

*Entre terres et eaux*

*Les sites littoraux de l'âge du Bronze : spécificités et relations avec l'arrière-pays*

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Yves BILLAUD et Thibault LACHENAL

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## Plain, mountain and lake: the Frassino pile-dwelling site in the middle of a network

Federica GONZATO, Claudia MANGANI, Luciano SALZANI

**Résumé :** Le site d'habitat sur pilotis du lac de Frassino (Peschiera del Garda, Italie), qui fait partie du site sériel et transnational de l'UNESCO « Sites palafittiques préhistoriques autour des Alpes », est situé le long de la rive sud-ouest d'un petit lac morainique, à 1000 m au sud du lac de Garde, non loin d'autres sites de l'âge du Bronze, qui s'est répandu tout autour de la région de la Garde.

En particulier, en observant la position sur une carte de ces sites de l'âge du Bronze, on peut se rendre compte qu'ils constituaient un réseau connecté par des voies terrestres et aquatiques. En cartographiant les sites contemporains, incluant aussi bien les habitats lacustres que les sites d'habitat sur terre ferme (dans la plaine et sur les collines environnantes), il est possible d'en déduire certaines informations sur les routes d'échange, en regardant les similitudes et les spécificités des établissements de cette région.

Afin de définir le profil économique du lac de Frassino, il faut effectuer un travail préliminaire visant à recueillir des données provenant de différentes campagnes archéologiques, qui se sont déroulées sur plusieurs décennies : le site archéologique submergé était déjà connu au début du XIX<sup>e</sup> siècle, puisque la zone était alors utilisée pour l'extraction de la tourbe, mais grâce aux fouilles sous-marines entreprises entre 1989 et 2000, il est maintenant possible de dater les découvertes entre la fin de l'âge du Bronze ancien et le début du Bronze moyen, notamment à l'aide d'une chronologie basée sur la poterie et plusieurs analyses dendrochronologiques. De plus, entre 2011 et 2014, les carottages et les fouilles archéologiques ont mis en évidence la présence de structures et de couches anthropiques, notamment également dans le sol aujourd'hui sec du rivage.

L'article propose une synthèse des principaux types de poterie et de leurs décorations, provenant de différentes campagnes et recherches entreprises dans l'habitat lacustre de Frassino mais aussi dans les environs, dans le but de faire la lumière sur l'habitation sur pilotis dans un premier temps, mais aussi en tenant compte de la relation avec l'autre site de la région. Ainsi, à partir de l'analyse des sites proposés, il est possible de démontrer l'existence d'un réseau dense de contacts qui reliait les localités surplombant le lac de Garde.

Stratégiquement positionnés le long des rives du lac ou des rivières du lac de Garde, qui rendaient des connexions possibles, et dans la plaine fertile, les sites pris en compte sont éloignés les uns des autres par une distance allant de 600 m à 13 km (de Lugana Vecchia à Cisano, l'ensemble du parcours comprenant 17,5 km), c'est-à-dire une distance facile à parcourir en quelques heures de marche. De plus, dans de bonnes conditions météorologiques, on pouvait voir au moins un des sites lorsqu'on se trouvait dans un d'entre eux. Dans ces conditions favorables, malgré la singularité et l'autonomie de chaque village, il est naturel et pratique de créer un réseau de contacts qui va généralement de pair avec une tendance à partager des habitudes, des pratiques ou des phénomènes sociaux, qui se trouvent reflétés, du point de vue de la culture matérielle, par un langage iconographique commun.

Les échanges étaient également actifs avec d'autres sites plus éloignés à travers la vallée de l'Adige, le long des routes commerciales vers le nord – comme le confirme également la floraison des établissements vallonnés de Lessinia - ou encore avec la zone alpine riche en minéraux, fondamentale pour les activités métallurgiques, qui se développeront de plus en plus au cours des siècles suivants. Les mêmes conclusions peuvent être tirées de l'ouverture vers la plaine fertile et les routes fluviales vers le sud, qui semblent indiquer un intérêt confirmé par l'expansion ultérieure des peuplements vers la plaine.

**Mots-clés :** habitat lacustre, Bronze ancien, Bronze moyen, lac de Frassino, UNESCO, amphithéâtre morainique, lac de Garde.

**Abstract :** The pile-dwelling site of Frassino Lake (Peschiera del Garda, Italy) is part of the transnational serial UNESCO property “Prehistoric Pile Dwellings around the Alps”. It is located along the south-western shore of a small moraine-dammed lake, some 1000 m south of Lake Garda, not far from other Bronze Age settlements, which were distributed over the Garda region.

The geographical location of these Bronze Age sites clearly indicates the presence of a network of contacts by land and by water. The mapping of contemporaneous settlements, based on the typology of pile-dwelling structures in comparison with other settlement types, and differing from those with waterlogged environmental structures (namely built on dry soil, on the plain and on surrounding hills), makes it possible to infer important data on the exchange routes and to identify similarities and specificities of the settlements of this region.

To define the economic profile in the Frassino area, it is necessary to collect data obtained during different archaeological campaigns, which took place over several decades. The submerged archaeological site was already known by the beginning of the 19th century, since the area was used for peat extraction. Underwater excavations were carried out between 1989 and 2000. They made it possible to date the discoveries between the end of the Early Bronze Age and the beginning of the Middle Bronze Age, a chronological sequence based on pottery and several dendrochronological analyses. Between 2011 and 2014 coring and archaeological excavations made it possible to evidence the presence of structures and anthropic layers also in the currently dry soil of the shore.

This paper puts together the main pottery types and decorations from different campaigns and research carried out in the Frassino settlement as well as in the surrounding area, and aimed to shed new light on pile-dwelling settlements as well as on their relationship with other sites of the region. The analysis of the proposed sites makes it possible to highlight a dense network of connections among the settlements that overlooked Lake Garda.

Strategically positioned along the shores of Lake Garda or of rivers which offered easy connections, and in the fertile plain, the settlements taken into account are between 600 m and 13 km apart (from Lugana Vecchia to Cisano, the entire distance is 17.5 km), a distance which can easily be covered in a few hours' walk. Moreover, in fair weather conditions, these sites could see each other.

In such favourable conditions, despite the singularity and autonomy of each individual village, it is natural to create a network of contacts that implies the tendency to share habits or social practices, reflected, from the point of view of the material culture, by a common iconographic language.

Exchanges also took place with other sites further away across the Adige Valley, along the trade routes to the north – also confirmed by the flourishing of hilltop settlements in Lessinia – or in the Alpine area rich in minerals, essential for metallurgical activities, which will gradually developed over the following centuries. The same conclusions can be drawn from the opening towards the fertile plain and the river routes to the south, a development confirmed by the subsequent expansion of settlements towards the plain.

**Keywords:** Pile dwelling, Early Bronze Age, Middle Bronze Age, Frassino Lake, UNESCO, morainic amphitheatre, Lake Garda.

## INTRODUCTION

Lake Garda and its surrounding area have yielded strong evidence of pile-dwellings<sup>(1)</sup> and settlements extensively distributed throughout the Bronze Age (fig. 1). As has been stated previously (Fozzati *et al.*, 2006), the study of their development is therefore a model for settlement history and relationships between the lake shores and the “dry land”.

Within the present study all the significant data available were collected with the aim of reconstructing the settlement patterns in the Lake Garda region, more particularly on the Verona shore and its surrounding area, during the Bronze Age (fig. 2). Most of the sites under study were not investigated by extensive archaeological excavations. However, they have been subject to surveys carried out in limited areas and, in some cases, we are dealing with accidental discoveries.

This project was launched after resumption of research at Lake Frassino (shore area) in 2014 under the direction of Federica Gonzato (Gonzato *et al.*, 2015a; Gonzato and Mangani, 2018) and of the study of materials discovered during the underwater excavations carried out by Luigi Fozzati and Luciano Salzani (Salzani, 1989; Salzani *et al.*, 1991).

## THE PILE DWELLING OF FRASSINO I (PESCHIERA DEL GARDA, VERONA, ITALY)

The pile-dwelling site of Frassino I<sup>(2)</sup> is located at the south-western edge of the moraine lake of the same name in the hinterland of the municipality of Peschiera

del Garda, part of a natural reserve established by the province of Verona in 1999.

Since 2011 the Frassino pile dwelling has been part of the transnational serial property “Prehistoric pile dwellings around the Alps” (IT-VN-05 Peschiera del Garda, Verona – Frassino) and is therefore included in the UNESCO World Heritage List (fig. 3).

The submerged pile dwelling identified in the early 1980s (Salzani *et al.*, 1991; Fozzati *et al.*, 2006) encompasses an area of about 1500 m<sup>2</sup> and was investigated by underwater excavation campaigns carried out by the Superintendence between 1989 and 2000. Many of the wooden piles have been preserved vertically down to the lowermost stratum, which consists of a very fine silty matrix. During the underwater excavations, highly diagnostic pottery elements were recovered, dated to a transitional phase between the Early Bronze Age and the Middle Bronze Age of the Lake Garda region. Dendrochronological and radiocarbon dating of samples taken from the lake range from 1709 to 1637 ( $\pm 12$ ) cal. BC (end of the Early Bronze Age – EBA 2). Samples from the 2014 excavation are dated to 1920-1900 BC and 1890 -1870 BC, i.e. the beginning of the Early Bronze Age (EBA), although the pottery studies indicate an occupation of this area during the Early and Middle Bronze Age (Gonzato *et al.*, 2015a).

Based on the pottery analysis it was possible to identify three main phases:

### The Early Bronze Age 2 period

As seen above, the EBA 2 corresponds to the time span covered by the dendrochronological and radiocarbon dates. The only bronze artefact recovered from the Frassino pile dwelling (1994 excavation) belongs to this phase, a dagger blade with rounded butt and three rivets;

Half 21 <sup>st</sup> – end of 19 <sup>th</sup> century BC	Early Bronze Age 1 <b>(EBA 1)</b>
End of 19 <sup>th</sup> – half 17 <sup>th</sup> century BC	Early Bronze Age 2 <b>(EBA 2)</b>
Half 17 <sup>th</sup> – half 16 <sup>th</sup> century BC	Middle Bronze Age 1 <b>(MBA 1)</b>
Half 16 <sup>th</sup> – half 15 <sup>th</sup> century BC	Middle Bronze Age 2 <b>(MBA 2)</b>
Half 15 <sup>th</sup> – second half 14 <sup>th</sup> century BC	Middle Bronze Age 3 <b>(MBA 3)</b>
Second half 14 <sup>th</sup> century BC	Late Bronze Age

**Fig. 1 – The Bronze Age in the Lake Garda region (after Cupitò and Leonardi, 2015).**

**Fig. 1 – L'âge du Bronze dans la région du lac de Garde (d'après Cupitò et Leonardi, 2015).**

and, in the centre of the blade, a V-shaped decorative pattern with a slightly concave shape and small dots<sup>(3)</sup> (fig. 6, n° 1).

The most characteristic pottery forms of this period are the following:

- cups (fig. 4, n° 2-3, 5, 8-9) with bent handles;
- mugs (fig. 4, n° 1 and 6);
- bowls with “Barche di Solferino” style decoration<sup>(4)</sup> (fig. 4, n° 7);

– biconical or spherical shaped vessels with handles similar to those on cups and mugs (fig. 4, n° 4 and 10)

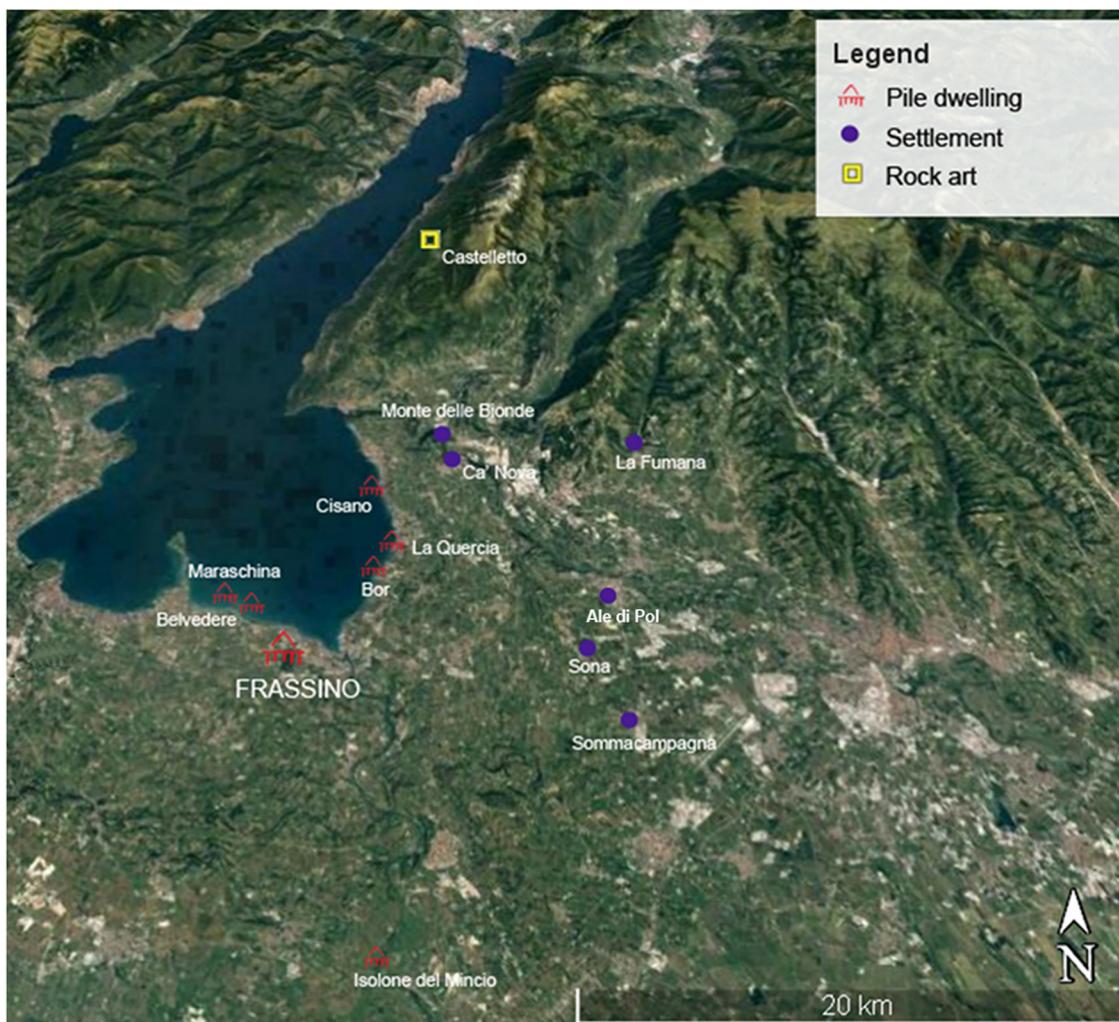
There is also a vase with multiple mouths<sup>(5)</sup> (fig. 5), which can be compared with a vase found at the Bande Cavriana (Mantua) pile-dwelling, in EBA 1-2 levels (Baioni and Mangani, 2016, p. 51).

### **The Early Bronze Age 2 / Middle Bronze Age 1 transitional period**

In the field of Bronze Age studies, the existence of a transitional period between the Early and Middle Bronze Age is now recognised in this area and, based on

the central European chronology, this period is limited to the BzA2 and BzB1 (Belluzzo and Tirabassi, 1996, p. 80). However, this “phase” seems less apparent, both by its very nature and by the characteristics of its findings<sup>(6)</sup>, in particular its materials. In general we can observe that:

- EBA 2 and MBA 1 elements co-exist: primarily, the persistence of the “Barche di Solferino” decoration can be noted, with variants on shapes that are characteristic of the MBA 1 period (fig. 6, n° 4-6);
- conversely, EBA 2 bowls with “Barche di Solferino” decoration and handles foreshadow those of the MBA 1 period (fig. 6, n° 7);
- decorations already present in the EBA 2 on typical shapes of the MBA 1 (fig. 6, n° 9);
- carinated cups, in some cases preserving a handle bent slightly upwards (fig. 6, n° 8) or carinated cups with a large handle bent upwards (fig. 6, n° 2);
- biconical vessels with a maximum diameter highlighted by a resega or handles with axe-shaped<sup>(7)</sup> appendix and decorated with a simple grooved pattern (fig. 6, n° 10);



**Fig. 2 – Map of the sites mentioned in the text.**  
**Fig. 2 – Carte de répartition des sites mentionnés dans le texte.**

– presence of so-called handles of the Lagazzi<sup>(8)</sup> type (from the site of Lagazzi, in Cremona province). The type is present in Cella Dati (Cremona; Patroni, 1908, p. 206); this site has recently been defined as a “settlement referable exclusively to EBA 2” (Rapi, 2011, p. 182). At Frassino three examples of this handle<sup>(9)</sup>, two of which with decoration in “Barche di Solferino” style (one with hemispherical shape, fig. 6, n° 4, and the other with articulated profile, fig. 6, n° 3) and one, undecorated, on a carinated shape, which refers to MBA forms (Gonzato and Mangani, 2018).

### The Middle Bronze Age 1 period

The MBA 1 period is well characterised by shapes and decorative patterns:

- carinated cups<sup>(10)</sup> (fig. 7, n°s. 1-12) with shaped handles (fig. 7, n°s. 1-6 and 8), and/or with decorations (fig. 7, n°s. 9-12);
- large carinated bowls, sometimes with peculiar handles<sup>(11)</sup> (e.g. fig. 7, n°s 15-17; fig. 8, n° 13; fig. 9, n°s 2 and 4) and rich decoration, typical of this period in the area;
- hemispherical bowls with decoration similar to the carinated type (fig. 9, n°s 7-9);

- bowls with a cone-shaped profile with the same decoration on the bottom (fig. 9, n° 6);
- decorated footed cups (fig. 9, n°s. 11-12) or peducci<sup>(12)</sup> (fig. 9, n° 15);
- cups with a cone-shaped profile (fig. 9, n°s. 13-14);
- biconical, decorated or non-decorated vessels, sometimes with handles or lugs (fig. 10, n°s 1-6).

## THE LAKE GARDA AREA

As will be discussed briefly, very similar characteristics, as regards to pottery shapes and more particularly to decoration patterns, have been identified in other pile-dwelling villages of Lake Garda along the Verona shore (Longhi, 2001, p. 42). As a matter of fact, all these sites developed during a period that started towards the end of EBA and lasted during the MBA, except for a few settlements (Peschiera-Boccatura del Mincio and Peschiera-Maraschina).

The Bor di Pacengo (Pacengo, Verona) site was discovered and first investigated in 1864 (Cavazzocca, 1878 and 1880; Aspes and Fasani, 1967-68; Aspes and Borghe-

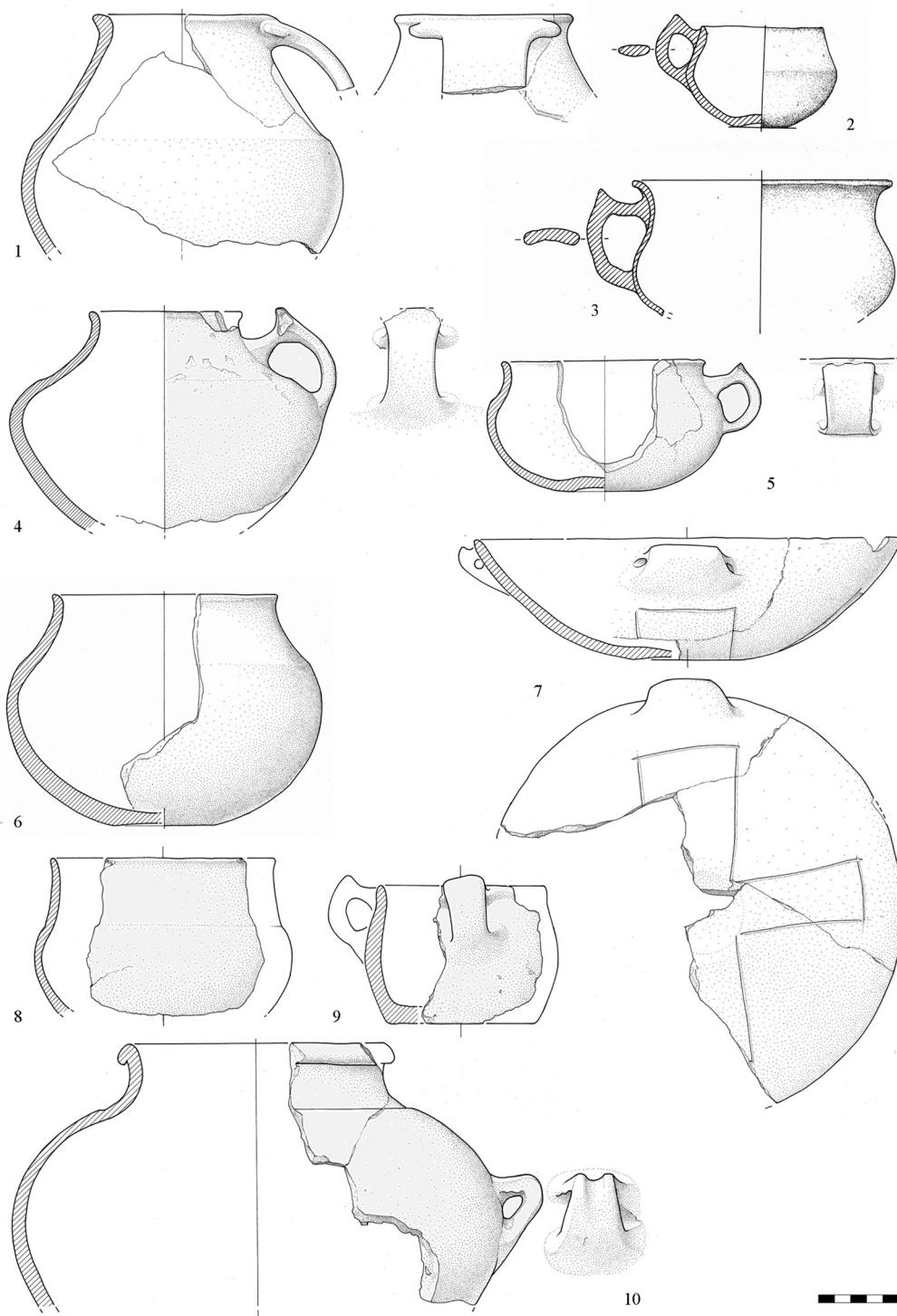


**Fig. 3 – Above:** pile dwellings of Garda area and Veneto. The UNESCO serial transnational site “Prehistoric Pile Dwellings around the Alps” groups together a selection of 111 out of the 1000 known pile dwellings in the six countries around the Alps: Switzerland, Austria, France, Germany, Italy and Slovenia. **Below:** view of Frassino lake.

**Fig. 3 – En haut :** les sites lacustres de la région de Garde et du Veneto. Le bien en série transnational de l’UNESCO « Sites palafittiques préhistoriques autour des Alpes » regroupe 111 sites sélectionnés parmi les 1000 sites lacustres répertoriés dans les six pays alpins : Suisse, Autriche, France, Allemagne, Italie et Slovénie. **En bas :** vue du lac de Frassino.

sani, 1980a, p. 180-182 and fig. 38-39; Simeoni, 1992). Further research took place in 1876-1879 and 1892-1899, although limited almost exclusively to the collection of artefacts: pottery, flint, bone objects, and numerous bronze artefacts. The particularly large number of bronze artefacts seems to suggest that this site was an important centre related to metal production. Surveys carried out from 1960 until recent years by the Prehistory Section

of the Museum of Natural History of Verona have provided an initial topographic survey of the settlement. The pile field is located about 100 m away from the shore and encompasses approximately 1,200 m<sup>2</sup>. Two hundred forty-five wooden elements have been registered and three rows of piles identified, which were set in an exact alignment. These may be the remains of a trackway connecting the settlement to the dry ground <sup>(13)</sup>.



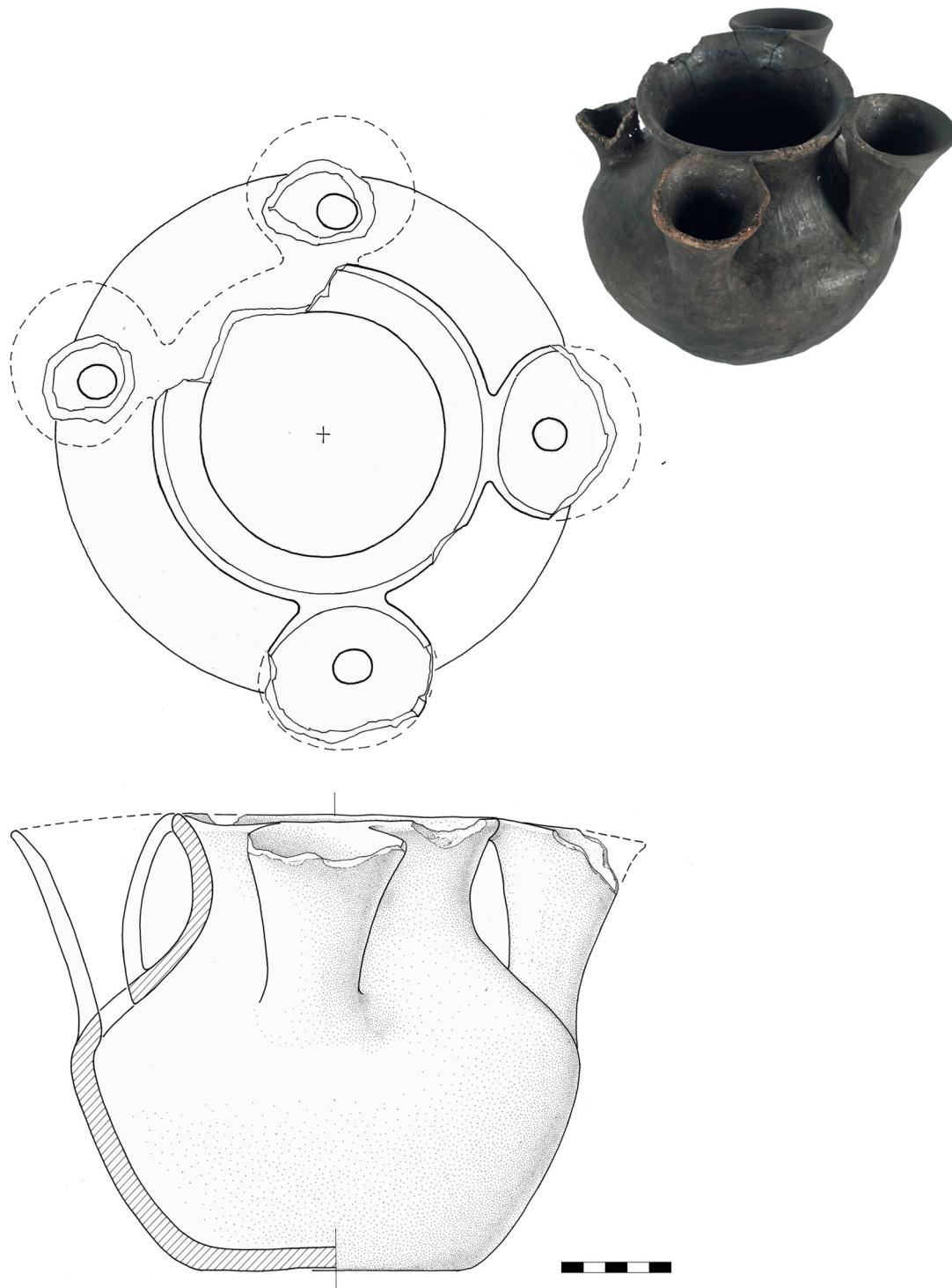
**Fig. 4 – 1 to 10:** Early Bronze Age 2 potteries (n°s 1, 4-10: excavation 1997; n°s 2-3: excavation 1999).  
**Fig. 4 – 1-10 :** céramiques du Bronze ancien 2 (n°s 1 et 4 à 10 : fouilles 1997 ; n°s 2-3 : fouilles 1999).

The discoveries indicate that the site was occupied for a long period of time. The EBA 2 is characterised by dagger blades (fig. 11, n°s. 4-5), axes (fig. 11, n°s. 1-2) and a ring-headed pin (fig. 11, n°. 12)<sup>(14)</sup>. For EBA pottery see Aspes and Borghesani, 1980a, fig. 25, n°. 4 and fig. 26, n°s. 1-3 and 6. The MBA 1 is represented by dagger blades (fig. 11, n°s. 6-7). As regards pottery see Aspes and Borghesani, 1980a, fig. 24, fig. 25, n°s. 1-3 and 5-9, and fig. 26, n°s. 4-5, 7-9 and 19-20) and Aspes and Borghesani, 1980a, fig. 39, n°s. 1-3 and 7-10. Actually, some scholars used to

refer to the MBA of Lake Garda as the “Bor horizon”, as some bronze artefacts (fig. 11, n°s. 13-14 and 17-20) show that the settlement was occupied throughout the entire MBA period. Moreover, an axe (fig. 11, n°. 3) as well as pendants (fig. 11, n°s. 8-9) and a pin (fig. 11, n°. 15) testify to an LBA presence.

In addition, two Porto di Pacengo type hour-glass-headed pins (fig. 11, n°. 10) were recorded.

Pins of this type were recovered from Cisano (Fasani, 1980, plate IV,4 and p. 19), Ca' Nova di Cavaion (Bel-



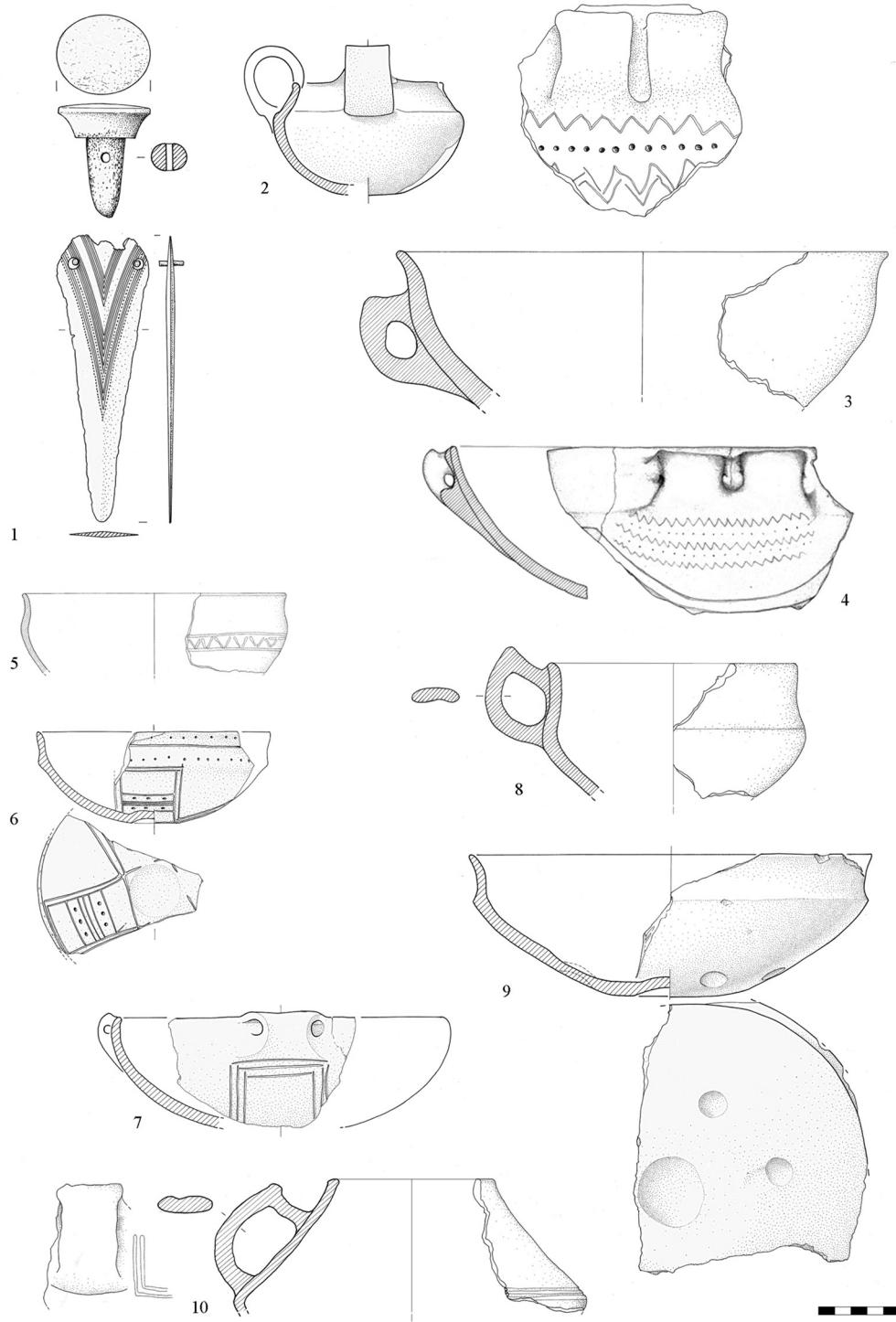
**Fig. 5 – Frassino. Multimouthed vessel.**  
**Fig. 5 – Frassino. Récipient à embouchures multiples.**

luzzo and Tirabassi, 1996, plate 2,3) (undecorated) and, although slightly different, from the Lavagnone pile dwelling (Brescia) (Rapi, 2011, p. 182-184). Yet, none of these pins can be precisely dated because they were found outside of any archaeological context.

Leone Fasani first assumed that the type could be dated between the end of EBA and the beginning of the MBA, followed by Giuseppe Belluzzo and James Tirabassi and, more recently, by Marta Rapi. The same “situation”

applies to the Ca’ de Cioss type pins (fig. 11, n° 11): these were dated by Gian Luigi Carancini (Carancini, 1975, p. 154-155) to the EBA period, but they are also present during the MBA (De Marinis and Frontini, 1992, p. 213). With regard to the pin of fig. 11, n° 16 it is possible to suggest a dating between EBA 2 and MBA 1.

In the nearby area of Porto di Pacengo a bronze *lunula* (fig. 12), probably an adornment worn by females and sewn onto clothes, was found. *Lunulae* are present in the



**Fig. 6 – 1:** Early Bronze Age 2 dagger blade (excavation 1989); **2 to 10:** potteries of the Early Bronze Age 2/Middle Bronze Age 1 transition (n°s 3, 5, 8 and 10: excavation 1989; n°s 7 and 4: excavation 1994; n°s 2 and 9: excavation 1997).

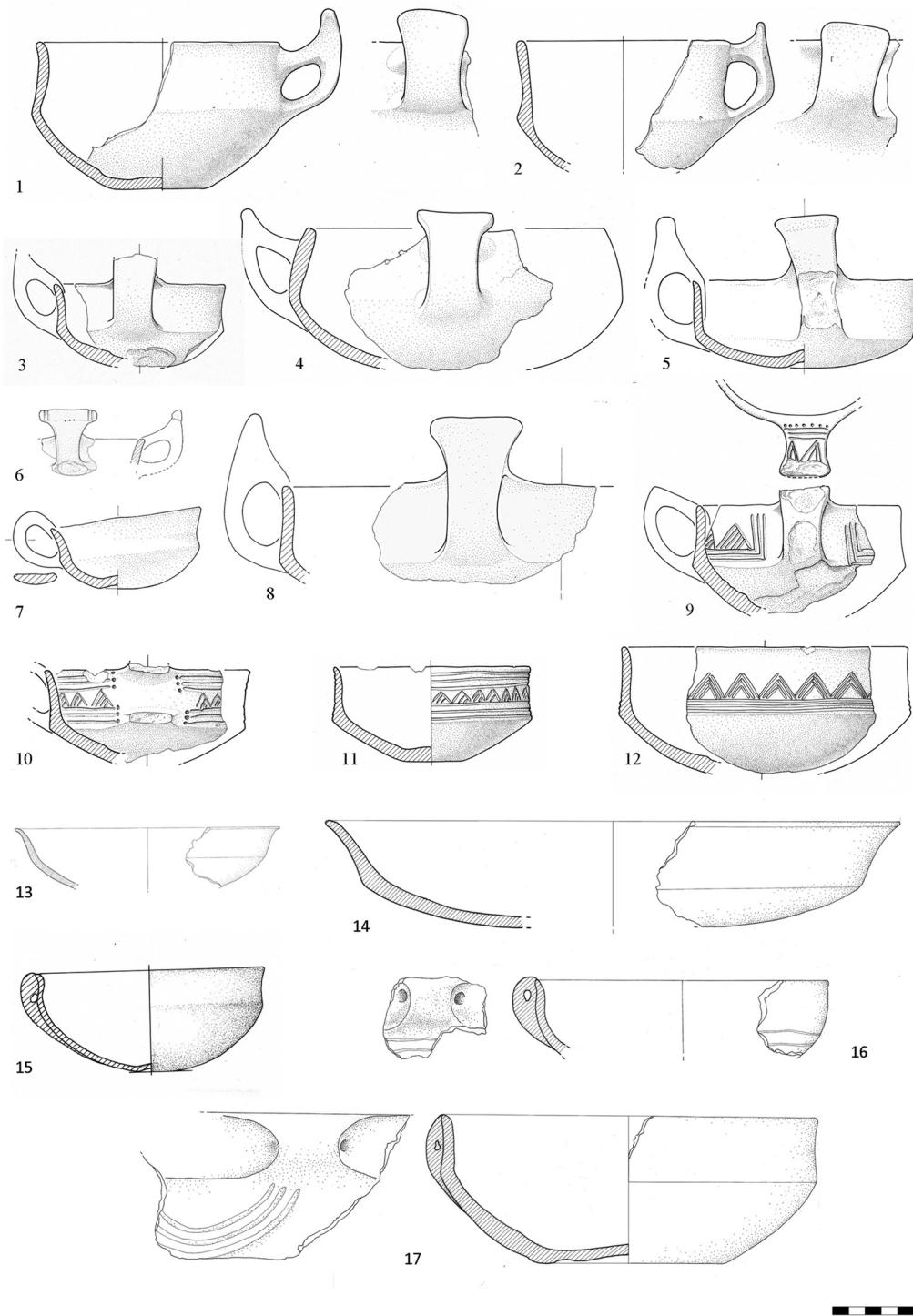
**Fig. 6 – 1 :** lame de poignard du Bronze ancien 2 (fouille 1989); **2 à 10 :** céramiques de la transition Bronze ancien 2/Bronze moyen 1 (n°s 3, 5, 8 et 10 : fouille 1989 ; n°s 7 et 4 : fouille 1994 ; n°s 2 et 9 : fouille 1997).

BzA11 and the best comparison for the Porto Pacengo piece is the discovery from Ayent/les Places (Valais, Switzerland)<sup>(15)</sup>.

The La Quercia (Lazise, Verona) pile dwelling (Martinelli, 1996; Aspes *et al.*, 1998) discovered in 1983, encompasses an area of approximately 500 m x 50 m, in parallel to the prehistoric shoreline. It has been investigated, with the stratigraphic excavation of a small sample

area (9 m<sup>2</sup>) from 1986 to 1991. More than 6,000 piles have been surveyed, almost all of oak<sup>(16)</sup>. The archaeological deposit, at a depth of about 1 m, is of considerable stratigraphic complexity, reflecting intensive human occupation with clearly distinguishable phases, each separated by layers of sterile alluvial material.

It has been possible to identify three settlement phases dated from a late phase of the EBA to the end of the MBA.

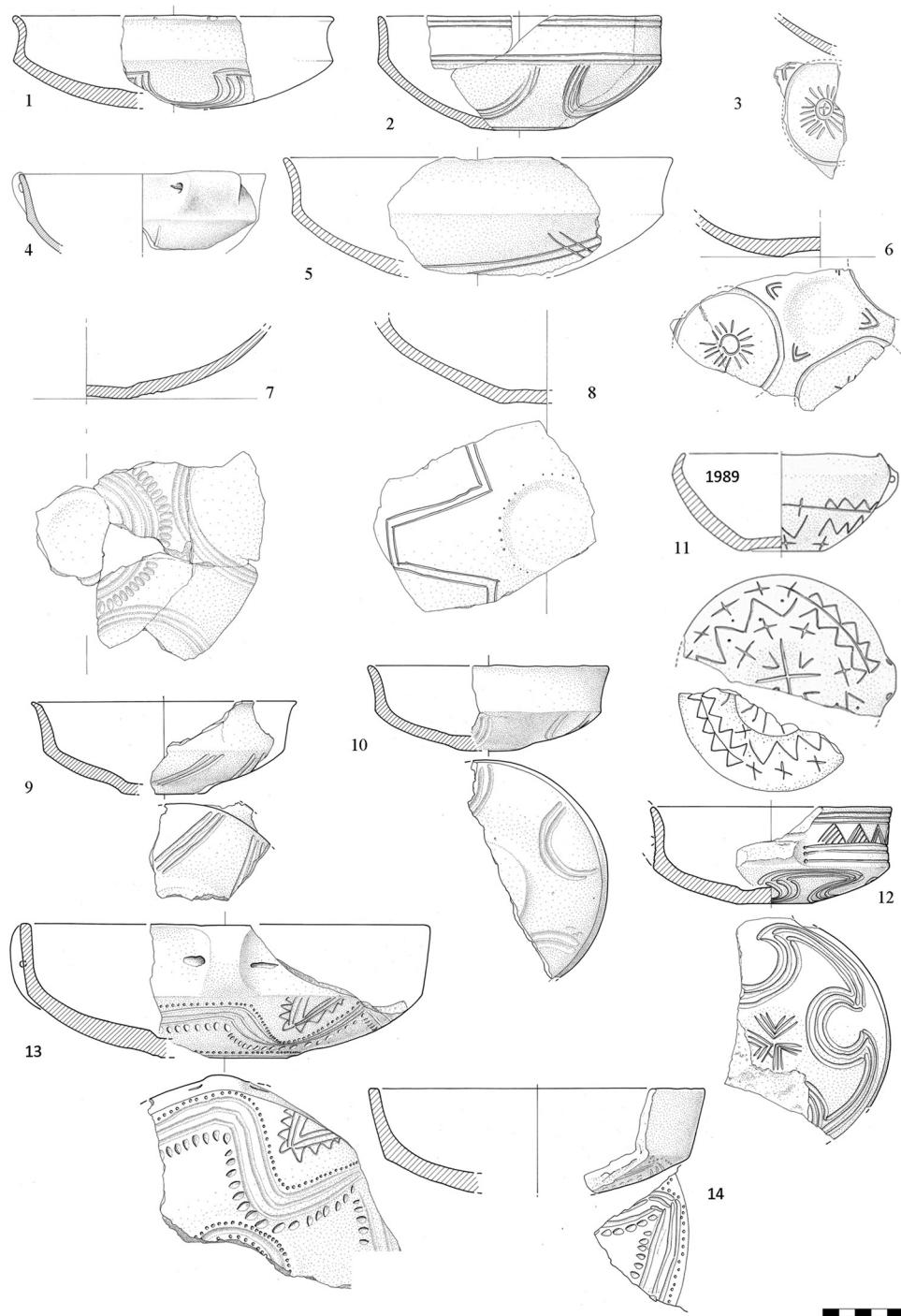


**Fig. 7 – 1 to 17:** Middle Bronze Age 1 potteries (n°s 1-5 and 9-12: excavation 1997; n°s 6-8: excavations 1994; n°s 13-14 and 16-17: excavations 1989; n° 15: excavation 1999).

**Fig. 7 – 1-17 :** céramiques du Bronze moyen 1 (n°s 1-5 et 9-12 : fouilles 1997 ; n°s 6-8 : fouilles 1994 ; n°s 13-14 et 16-17 : fouilles 1989 ; n° 15 : fouille 1999).

The pottery (Aspes, 1987b, p. 94; Martinelli, 2011) consists of globular cups, hemispherical and carinated bowls, conical vases, jugs, and jars (*dolii*), with various decorative elements (fig. 13A). Spindles, loom weights and bellows have also been found; the bronze artefacts are knives, small tubes, buttons, pendants and include a large disk-headed bronze pin more than 50 cm long with a twisted shaft. This type probably originated from the

Nitra culture (BzA2, Slovakia) and the Vatya culture (Hungary), and developed in the area of Wieselburg-Gata and Unetice-Veterov-Madarovce cultures (David-Elbiali, 2000, p. 144-145). Its western distribution reached north-eastern Italy where it was recovered from the following sites: Cisano-Verona (fig. 13C), Bande di Cavriana- Mantova (fig. 13D), Montalto di Nogara, and Ledro-Trento<sup>(17)</sup> (fig. 13E).



**Fig. 8 – 1 to 14:** Middle Bronze Age 1 potteries (n°s 1-8 : excavations 1994 ; n°s 9-10 and 12-14: excavations 1997; n° 11: excavation 1989).

**Fig. 8 – 1-14 :** céramiques du Bronze moyen 1 (n°s 1-8 : fouilles 1994 ; n°s 9-10 et 12-14 : fouilles 1997 ; n° 11 : fouille 1989).

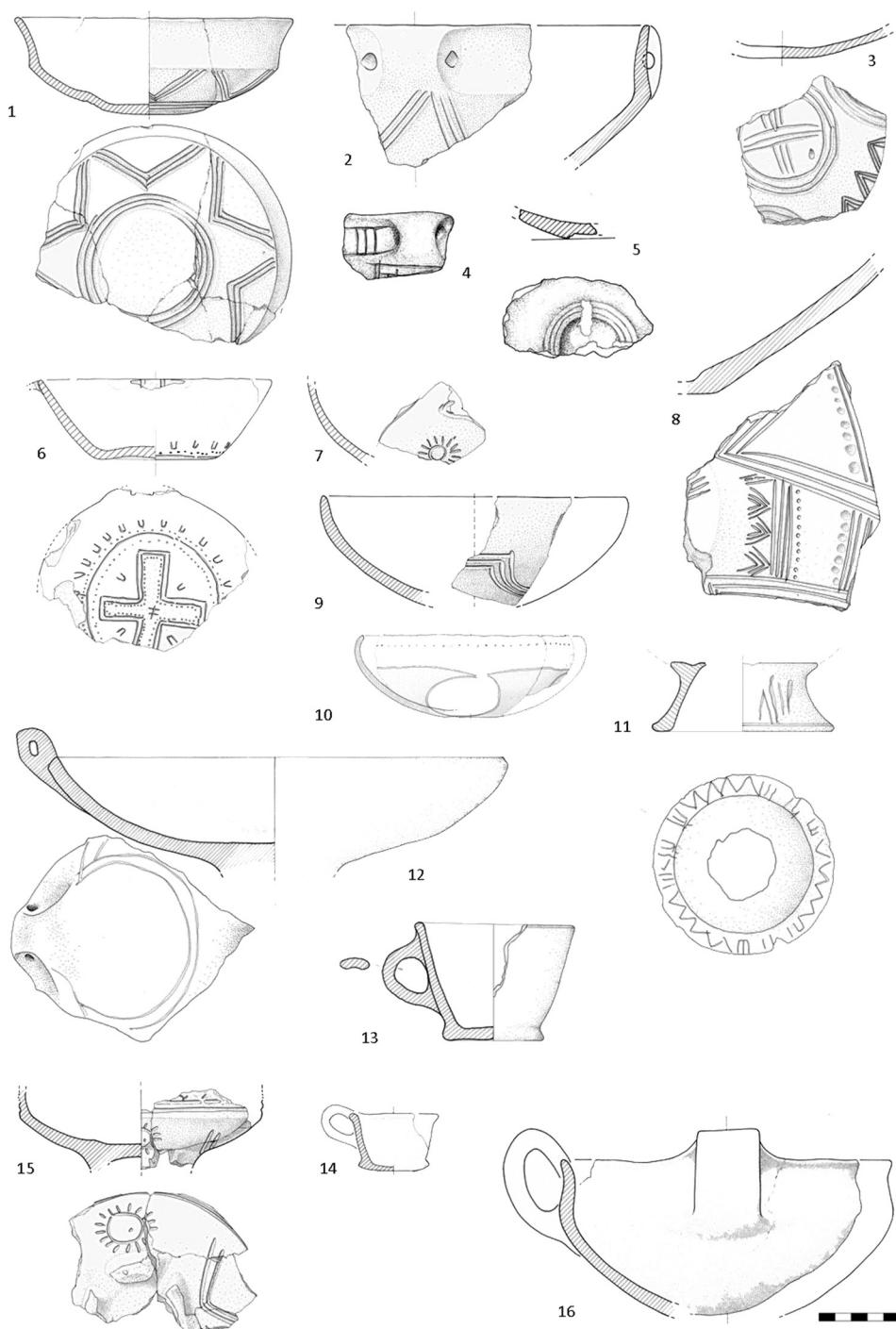
The Cisano (Bardolino, Verona) pile dwelling (Zorzi, 1960; Fasani, 1980; Salzani, 1990; Martinelli, 1996) was discovered during the dredging of the port of Cisano, carried out between 1938 and 1940. A large number of materials were recovered, although most of the wooden posts were destroyed. The Cisano pile dwelling was first explored around 1960 by Francesco Zorzi and new research was carried out from 1986 to 2001.

The pile dwelling may have extended over an area of about 800 m and would have been connected to the

dry ground by a kind of trackway pathway, as indicated by the presence of two parallel rows of piles set about 1.70 m apart.

The artefacts recovered from this site indicate that it was occupied (fig. 14) between the EBA 2 period (fig. 14, n°s. 1-3) and the MBA 1 period (fig. 14, n°s. 6-9). The carinated bowl (fig. 14, n°. 4) and the Porto di Pacengo type pin (fig. 14, n°. 5) recall the EBA 2 / MBA 1 horizon.

Other finds include pottery, bronze objects (including tools for metal working), lithic industry and bone.



**Fig. 9 – 1 to 16:** Middle Bronze Age 1 potteries (n°s 1-3, 8-10 and 15-16: excavation 1997; n°s 4-5: excavation 1999; n°s 6-7 and 14: excavation 1994; n°s 11-13: excavation 1989).

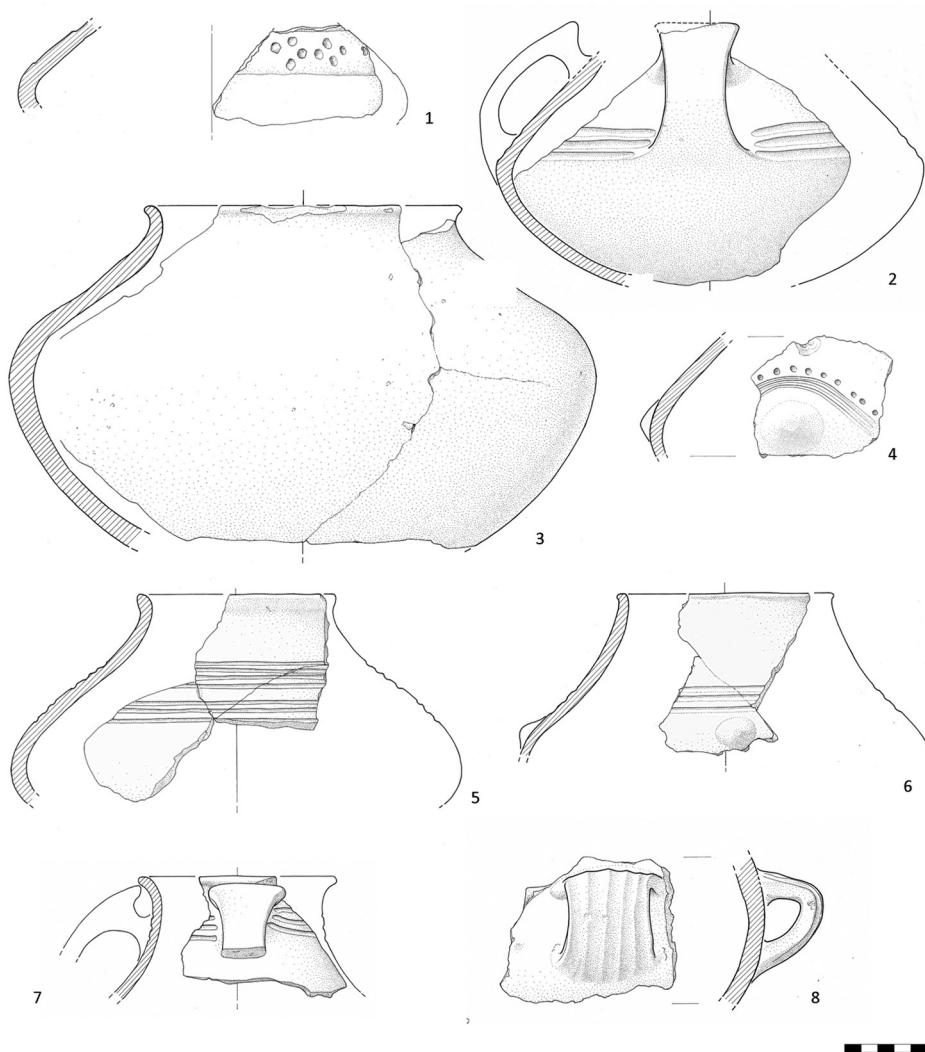
**Fig. 9 – 1-16 :** céramiques du Bronze moyen 1 (n°s 1-3, 8-10 et 15-16 : fouilles 1997 ; n°s 4-5 : fouilles 1999 ; n°s 6-7 et 14 : fouilles 1994 ; n°s 11-13 : fouilles 1989).

In the area of Peschiera there are two more pile-dwelling villages for which only poor data are available for different reasons: Belvedere and Maraschina.

The Belvedere (Peschiera, Verona) pile dwelling (Capulli *et al.*, 2014; Gonzato *et al.*, 2015) is located some 150 m away from the southern shore of Lake Garda towards the centre of the lake, at a depth of about 3 m. It encompasses a total area of 22,500 m<sup>2</sup> running in parallel to the shore. The survey of this large area made it possible to record about 1,200 vertical elements. Since no

excavation campaign was carried out there, the materials recovered are scarce. Dendrochronological analysis made it possible to date the site to the EBA and the MBA period (2060 and 1953 ± 10 cal. BC such as 1617 ± 10 cal. BC; Martinelli, 2007).

The Maraschina (Peschiera, Verona) site is a vast pile-dwelling village (about 5 ha). It was extensively damaged by undocumented excavations. Nonetheless, at least 200 bronze objects and flint artefacts survived. Unfortunately only a few pottery vessels were found. The



**Fig. 10 – 1 to 8:** Middle Bronze Age 1 potteries (n° 1: excavation 1989; n°s 2-8: excavation 1997).

**Fig. 10 – Céramiques du Bronze moyen 1. N° 1 : fouilles 1989 ; n°s 2-8 : fouilles 1997.**

finds make it possible to date the site to a period between EBA 2 and LBA (De Marinis, 1982; Mangani and Ruggero, 2018).

Since the nature of the deposits on these sites does not show any stratigraphic difference between EBA 2 and MBA 1 it can be noted that (fig. 15):

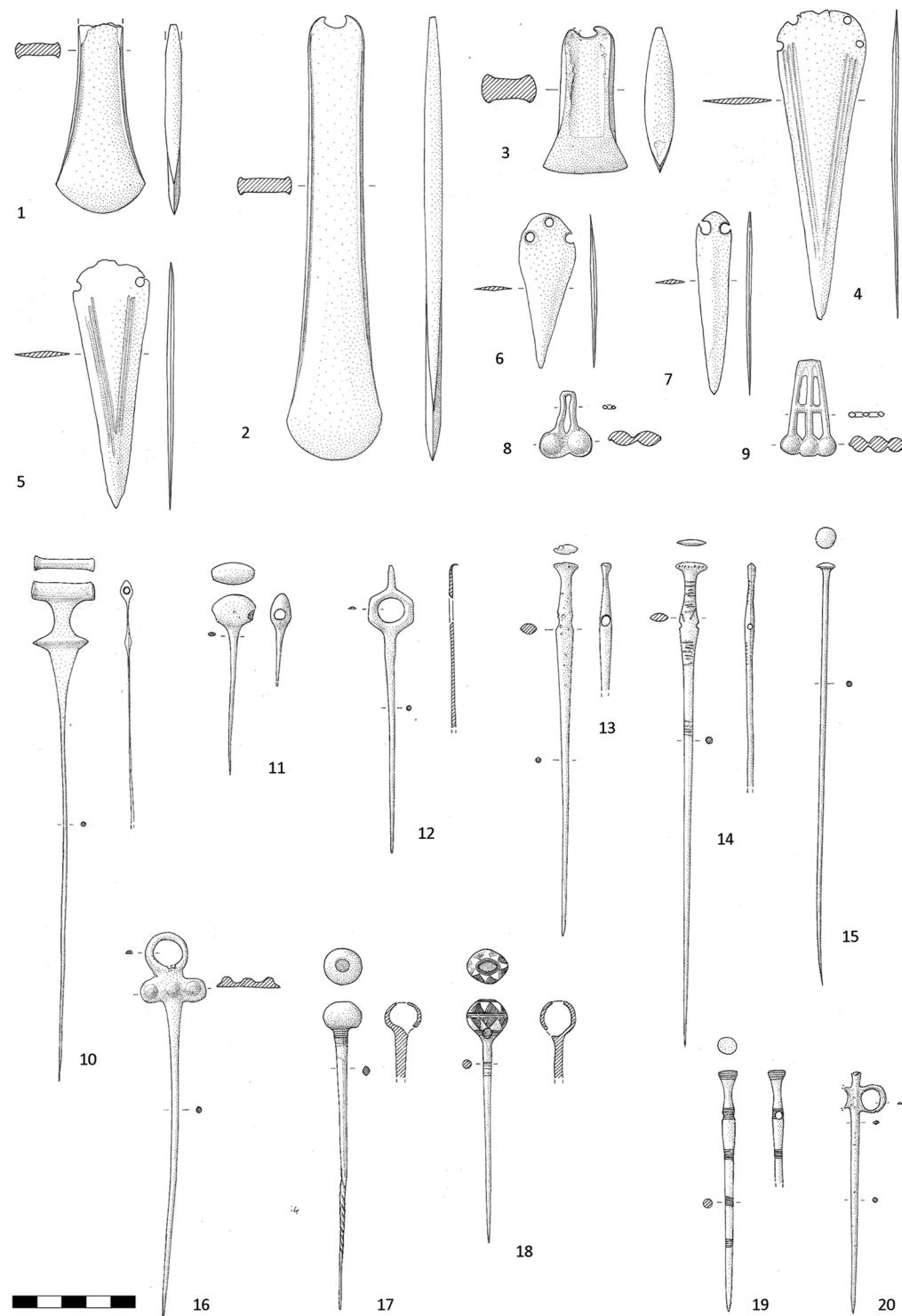
- there was a global cultural continuity;
- there was a “transitional” period during which both EBA 2 and MBA 1 elements co-existed;
- none of these sites was founded during the MBA 1 period or occupied only during the MBA: all of the sites show a clear EBA 2 component (Belluzzo and Tirabassi, 1996, p. 81), except of course for the Belvedere and Maraschina sites.

### THE HINTERLAND AND THE SURROUNDING AREA OF LAKE GARDA

To reconstruct the settlement patterns in the area of Lake Garda it is essential to analyse the situation in the hinterland during this period.

The Ca' Nova site (Cavaion, Verona) is located in the immediate eastern hinterland of Lake Garda (Aspes, 1987a). The settlement of Cavaion Veronese still remains a subject of debate: as no vertical piles have been recovered, although the site is located in a wetland area, some scholars do not recognise this settlement as being a pile dwelling. As only a casual recovery of materials took place, the site would require more in-depth and targeted investigations. The materials date to a period between EBA 2 (fig. 16, n°s. 1-2) and MBA (fig. 16, n°s. 6-8). The decoration on a ceramic sherd, with a reproduction of a hut built on water, dates to EBA 2, while the vessel shape is indicative of the MBA 1 (fig. 16, n° 4). The hour-glass-headed pin (fig. 16, n° 3) also dates to this period.

At the Monte delle Bionde site (Cavaion, Verona), located on the slopes of a hill and known from surveys, archaeological excavations were carried out between 1999 and 2003 and completed by further investigations in 2009 (Salzani, 2013). On the southern side, the slope was cut to prepare a structure, partly in pebbles, that leans against the morainic sediments; post holes and fragments of mud plaster make up a probable structure, completed by wattle and clay (fig. 17, n° 1). The many hearths and

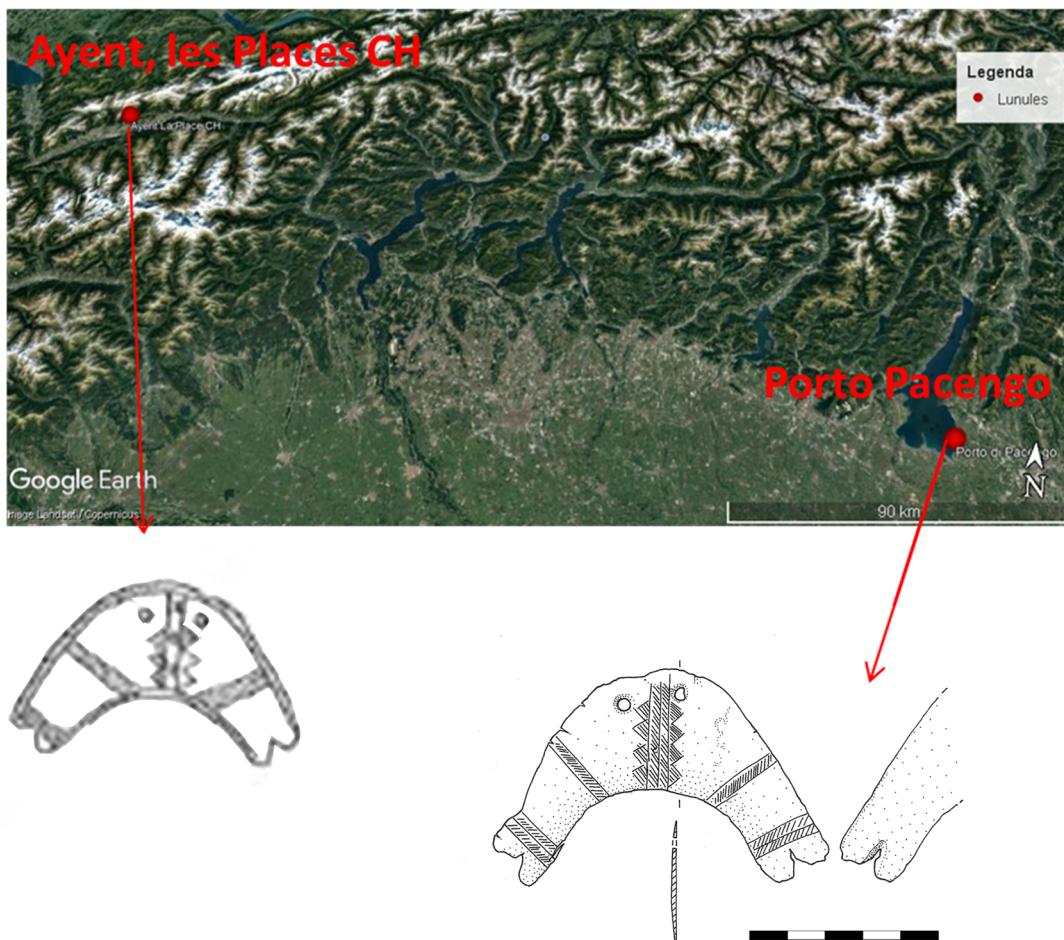


**Fig. 11 – Bor di Pacengo, bronze objects.**  
**Fig. 11 – Bor di Pacengo, objets en bronze.**

different floor levels suggest two phases associated with this feature, one dated to the MBA 1 (fig. 17, n<sup>os</sup>. 2-5) and the other dated to the MBA 2 (fig. 17, n<sup>os</sup>. 6-8). In addition to the numerous pottery fragments, melting slags have been found. On top of the hill, a second hut was dug, with a quadrangular plan; further post holes inside the structure suggest an internal wooden deck.

The La Fumana site (Fumane, Verona) is the result of a very recent excavation (Salzani, 2017). Along the

eastern slope of the hill, during the Bronze Age, the rock was cut out to obtain a floor, on which a hut was built against the rock side. It was constructed partly in stone, partly in wattle and daub, whereas the floor, carved into the rock, was made of layers of sand and silt. The structure, based on the archaeological materials, can be dated to MBA 2 (fig. 18, n<sup>os</sup>. 1-4). The best comparisons are found at Monte delle Bionde.



**Fig. 12 – The lunulae from Porto Pacengo and Ayent/les Places (Valais, Switzerland; after David-Elbiali, 2000, p. 254).**  
**Fig. 12 – Les lunules de Porto Pacengo et d'Ayent/les Places (Valais, Suisse ; d'après David-Elbiali, 2000, p. 254).**

The Torbiera Cascina site (Sona, Verona) was identified around 1874 during peat extractions from the basin, formed after the drainage of an ancient morainic lake (Goriran, 1876; De Marinis, 1975; Aspes and Borghesani, 1980b; Balista and Rizzetto, 1988). The excavation brought to light a series of piles fixed vertically in the bottom layer, along the eastern shore of the basin. Some of the finds were exhibited at the Prehistorical Exhibition in Verona, in 1876. In 1983, following still deeper ploughing, the discovery of numerous archaeological materials led to new research, especially using core samples, in order to verify the level of conservation and the extension of the archaeological deposit. Archaeological materials are dated to EBA, including a 'Mohlin' type bronze axe (BzA2-BzB1 following central-European chronology) and MBA 1. A new survey carried out at the site in 1988 permitted the recovery of other materials, on the basis of which, two additional phases have been identified: one dating to the Early Neolithic, the other indicating later phases of the Bronze Age (MBA-LBA), probably connected to the pile-dwelling structures already identified in the 19th century (fig. 19).

The La Palù site (Sommacampagna, Verona) is located in a waterlogged area (Longhi, 2001). Identified in 1992, excavations took place in the following years.

Three archaeological phases have been identified: the first dated to the EBA 2 (fig. 20, n<sup>os</sup>. 1-3), the second to the transition between EBA 2 and MBA 1 (fig. 20, n<sup>os</sup>. 4-6), with elements characteristic of EBA 2 that find comparisons with the Frassino pile-dwelling (fig. 4, n<sup>o</sup>. 7 and fig. 20, n<sup>o</sup>. 4); and lastly the third one dated to MBA 1 (fig. 20, n<sup>os</sup>. 7-9).

The Sommacampagna site (Longhi, 2001, p. 42) is located in a strategic area connected to the Po region, near to the sources of the Tartaro and Tione rivers: it is the starting point for the expansion of the pile-dwelling culture in a south-eastern direction.

Ale di Pol (Bussolengo, Verona) is a chain of morainic hills overlooking the Adige River, located north-west of Bussolengo (Benati *et al.*, 2015). The area has been known since the early decades of the 1900s from occasional discoveries. Between 1992 and 2001, four excavations yielded evidence of a settlement, naturally protected on three sides and defended by a massive ditch on the fourth side. Archaeological materials, dating between EBA 2 and MBA, refer to the cultural sphere of Lake Garda pile-dwellings.

The Castelletto di Brenzone rock art site (Verona) has numerous rock engravings dated to a long period of time (until recent centuries), some of which depict swords and axes (Tecchiati, 1997). The rock art was placed in



**Fig. 13 – A :** La Quercia, objects and pin with an annular head; **B:** distribution map of the pins with annular head (after David-Elbiali, 2000, p. 151) and location of the objects discovered in Italy; **C:** Cisano, Verona; **D:** Bande di Cavriana, Mantua; **E:** Ledro ,Trento (C-E from Carancini, 1975).

**Fig. 13 – A :** La Quercia, objets et épingle à tête annulaire ; **B :** carte de répartition des épingles à tête annulaire (d'après David-Elbiali, 2000, p. 151) et localisation des objets découverts en Italie. **C :** Cisano, Vérone ; **D :** Bande di Cavriana, Mantoue ; **E :** Ledro, Trente (C-E d'après Carancini, 1975).

a panoramic position, close to the lake or rather to the water of the lake and may therefore represent votive offerings (even perhaps as a symbol – a substitution for the actual offering). According to the iconography of the weapons, the engraving is dated to the EBA and the MBA (fig. 21).

Although subtle, and related to the sphere of the sacred, we consider this evidence as a being a confirmation that the areas around the northern shores of the lake were settled. Actually, in addition to the cultural affinities, this “point on the map” highlights connections with the north (for example Ledro and Fiavè).

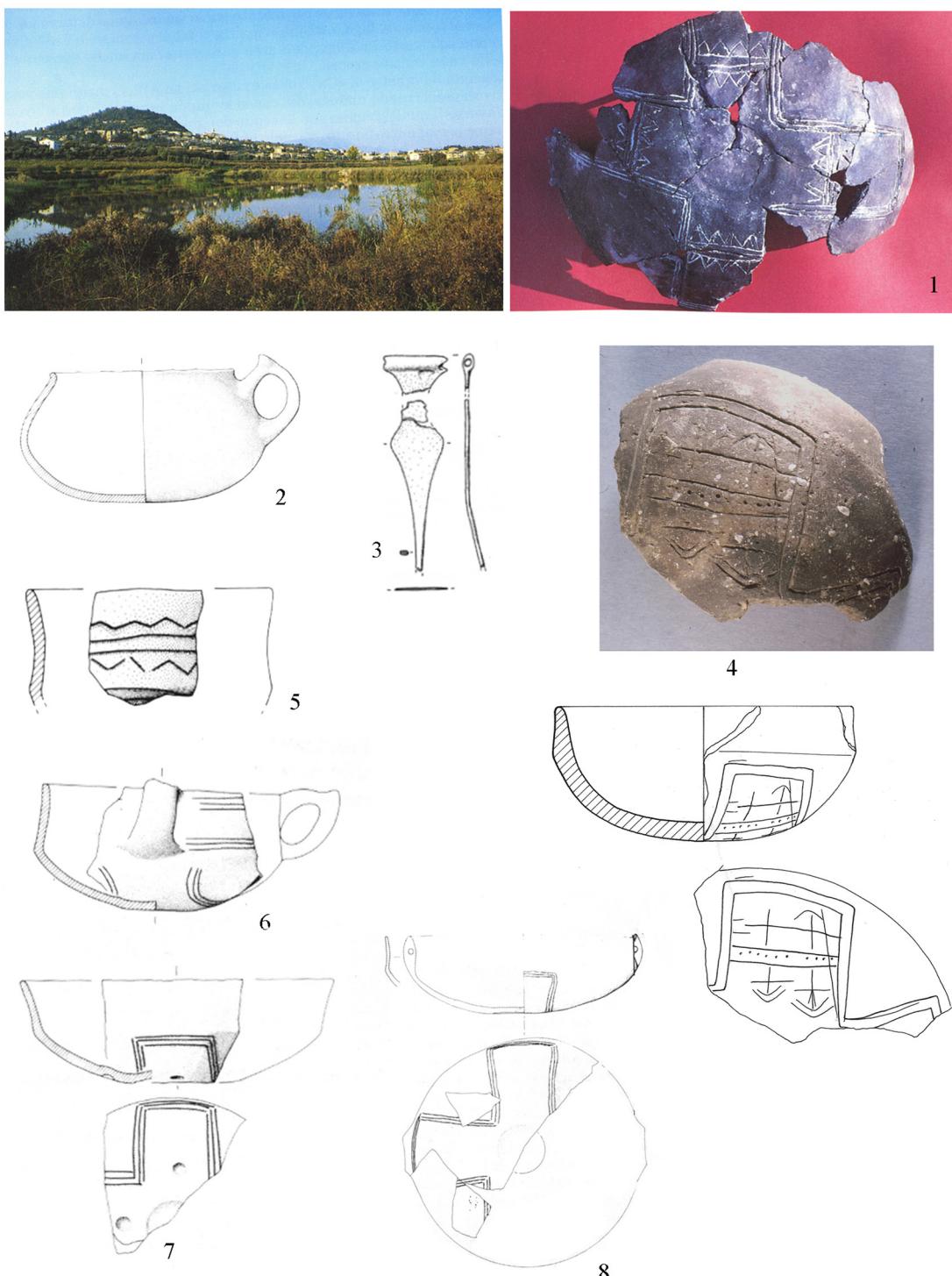


**Fig. 14 – Cisano.** 1 to 3: Early Bronze Age 2; 4-5: Early Bronze Age 2/Middle Bronze Age 1; 6 to 10: Middle Bronze Age 1 (n°s 1, 4 and 6 after Belluzzo and Tirabassi, 1996; n°s 2-3, 5 and 8-9 after Fasani, 1980 ; n° 7 after Bebber and Fasani, 1980). Unscaled.

**Fig. 14 – Cisano.** 1-3: Bronze ancien 2; 4-5: Bronze ancien 2/Bronze moyen 1 ; 6-10 : Bronze moyen 1 (n°s 1, 4 et 6 d'après Belluzzo et Tirabassi, 1996 ; n°s 2-3, 5 et 8-9 d'après Fasani, 1980 ; n° 7 d'après Bebber et Fasani, 1980). Sans échelle.

	EARLY BRONZE AGE 2	EBA2/MBI	MIDDLE BRONZE AGE 1	
Frassino				
Bor di Pacengo				
La Quercia				
Cisano				
Maraschina				

Fig. 15 – Comparative table of the shapes and decorations of diagnostic objects stemming from the pile-dwelling sites of Lake Garda (Verona shore).  
*Fig. 15 – Tableau de comparaison des formes et décors d'objets diagnostiques provenant des sites lacustres du lac de Garde (rive de Vérone).*



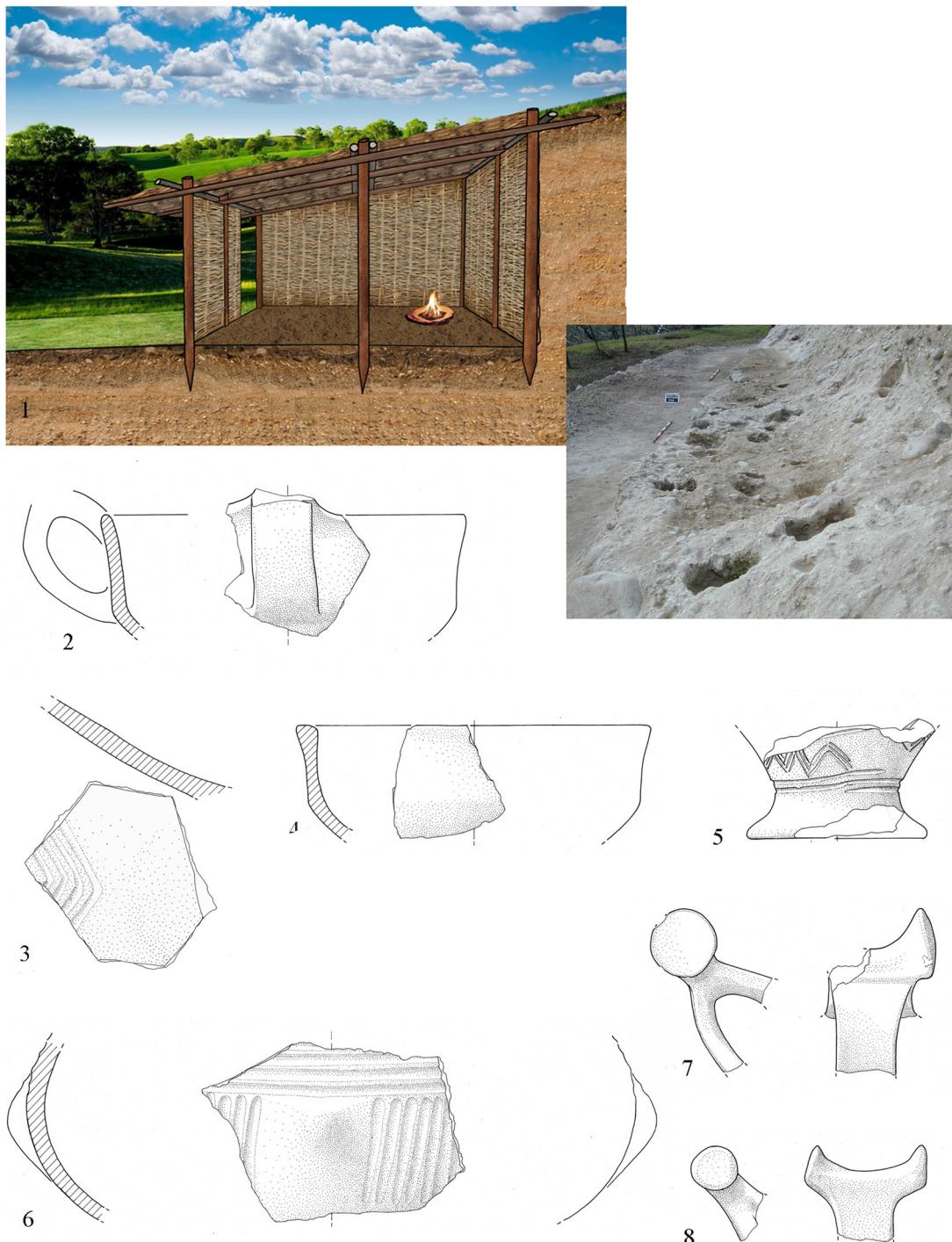
**Fig. 16 – Ca'Nova di Cavaion.** 1-2: Early Bronze Age 2; 3-4: Early Bronze Age 2/Middle Bronze Age 1; 5-8 : Middle Bronze Age 1  
(nos 2, 4-8 after Aspes 1987a ; n° 3 after Belluzzo and Tirabassi, 1996). Unscaled.

**Fig. 16 – Ca'Nova di Cavaion.** 1-2 : Bronze ancien 2; 3-4: Bronze ancien 2/Bronze moyen 1 ; 5-8 : Bronze moyen 1  
(nos 2 et 4-8 d'après Aspes 1987a ; n° 3 d'après Belluzzo et Tirabassi, 1996). Sans échelle.

### AN EARLY BRONZE AGE 2 / MIDDLE BRONZE AGE NETWORK OF SETTLEMENTS

All of these sites were occupied between a late phase of the EBA and the MBA. Except for Belvedere and Maraschina, they show a clear EBA 2 component.

Moreover, the presence of a “transitional” period, during which EBA 2 and MBA 1 elements co-existed, characterises the material culture of this particular region (fig. 22). Considering the similar shapes and decorations of the pottery from these centuries (end of the 19th – middle of the 16th century BC) it is possible to highlight the existence of a common thread, a cultural community at least for the areas around the lake. These groups were



**Fig. 17 – Monte delle Bionde. 1-5:** Middle Bronze Age 1 ; **6-8:** Middle Bronze Age 2. Scale 1:3.

**Fig. 17 – Monte delle Bionde. 1-5 :** Bronze moyen 1; **6-8:** Bronze moyen 2. Échelle 1:3.

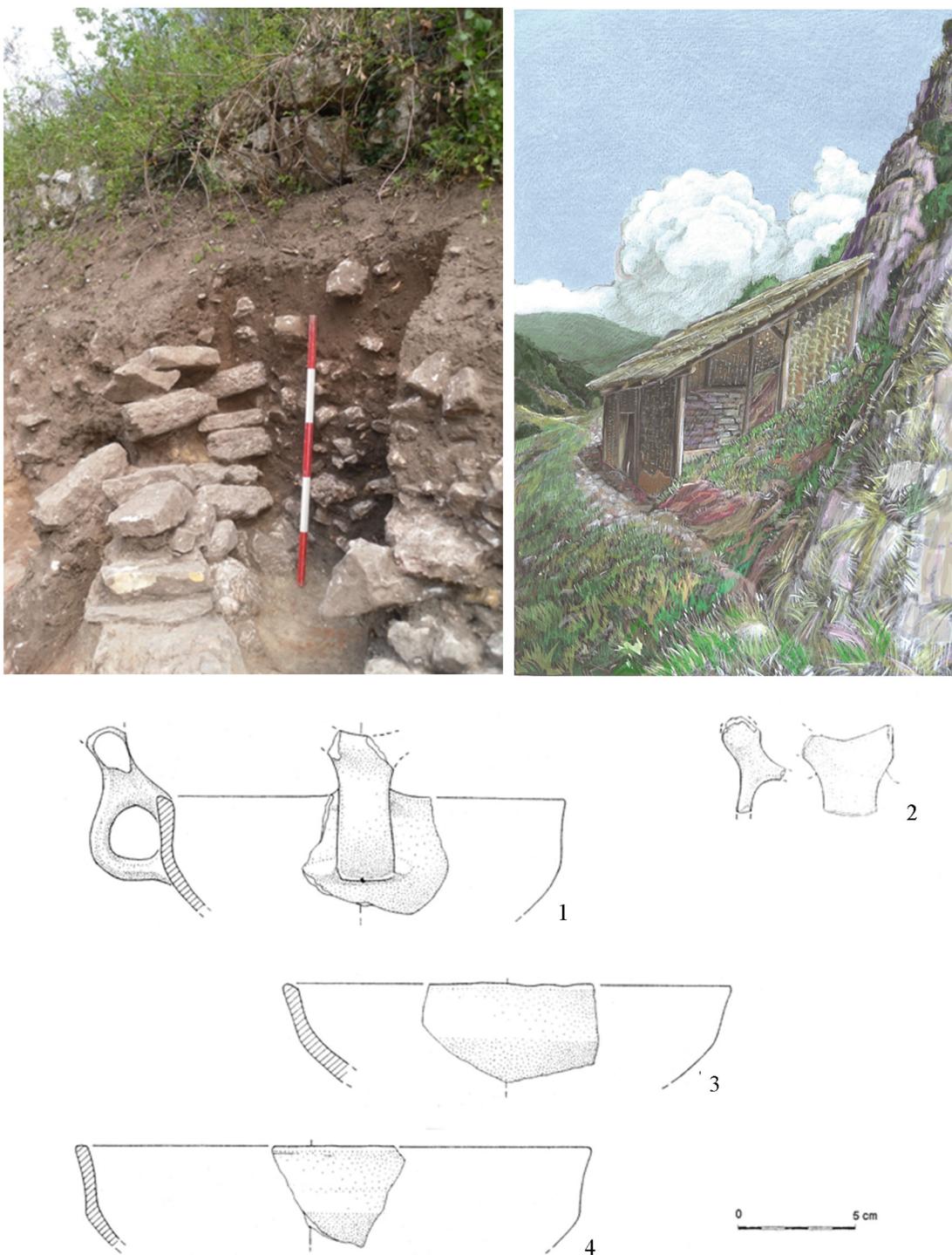
in close contact, and had established a network with the neighbouring territories, especially those northwards along the Adige valley, and those southwards, oriented towards the plain.

Strategically positioned between the shores of the lake, which offered easy connections, and the fertile plain, the settlements are at least 600 m and at most 13 km apart (If the pile dwellings of the Sirmione peninsula in Lombardy, from Lugana Vecchia to Cisano, are also taken into account, the entire distance is 17.5 km). Each can be reached from the others within a few hours' walk. Moreover, in fair weather conditions these sites could also see

each other, because of the very short distance from each one to the others.

With such favourable conditions, despite the singularity and autonomy of each individual village, it is natural and convenient to set up a network that reflects common interests.

Furthermore, they were able to communicate with other, more distant sites along the trade routes to the north, rich in minerals, important for metallurgical activities, that will increasingly develop during the following centuries, as is also confirmed by the flourishing of hilltop settlements in the Lessinia region.



**Fig. 18 – La Fumana.** Reconstruction of the building and pottery finds (after Salzani, 2017).  
**Fig. 18 – La Fumana.** Reconstruction du bâtiment et objets en céramique (d'après Salzani, 2017).

The same conclusions can be inferred with regard to the opening towards the fertile plain and the river routes southwards, which is confirmed by the subsequent expansion of settlements towards the plain.

## NOTES

(1) The terms pile dwelling or pile-dwelling settlement usually refer to villages built in the same area, but with minor shifts, at different periods

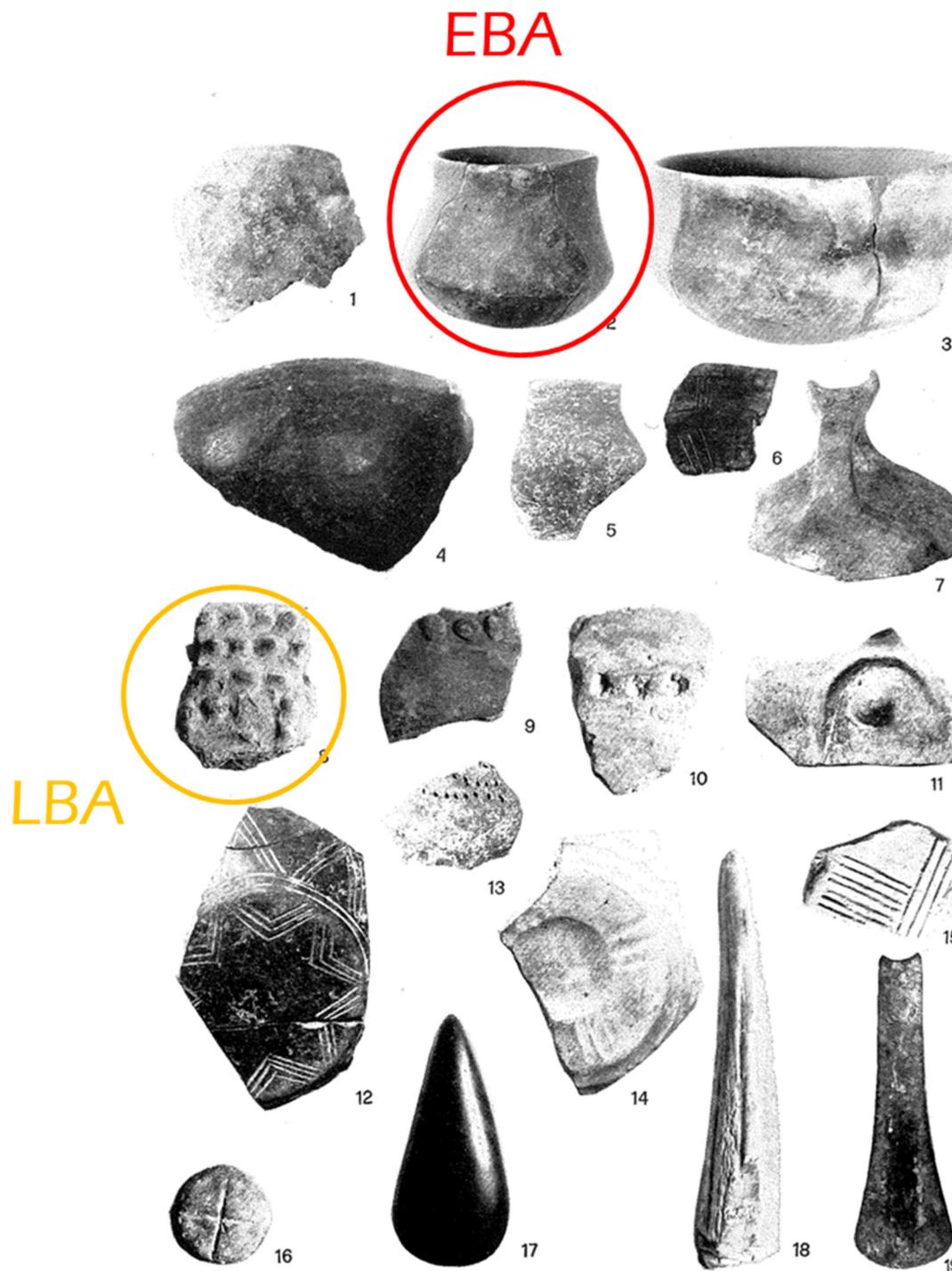
(2) Zorzi, 1960; Capuis *et al.*, 1990. This is the term used for the Frassino pile dwelling to differentiate it from the Neolithic site (Frassino II) known from surface discoveries :Zorzi, 1960; Capuis *et al.*, 1990.

(3) Its antler handle is partially preserved.

(4) Pattern consisting of a “Greek cross” with wide arms starting from the circular bottom; the cross is contained within the circle of the maximum diameter of the vessel.

(5) Rim diameter: 14.3 cm, h 20.6 cm, maximum body diameter: 23.1 cm, average mouth diameter: 7.0 cm, bottom: 11.0 cm.

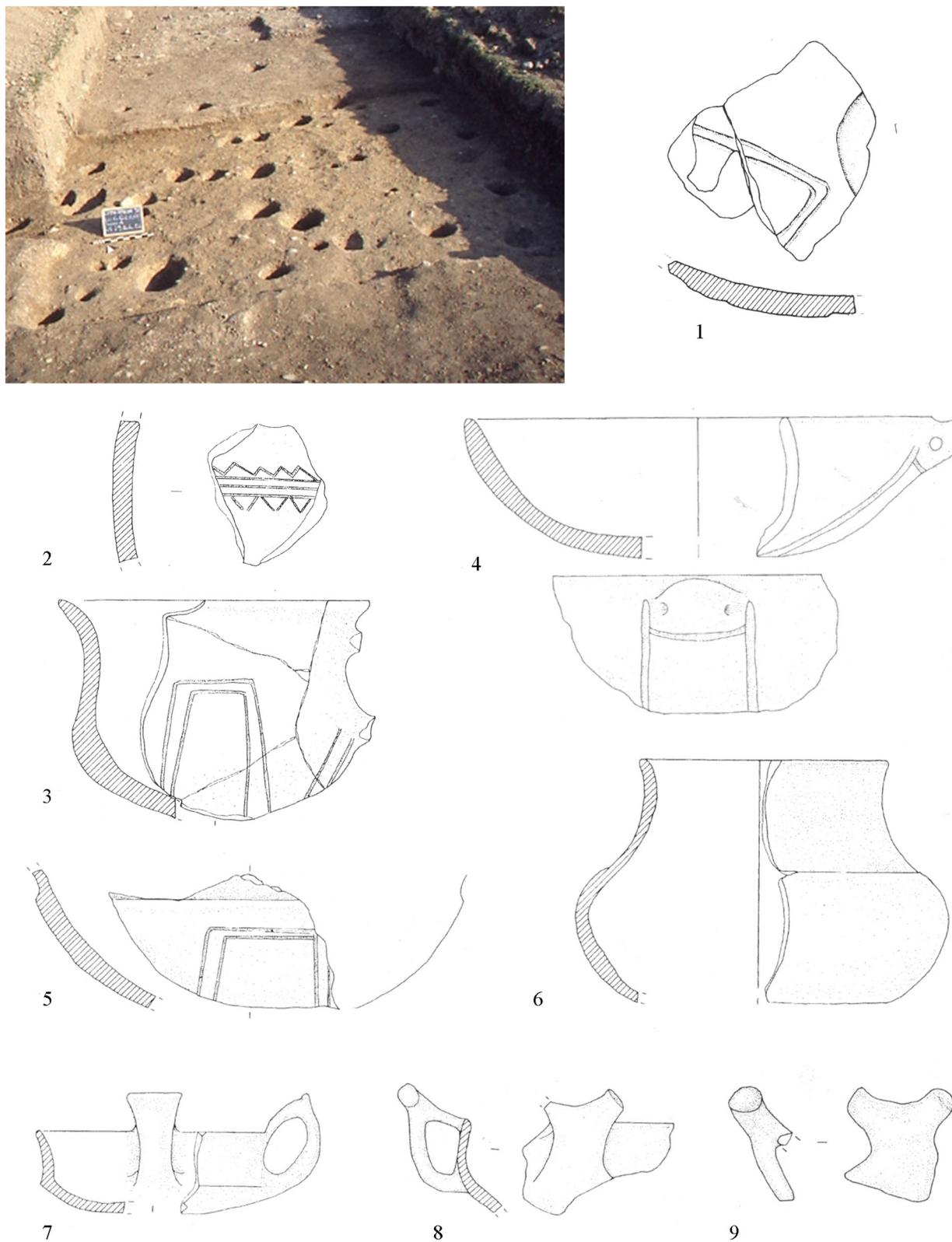
(6) Most of the sites have not been subject to extensive excavations; the available data have been obtained from surveys



**Fig. 19 – Torbiera Cascina. Ancient photographic plate of a selection of Bronze Age objects (after Aspes and Borghesani, 1980b).**

**Fig. 19 – Torbiera Cascina. Ancienne planche photographique d'une sélection d'objets de l'âge du Bronze (d'après Aspes et Borghesani, 1980b).**

- and limited surveys, sometimes conducted for preventive archaeological interventions. In addition, the published data are mostly partial.
- (7) With axe-shaped top part.
  - (8) Montelius, 1895, plate 10 and fig. 11. The dating of these handles, in the absence of reliable contexts, cannot be detailed.
  - (9) The examples of Frassino, unlike that of Lagazzi which has an ear-shaped profile, have an elbow-shaped profile and hint of appendix.
  - (10) Tazze attingitoioi, according to the Italian terminology.
  - (11) Ansa a tunnel (or canaliculata) according to the Italian terminology. Also, in this type the decoration is present (almost always; see for example the fragment of fig. 8, n°. 4) on the lower part and the bottom.
  - (12) I.e. small supports fixed to the bottom.
  - (13) Radiocarbon dating (GX-20463:  $3270 \pm 70$  BP).
  - (14) For chronology: David-Elbiali, 2000, épingle à tête annulaire simple, 70, 1, p. 168-170.
  - (15) David-Elbiali, 2000, p. 254 with distribution map.
  - (16) Dendrochronological dating Fozzati *et al.*, 2015, p. 248.
  - (17) Jürg Raghet dates it to the EBA-MBA transition (Raghet, 1974).



**Fig. 20 – La Palù-Sommacampagna. 1-3: Early Bronze Age 2;  
4-6: Early Bronze Age 2/Middle Bronze Age 1; 7-9: Middle Bronze Age 1 (after Longhi, 2001). Scale 1:3.**

**Fig. 20 – La Palù-Sommacampagna. 1-3 : Bronze ancien 2;  
4-6 : transition Bronze ancien 2/Bronze moyen 1 ; 7-9 : Bronze moyen 1 (d'après Longhi, 2001). Échelle 1:3.**



**Fig. 21 –** Brenzone “Pietra di Castelletto”, rock engravings (after Tecchiati, 1997).  
**Fig. 21 –** Brenzone “Pietra di Castelletto”, gravures rupestres (d'après Tecchiati, 1997).

	EARLY BRONZE AGE 2	EBA2/MB1	MIDDLE BRONZE AGE 1
Frassino			
Bor di Pacengo			
La Quercia			
Cisano			
Ca' Nova			
Monte delle Bionde			
Torbiera Cascina			
La Palù			

Fig. 22 – The network of pile dwellings.  
*Fig. 22 – Le réseaux de sites lacustres.*

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**Federica GONZATO**  
 Polo Museale del Veneto  
 Museo Archeologico Nazionale di Verona  
 Stradone San Tomaso 3  
 I-37129 Verona (VR)  
 federica.gonzato@beniculturali.it

**Claudia MANGANI**  
 Museo Civico Archeologico “G. Rambotti”  
 Via Anelli 42  
 I-25015 Desenzano del Garda (BS)  
 cmangan@alice.it

**Luciano SALZANI**  
 Già Soprintendenza Archeologia del Veneto  
 Via Don Milani 6  
 I-37029 San Pietro in Cariano (VR)  
 san.pedro@libero.it