Quaternary International xxx (2015) 1–9

Contents lists available at ScienceDirect

Quaternary International

journal homepage: www.elsevier.com/locate/quaint

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

Luca Scoz [a, *], Fabio Cavulli [b], Alessandro Fedrigotti [a], Stefano Neri [a], Annaluisa Pedrotti [b], Giampaolo Dalmeri [a]

[a] Muse – Museo delle Scienze di Trento, Corso del Lavoro e della Scienza, 3, I-38123 Trento, Italy
[b] Department of Humanities, University of Trento, Via T. Gar, 14, I-38122 Trento, Italy

ARTICLE INFO

Article history:
Available online xxx

Keywords:
Mesolithic
Sauveterrian
Castelnovian
Neolithic
High altitude
Northern Italy

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.

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; Rageth, 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

* Corresponding author.
E-mail addresses: luca.scoz@muse.it (L. Scoz), fabio.cavulli@lett.unitn.it (F. Cavulli), alessandro.fedrigotti@muse.it (A. Fedrigotti), stefano.neri@muse.it (S. Neri), annaluisa.pedrotti@lett.unitn.it (A. Pedrotti), giampaolo.dalmeri@muse.it (G. Dalmeri).

http://dx.doi.org/10.1016/j.quaint.2015.11.112
1040-6182/

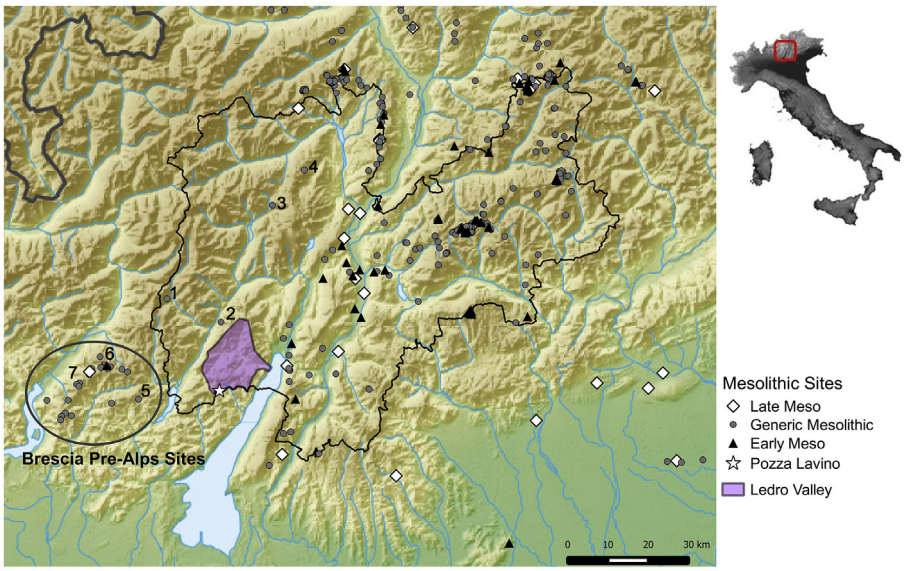

Fig. 1. Mesolithic sites in Trentino and Brescia Pre-Alps. 1: Lago di Campo, 2: Laghetto di Roncone, 3: Passo di Campo Carlo Magno, 4: Monte Peller, 5:Vaiale, 6: Crestoso, 7: Rondeneto. Background map by Lencer, CC licence.

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 Castelnovian 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 Fiavé: 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).

Please cite this article in press as: Scoz, L., et al., New data on the first human settlements in western Trentino: The site of Pozza Lavino in the Ledro valley (Trentino, Italy), Quaternary International (2015), http://dx.doi.org/10.1016/j.quaint.2015.11.112