and the deposit under excavation testify to a Mesolithic occupation in the western Trentino region that had, until almost literally yesterday, been a black hole, or at best a sparsely occupied area, in archaeological maps. The new evidence, linked to the known finds in the Brescia pre-Alps, also gives support to the idea of a new route linking the area to the Po valley. The Mesolithic and Neolithic remains of Pozza Lavino open new horizons for the study of the Mesolithic and Neolithic at high altitude and our research at this settlement has already begun to shed new light on the behaviour and settlement strategies of our prehistoric ancestors in the mountains of western Trentino.

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1. Introduction: state of the art

Until 2011, the Ledro valley was known only for the pile-dwelling site of Molina di Ledro, dating to the Bronze Age (Battaglia, 1943; Raged, 1974; Leonardi et al., 1981). This prehistoric settlement has been included in the UNESCO World Heritage List since 2012, together with another 110 sites of similar type all around the Alps. The site of Molina di Ledro seemed to be the only evidence of prehistoric activity in the valley.

At a regional scale, the first human presence in Trentino is dated to the Middle Palaeolithic: scattered flint tools are found at those altitudes not covered by ice during the last glaciation. Epigravettian sites can be found in the southeast part of the region, the most important being the Dalmeri rock-shelter with its painted stones (Dalmeri et al., 2009). Four other Epigravettian sites with archaeological deposits – Le Regole (Dalmeri et al., 2004), Andalo (Guerreschi, 1984), Terlago (Dalmeri, 1993) and Viotte del Bondone (Bagolini and Guerreschi, 1978) – are located in the northwest of the region, near the main valley of Trentino, that of the Adige. Another Epigravettian and Early Mesolithic site has recently been identified near the northern shore of Lake Garda (at an altitude of 85 m asl). The excavation, started in 2013, is still in progress (Mottes et al., 2014). As regards the Mesolithic, in the last fifty years, hundreds of Mesolithic finds have been discovered in Trentino, at high

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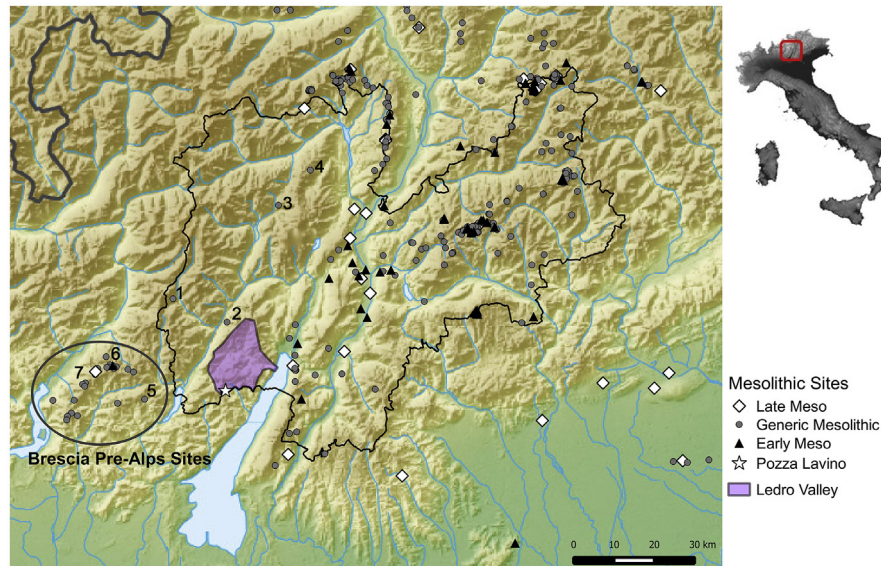


Fig. 1. Mesolithic sites in Trentino and Brescia Pre-Alps. 1: Lago di Campo, 2: Laghetto di Roncone, 3: Passo di Campo Carlo Magno, 4: Monte Peller, 5: Vaiale, 6: Crestoso, 7: Rondeneto. Background map by Lencer, CC licence.

altitude as well as in the valley bottoms (Dalmeri et al., 2001). However, few are located at those mid-level altitudes where archaeological visibility is limited (Cavulli et al., 2011) and the spatial distribution of the evidence is not uniform (Fig. 1). More than 200 Mesolithic sites are located in eastern Trentino or close to the Adige Valley and only 4 on the western side of Lake Garda, where the Ledro valley lies (Kompatscher and Hrozny Kompatscher, 2007; Cavulli and Grimaldi, 2009; Cavulli et al., 2011; Franco, 2011). For these four sites, no stratigraphic information is available because they have not been excavated (Passo di Campo Carlo Magno, Laghetto di Roncone e Lago di Campo; Bagolini et al., 1978; Dalmeri, 1985a, 1985b, 1985c). Not far from the Ledro valley, beyond the southwest regional border, some Mesolithic sites have been found in the Brescia pre-Alps and have been excavated by Paolo Biagi (for example: Laghi di Ravenole, Laghetto di Dasdana, Vaiale, Rondeneto, Crestoso; Biagi, 1976; Biagi, 1992; Baroni and Biagi, 1997; Biagi, 1980, 2002; Biagi and Starnini, 2015). This group of sites could indicate a link between the evidence of Mesolithic activity in the Po Valley and that in the Alpine region, a northward link into the Alps comparable to those of the Adige Valley and Lagorai-Primiero. Also the first Castelnuovian site discovered in Italy, Fienile Rossino, lies in the Brescia Pre-Alps (Biagi, 1972; Biagi and Cremaschi, 1978, 1980; Accorsi et al., 1987).

The most important Neolithic sites in Trentino are in the Adige valley (Pedrotti, 2001a,b) but there is now new, interesting, evidence from the northern shore of Lake Garda (Mottes, 2013). The first Early Neolithic settlements are situated in the same rock-shelters that were occupied in the Late Mesolithic. However, looking at ^{14}C determinations, all the Mesolithic sites at high altitude seem to have been deserted and all the Neolithic evidence is found below 800 m asl. Scant evidence of Neolithic presence is known in western Trentino: just Doss Cingol, near the village of Storo, where some pottery fragments were found in 1981 (Dalmeri, 1982). A renewed economic interest in the mountain environment can be detected beginning in the later phases of the Neolithic and during the Copper Age, possibly connected to pastoral activities (Bagolini and Pedrotti, 1992; Mottes and Nicolis, 2002; Marzatico, 2007; Mottes et al., 2009; Visentin et al., 2015). Beyond the

regional border, near the Ledro valley, a Neolithic site was discovered in the early 20th century (Cozzaglio, 1934).

The Bronze Age site on the Lake Ledro shore, discovered in 1929, is one of the most important pile-dwelling settlements in the Alps. The site is typically dated to 4000 years ago, but a carbon dating of the lower layers (although the dated sample was not found in connection with archaeological materials) dates back to the Late Neolithic (Cortesi and Leonardi, 1997).

This dating can be compared with the pollen-type sequences from the deposits in Lake Ledro studied by Michel Magny and colleagues in 2012. Anthropogenic indicators, dated from 8000 to 6000 years before present, seem to indicate a human presence in the valley during the Neolithic period (Magny et al., 2012). Another important pile-dwelling site in Trentino is Fivavé: the first human presence at this site is dated to the Late Neolithic, about 3800–3600 cal. BC (Perini, 1994; Pedrotti, 2001a). Human presence at high altitude during the Bronze Age is indicated by the sites of Malga Vacil and Dosso Rotondo, not far from the Ledro valley. A very interesting example of a high altitude pastoral economy is identifiable at these sites (Bassetti et al., 2008).

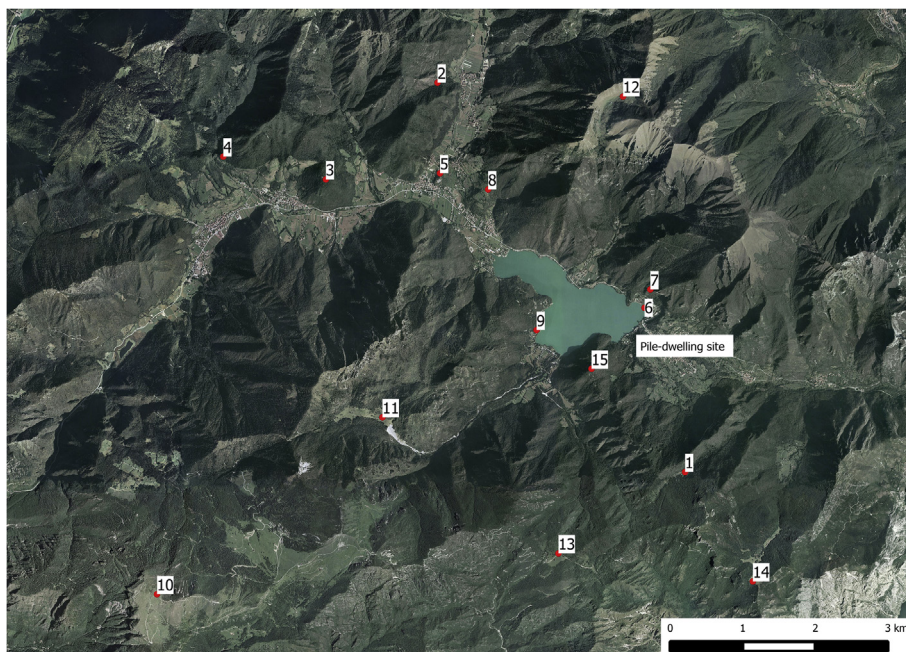
Throughout the prehistory of Trentino, the west side of the region is poor in archaeological sites relative to the east. Recent research shows that this is not a problem of the morphology of the landscape or the “visibility” of the archaeological evidence (Cavulli et al., 2011). Rather, the gap is mainly due to the different rates of progress of research in the two areas: the east side has been surveyed thoroughly, while the west side has not been so intensively surveyed to date. This lack of data was the primary driver behind the current research project.

During 2011, a survey campaign was carried out in the Ledro valley by the Museo delle Palafitte del Lago di Ledro to check for the presence of further prehistoric archaeological sites. The surveys, using both field walking and remote sensing analyses, identified 15 archaeological sites and more than 200 additional points of potential archaeological interest (caves, rock-shelters, mountain passes...). One of these 15 sites is Pozza Lavino, on Monte Tremalzo, dating to the Mesolithic (Scoz et al., 2013; Scoz and Fedrigotti, 2014; Fig. 2, Table 1).

Table 1

The new archaeological sites identified in 2001 in Ledro valley.

ID	Site name	m asl	Archaeological evidence	Type	Remains	Chronology
1	Cadrione	1146	Flint	Open-air	Scattered finds	Neolithic? Bronze Age?
2	Coel de Pigole	963	Pottery/smelting remains	Rock-shelter	Deposit	Bronze Age
3	Col Plagna	1010	Pottery	Hill-top	Scattered finds	Middle and Recent/Final Bronze
4	Doss Castel	912	Pottery	Hill-top	Scattered finds	Recent/Final Bronze Age – Second Iron Age
5	Doss Ceri	729	Pottery	Hill-top	Scattered finds	Recent/Final Bronze Age – Second Iron Age
6	Molina Lungolago	670	Pottery	Lake-shore	Scattered finds	Early and Middle Bronze Age
7	Cuel de Lana	781	Pottery/flint/bones	Rock-shelter	Deposit	Early and Middle Bronze Age
8	Spessa-Civial	840	Pottery/flint	Hill-top	Scattered finds	Neolithic? Bronze Age?
9	Case Boccagni	660	Pottery	Lake-shore	Scattered finds	Bronze Age
10	Pozza Lavino	1800	Flint/pottery	Open-air	Deposit	Epigravettian, Mesolithic, and Neolithic
11	S.Anna chiesetta	1244	Pottery	Open-air	Scattered finds	Iron–Bronze Age?
12	Pozza Saval	1744	Pottery	Open-air	Scattered finds	Bronze Age?
13	Passo Nota	1205	Pottery/flint	Open-air	Scattered finds	Prehistory (generic)
14	Passo Guil	1207	Pottery	Open-air	Scattered finds	Prehistory (generic)
15	Doss de Trat	940	Bronze	Hill-top	Scattered finds	Iron Age?

**Fig. 2.** The 15 new sites in Ledro valley, cf. Table 1.

Pozza Lavino is, to date, the only Mesolithic site excavated in western Trentino and provides the earliest evidence of a human presence in the mountains of this part of the region. The site gives us new information about the settlement strategies and the mobility of hunter–gatherers in this sector of the Alps. However, the excavation is still in progress and so here we can provide only some preliminary thoughts.

2. Environmental setting

The Ledro valley is situated in southwestern Trentino Alto-Adige (Italy), very close to the northern extremity of Lake Garda. Its main peculiarity is its east–west orientation, Alpine valleys more frequently being oriented north–south.

The valley underwent an intense glacial remodelling which left traces in the directions of both Lake Garda to the east and the Chiese Valley to the west (Cadrobbi, 1966). The valley bottom (650 m asl) lies about 600 m above the northern Lake Garda shore (65 m asl) and 400 m above the Chiese Valley. Its location has impeded access in both the ancient and the recent past: the valley is

surrounded by mountains reaching ca. 1500–2200 m asl with relatively steep slopes and no passes below 1000 m asl. Lake Ledro fills most of the eastern valley bottom.

Owing to the karst nature of the valley, surface streams are extremely rare. Water mostly flows underground and collects in the lake.

The valley is poor in flint, this area being characterised by a carbonate substratum with Triassic (dolomite), Jurassic and Cretaceous limestone. Monte Baldo, on the opposite side of Lake Garda, is known for its good quality flint: the raw material of the artefacts found in Pozza Lavino probably comes from there (Bagolini and Nisi, 1976; Finotti, 1981; Dalmeri et al., 2008a).

The region of Lake Garda (65 m asl) is famous for particularly mild climatic conditions which allow the presence of Mediterranean species (Beug, 1964). However, due to its higher elevation, the vegetation in the Ledro valley is quite different. It is dominated at the lower elevations by *Fagus sylvatica* (beech) mixed with *Abies alba* (silver fir), then by *Picea abies* (spruce) in the higher part of the montane belt (650–1600 m), and by *Pinus mugo* (mountain pine), *Alnus viridis* (green alder), *Larix decidua* (larch) and *Picea* in the

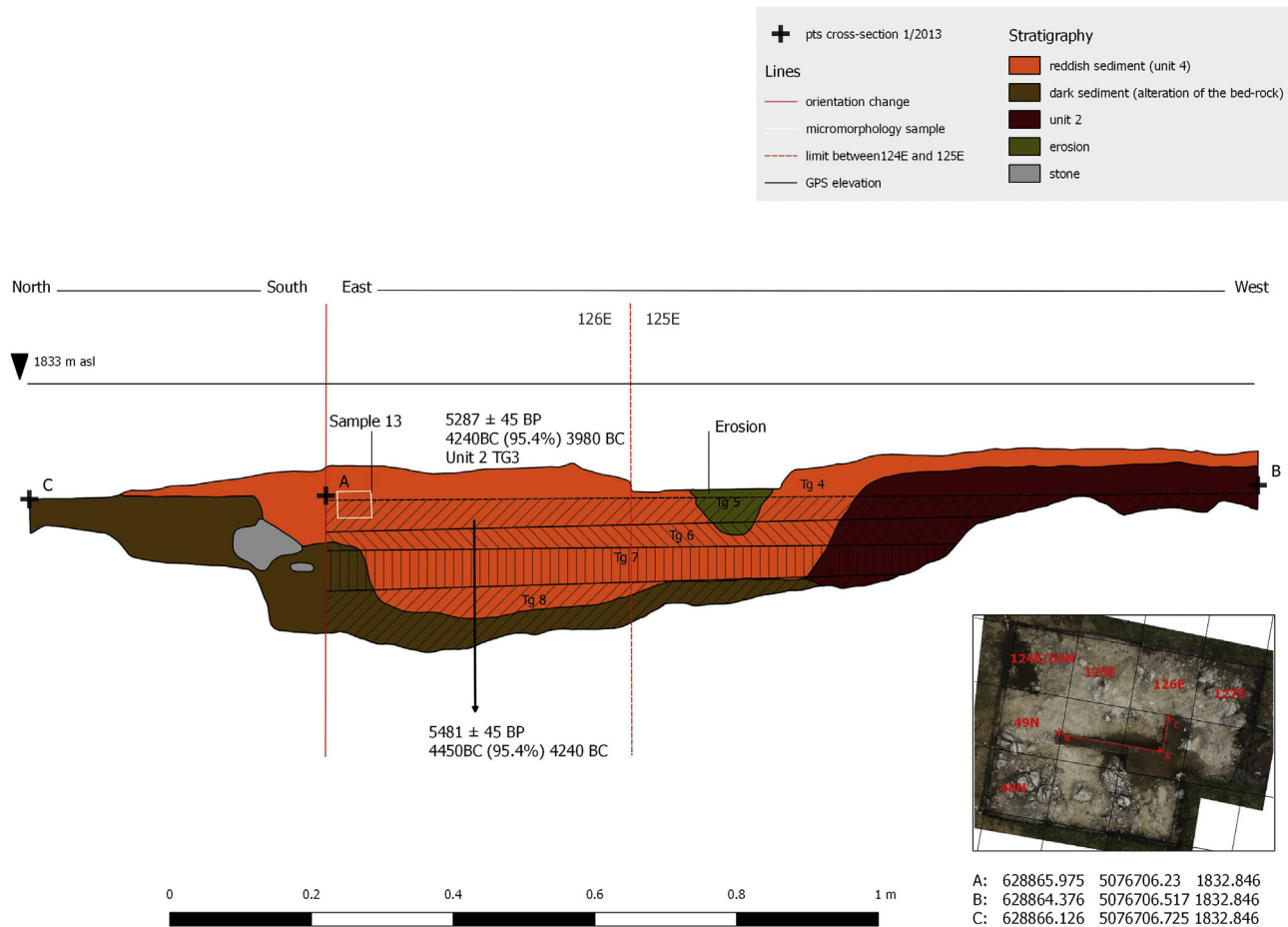


Fig. 3. Section 1, SU 4 and SU 2 (TG4-5-6-7-8) with positioning of ^{14}C and micromorphology samples.

subalpine belt (1600–2000 m). Above 2000 m asl, grasslands dominate (Beug, 1964; Reisigl, 2001). Generally speaking, mixed oak forests did not develop in the Ledro valley (Magny et al., 2012).

The site of Pozza Lavino is located on Monte Tremalzo (municipality of Ledro), at 1800 m asl, at the watershed between southwestern Trentino and Northeastern Lombardy. The slopes of Monte Tremalzo are very steep and the meadows of Pozza Lavino are the only flat land in the area. The only available water source, a little basin, is near the archaeological site and was used in the recent past to water livestock. This basin dried up fifteen years ago, but nearby a small spring continues to flow.

3. Research methods

Carrying out a systematic ground survey campaign in the mountainous context of the Ledro valley is impossible because of the rugged topography. Hence, topographical, geological and toponymic cartography, a 3D Lidar model and aerial photos were used to detect points of potential archaeological interest: rock-shelters, saddles, water supplies, other natural resources etc. Over 150 rock-shelters were found in the toponymic atlas; little water basins and mountain passes are seen in topographical cartography; Digital Elevation Models and aerial photos show evidence of recent land-use. Some of these points of potential archaeological interest were checked by field survey in order to identify surface archaeological remains.

One of the most intriguing locales where artefacts have been found is Pozza Lavino because of the quantity of finds, the

presence of an archaeological deposit and the topography of the area. The first finds came from a series of large depressions under the grass that had been accidentally revealed by the rooting behaviours of wild boars. They revealed a long-term occupation in a location with characteristics common at Mesolithic sites (a crest with a water supply at 1800 m asl) but in an area heretofore regarded as empty in terms of the Mesolithic occupation of Alpine territory.

To investigate a wider area (about 20 m²), a series of small 1 m × 1 m test pits were opened and enlarged to cover wider areas as and when justified by finds. In 2012, trenches were opened on the south shore of the lake along a west-east alignment (Areas 1–5), while in subsequent years we have intensified our investigations of area 2, which reached an extent of 18 m² in 2014, as well as opening new small trenches around the depression (Areas 6–8). The excavation generally adopted a stratigraphic approach, based on homogeneity and continuity of sediments, from an early stage of the research but used artificial cuts (cf. Stein, 1992) to dig stratigraphic unit (henceforth SU) 2 because the layer in some areas was 40 cm deep. The site employed a 1 m × 1 m grid and all excavated soil was passed through a 2 mm sieve. Sieving allowed us to collect even small debris and microliths. We used a Total Station and a DGPS (Differential Global Positioning System) to draw plans/maps and to plot all the find positions in a 3D coordinate system. Field recording focussed on the main characteristics of both the finds (position, material, layer, inclination, traces of burning) and the stratigraphic units (components, relations with other layers, colour, area, plans and cross sections).

4. Discussion and results

The 2011 survey campaign in the Ledro valley also recovered scattered pottery fragments, presumably dating to the Bronze and Iron Ages. These finds can be connected to pastoral activities in the mountains around the valley (Scoz and Fedrigotti, 2014).

Fifteen sites (Fig. 2, Table 1) were discovered during this survey campaign. Pozzo Lavino turned out to be one of the most interesting sites in terms of both the number and types of archaeological finds.

4.1. Stratigraphy

The stratigraphy of Pozza Lavino consists of three layers. SU 1 is directly under the grass cover and represents the modern-day soil. SU 2 is a silty-clay layer with scarce potsherds in the upper part and evidence of flint industry throughout. At the point of contact with the limestone bedrock it turns a darker brown and is termed SU 3, a layer that contains no cultural remains. SU 4 is a clayey red sediment area, the colour presumably a result of burning (rubefaction): it results from the alteration of SU 2, and has been preliminary interpreted as a hearth (Fig. 3).

4.2. Archaeological remains and ^{14}C determination

The main archaeological layer, SU 2, contains 337 artefact out of a site total of 359 (Table 2): other remains come from surface survey (6 pieces); SU 4, the presumed hearth inside SU 2 (5 pieces); and SU 1 (11 pieces). SU 2 was divided into 7 artificial horizontal cuts (each 5 cm deep) during the excavation, known as cut 1 – cut 7. The main concentration of archaeological remains was in cuts 3 (83 pieces), 4 (87 pieces) and 5 (56 pieces) (Fig. 4).

Table 2
Total remains from SU 1, 2 and 4.

	Flint	Pottery	Stone	Daub	Total
SU 1	9	2	0	0	11
SU 2	315	17	2	3	337
SU 4	5	0	0	0	5
Surface	6	0	0	0	6
Total	335	19	2	3	359

Of the 359 significant artefacts collected and whose position was precisely recorded, 335 are flint, 19 pottery, 3 daub and 2 allochthonous mica schist. Other finds identified through sieving are not considered in the present work. The ceramics are quite rough, always without decoration or identifying features such as rims or handles, with the exception of an appliqué boss, and so impart little chronological information. Whether these remains pertain to the Late Neolithic or to a more recent phase is not yet clear. The study of the lithic material is still underway and so at the time of writing only preliminary observations are available (Fig. 5; Tables 2–4).

Table 3
Total lithic assemblage from SU 1, 2 and 4.

Lithic assemblage	RR number
Debris	130
Blade	113
Flake	63
Core	6
Total	312
Retouched	33

Table 4
Total flint typology and technology from SU 1, 2 and 4. Laplace typology.

Flint tools, armatures and cores	RR number
Trapeze	1
Truncation	1
Backed-point	1
Point	1
End-scraper	2
Triangle	2
Arrow-head	2
Burin	2
Scraper	3
Double backed-point	4
Core	6
Retouched blade	10
Total	35

The burned pieces constitute 70% of the total. Ten percent of the flint remains are retouched. The typology of the lithic industry is quite clear: Sauveterrian and Castelnovian *facies* are the most represented but there are also a few remains of a hypothetical Epigravettian phase, as well as a later Neolithic one, represented by arrowheads. Presumably, many of the unretouched blades also belong to this last period.

The four double-backed points are not comparable with the Sauveterrian ones, because of their size and thickness (Fig. 5.1; RR 70 Length: 3.32 cm, width 0.71 cm thickness 0.62 cm). Artefacts of this size can be compared with the double-backed points from SU 18 and SU 16 in the La Cogola rock-shelter (southeastern Trentino). Those archaeological levels are dated to the transition between the Epigravettian and the Sauveterrian (Cusinato et al., 2004; Bassetti et al., 2009). Backed points and triangular armatures (Fig. 5.3–4) attest to an Early Mesolithic phase (Laplace Gm3, Laplace, 1964; Broglio and Kozłowski, 1983, Fig. 21–9), while a Castelnovian phase is clearly attested by a trapezoidal armature comparable to the finds from Pradestel layer E (Dalmeri et al., 2008b; Franco, 2011 Fig 28–1 p. 126) (Fig. 5.5).

The arrowheads (Fig. 5.6–7) are comparable to other mountain finds from northeastern Italian sites such as: Bocca Vaiona, Malga Vacil and Monte Baldo in Trentino province (Marzatico, 2007); Mondeval de Sora (Fontana and Pasi, 2002; Visentin et al., 2015); Monte Cenera (Palmieri, 1978; Bagolini and Pedrotti, 1992), Lastoni del Formin and Malga Pradazzo in the Veneto region (Cavulli et al., 2015); Monte Guglielmo in Val Trompia (Malga Stalletti Alti and Punta Caravina) in the nearby province of Brescia (Biagi, 2002; Biagi and Starnini, 2015).

Seventy-five percent (256) of the archaeological remains were found lying horizontally, 17% (61) lying obliquely and 7% (24) in a vertical orientation. This would seem to suggest that the finds did not experience substantial displacement within the layer. However, the radiocarbon analyses show that the hearth is more recent than the flint remains above it. We must therefore suppose that a slow and limited movement of the Mesolithic artefacts down the slope occurred and resulted in them overlying the Neolithic fireplace while maintaining their horizontal orientations.

The Neolithic phase is also demonstrated by ^{14}C determinations (Table 5), the dates of SU 4-TG5 and SU 2-TG3 can be compared with the Middle and Late Neolithic sites of Isera la Torretta phase 1 (Pedrotti, 1996), Ala le Corone (Nicolis et al., 2007) and other “Square Mouth Pottery” sites of northern Italy (Bagolini and Biagi, 1990).

Table 5
 ^{14}C determination by CEDAD (Centro di datazione e diagnostica), University of Salento, with software OxCal Ver. 3.10.

Laboratory code	ID/Type of wood	Archaeological layer and square	Radiocarbon Age (BP)/ $\delta^{13}\text{C}$ (‰)	^{14}C Calibrated date 2σ
LTL14417A	PLAV CAMP8/ <i>Laburnum cfr. alpinum</i>	US4 TG5 126E/49N	$5481 \pm 45/-19.1 \pm 0.5$	4450BC (95.4%) 4240BC
LTL14418A	PLAVCAMP4/ <i>Coniferae</i>	US2TG3 126E/49N	$5287 \pm 45/-22.5 \pm 0.8$	4240BC (95.4%) 3980BC
LTL14416A	PLAV CAMP10/ <i>Coniferae</i>	US2 TG7	$2608 \pm 35/-20.6 \pm 0.6$	840BC (95.4%) 750BC

5. Preliminary conclusions

The presence of double-backed points of large size at Pozza Lavino suggests an Epigravettian phase, which is particularly interesting given the altitude of the deposit: 1800 m asl. Indeed, the average elevation of the Upper Palaeolithic sites in Trentino is between 1000 and 1300 m asl (Cavulli et al., 2011). The existence of just 4 pieces does not, however, really justify us in proposing even preliminary hypotheses.

The majority of the archaeological remains from Pozza Lavino are ascribable to the Mesolithic period, specifically the Sauveterrian and the Castelnovian *facies*. The altitude of 1800 m asl is comparable to other mountain Sauveterrian sites in the region (around 2000 m asl) but the geomorphological context is, as we have seen, very different. In the Ledro mountains the slopes are very steep and the Tremalzo pass area is the only small flat area of Alpine pasture. Comparable sites would be those studied by Paolo Biagi in Lombardy (in the Brescia pre-Alps). The site of Rondeneto (1780 m asl) is dated to the Boreal period by two radiocarbon dates (GrN-18252: 7710 ± 50 BP and GrN-18253: 7175 ± 50 BP) and the flint

assemblage is datable to the Sauveterrian period. The site of Laghetti del Crestoso (2000 m asl) is dated to the Castelnovian period by many trapezoidal armatures and four radiocarbon dates (GrN-18091: 6870 ± 70 BP, HAR-8871: 6790 ± 120 BP, Beta-35241: 7850 ± 80 , GrN-21889: 7870 ± 50 ; Biagi, 1992, 1997; Biagi and Starnini, 2015). Another site in this area, Vaiale, lies at an altitude of 830 m asl and was also inhabited again later, in the Iron Age (Biagi and Nisbet, 2008). The river Chiese, the main link between the Po valley and western Trentino through the Brescia pre-Alps, links the area studied by Paolo Biagi with the Ledro valley.

Another western Trentino gateway to approach the inner Alps from the Po plain could have been Lake Garda. However, the very steep slopes of the western shore do not allow easy passage. Considering the Adige Valley, the hypothesis of a high route passing through the Tremosine highland to reach the Riva del Garda-Arco plain (Moletta Patone and Arco via Serafini) is more concrete but, to the best of our knowledge, no sites have yet been detected.

Limiting ourselves to the available archaeological evidence, the sites in eastern Lombardy (Valle del Chiese, Val Trompia) seem to represent the first incursions of Mesolithic hunter-gatherers into

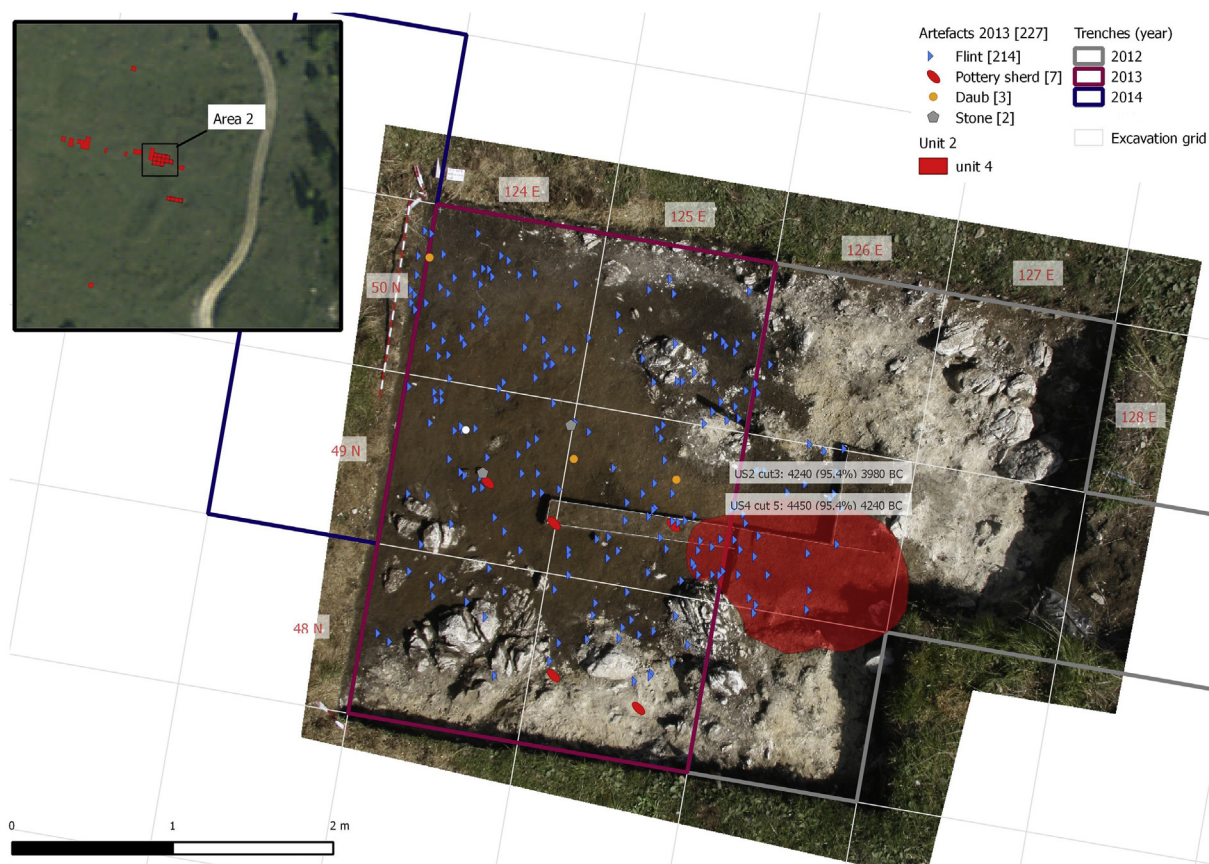


Fig. 4. Area 2 with positioning of archaeological remains, ^{14}C samples and SU 4. Trenches of 2012, 2013 and 2014.

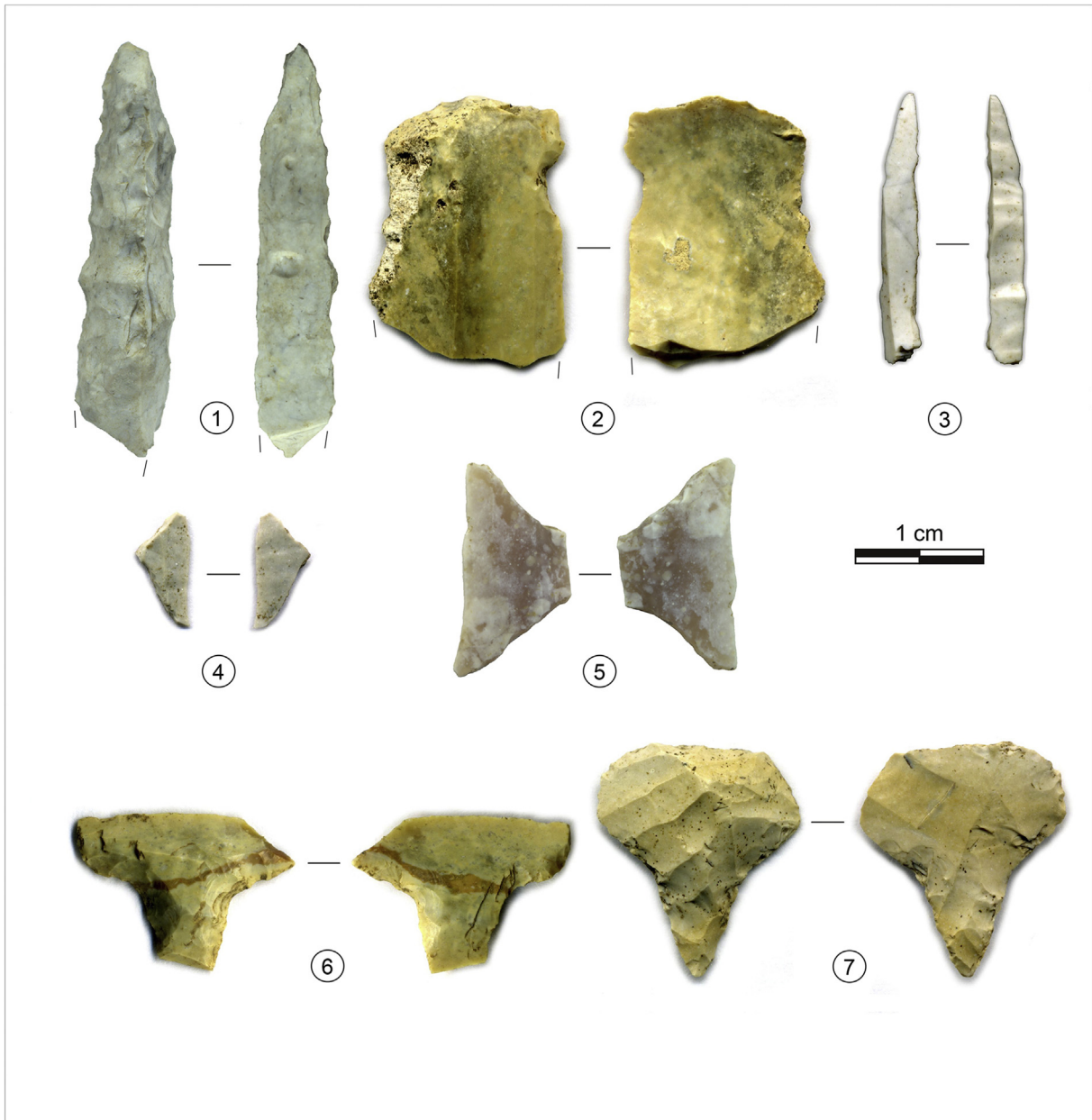


Fig. 5. Dating artefact 1: Double backed-point, RR 70, SU 2 cut 3. 2: Scraper, SU 2. 3: backed-point, SU 2. 4: Triangle, RR 49, SU 2 cut 3. 5: Trapeze, RR 21, SU 2 cut 2. 6–7: Arrowheads *tranchant transversal*, SU 2.

this part of the Alps and Pozza Lavino could then represent the link between those sites and the other, still scanty, evidence in western Trentino.

Further, regarding the Neolithic arrowheads, the high altitude of Pozza Lavino is surprising. No other Neolithic site in Trentino is above 800 m asl. But, as we wrote above, some similar scattered finds have been recovered in the area of the Dolomites (Carrer and Pedrotti, 2015; Cavulli et al., 2015). Neolithic deposits in mountain environments are known in the western Alps at Ubaye valley (France; Garcia et al., 2007), at Monte Fallère (Aosta valley, Italy; Raiteri, 2008–2009), and at Monviso (Pétrequin et al., 2013). In the Central Alps such finds are known from Silvrettagruppe (Austria; Reitmaier et al., 2013), Schnidejoch (Hafner, 2009) and Mesocco-Tec (Switzerland; Della Casa, 1995).

The most important Neolithic sites of the Adige valley are residential sites or cemeteries. In addition to the altitude, the main difference between these sites and Pozza Lavino is the purpose of the site: Pozza Lavino, in its Neolithic phase, can be compared with Malga Vacil and Dosso Rotondo, Storo (Bassetti et al., 2008), sites that have close ties with the mountain environment and resources. In fact, at the moment, the most likely hypothesis is that the Tremalzo Mountains were a hunting ground – this is the hypothesis that finds most support on the basis of the archaeological finds. However, if the pottery turns out to be Neolithic this hypothesis must be reconsidered, since ceramic artefacts are more related with residential sites.

There are no faunal remains at Pozza Lavino but the lithic assemblage and the position of the site suggest a hunting camp. The

presence of the little water basin also supports this hypothesis because the surface water, scarce in the limestone Tremalzo mountains, would have been a natural attraction for animals.

The fifteen new sites identified in the Ledro valley testify to a human presence in various landscape contexts at various times. At the time of the pile-dwelling village, human groups also lived beyond the lakeshores. Scattered pottery fragments at the tops of some hills, in rock-shelters and at mountain passes provide evidence of a complex system of settlements and exploitation consisting of the main site in the valley bottom and functional sites with different purposes spread across the surrounding territory. The hill-top sites permitted visual control of the territory; the human presence at the mountain passes/saddles could have been related to pastoral activities; rock-shelters could have been used to corral the livestock and/or for smelting activities. These data confirm the framework already suggested by other Copper/Bronze Age sites in the Alps, from Liguria to Slovenia and Stiria. All show that mountain activities can be differentiated into categories such as transhumance, mineral exploitation, smelting, hay-making and hunting (Bagolini and Pedrotti, 1992; Küster, 1994; Oeggl, 1994; De Marinis and Pedrotti, 1997; Riedel and Tecchiati, 1997; Castelletti and Motella De Carlo, 1998; Venturino Gambari, 1998; Della Casa, 2001, 2002, 2003; Mottes and Nicolis, 2002; Maggi, 2004; Nisbet, 2004; Marzatico, 2007). An earlier human presence is also attested by the archaeological remains from Pozza Lavino. These data confirm a Middle/Late Neolithic presence in the valley and establish the time of the first human presence there as the transition between the last phase of the Upper Palaeolithic and the Sauveterrian. The absence of Neolithic and Mesolithic remains in other areas of the valley might still be the result of past research bias.

The sites and the deposit under excavation testify to a Mesolithic occupation in the western Trentino region, a region which had been something of a black hole, or, at best, a sparsely occupied area, in archaeological maps until very recently. The new evidence, linked to the known finds in the Brescia pre-Alps, gives support to the idea of a new route linking the area to the Po valley. The suggested route towards the inner Alps is parallel to, and contemporary with, and not alternative to, the already well-known ones: the Veneto pre-Alps and the Adige valley. The watershed position of the Pozza Lavino settlement can – and has already begun to – shed new light on the behaviour and settlement strategies of our prehistoric ancestors in the mountains of western Trentino.

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