6. Background to the landscape and the prehistoric site of Dispilio

6.1. The research area

6.1.1. Introduction

The prehistoric lake settlement of Dispilio is located 7 km south of Kastoria (figs. 5.1, 6.1), in northwestern Greece (40°29'7"N, 21°17'22"E), on the southern shore of Lake Orestias. The region is surrounded by the mountains of Verno to the north, its highest summit being Vitsi (2.128m) and lower Doukas (1.623m), Kronos (1.680m) and Spyridakis (1.488m) (Pavlopoulos et al., 2009). At the east, Milia (1.236m) and Pyrgos (1.413m) are developed, at the south Petrwma (802m); at the west the lake is bordered by Kazani (1.367m).

6.1.2. The Lake

Lake Orestias is of karstic mesoalpine type (Vafeiadis, 1983) and it is a remnant of the big lakes of the Neogene and Quaternary. It is hydrologically open, having a natural outlet to Aliakmon river (Giole stream), which is today artificially controlled (fig. 4.1). The lake is a sub-basin of the Aliakmon river basin (Pavlopoulos et al., 2009). Its present altitude is about 627 m asl and its shape is ellipsoidal, with a limestone peninsula at the western side, which divides it in two parts. The total surface area is 32.4 km², with maximum length 7.6km, maximum width 5.0km and maximum depth (in a very limited area) 8.5m (Mourkides and Tsiouris, 1984). The lake is fed by numerous streams, with
the most important being the stream of Xeropotamos (fig. 6.1), which reaches the
eastern part of the lake and develops into a big delta at the central part. The stream
contributes 350 lt/sec water to the lake, as well as clastic material, which has created a
gradational shallowing to the eastern part; a similar effect is achieved by the smaller
streams at the eastern and northern parts (Istakou, Fotinis, Aposkepou, Foudoukli,
Metamorfosis, Toixiou, Vissinias) (Pavlopoulos et al., 2009).

The distribution of surficial sediments of the lake is shown at fig.
6.2 (Panagos et al., 1989). Good and poor sorted sands cover mainly the
NW, the S (including Dispilio) and the central parts of the lake, between
the limestone peninsula and the Xeropotamos delta. Finer sediments
cover the centres of the northern part and southern parts of the lake.
This distribution is depended on the hydrodynamic energy of the
sediments following the hydrodynamic Darcy law of distribution with the coarser
sediments depositing at the shore and the finer reaching larger depths (Pavlopoulos et al.,
2009). The coarser sediments are mainly derived from the dissolution of the surrounding
granitic gneiss. The sedimentation is in a small extent biogenic, mainly derived from
shells and molluscs. Big concentrations of shells and molluscs are found at the southern
part of the lake, with a small concentration at the north. Low percentages are seen at the
streams, where clastic sediments are entering the lake.

Today, Lake Orestias is a polluted lake due to discharges from surrounding land and
drainage (Koussouris et al., 1987), with generally alkaline pH values that range from 5.9–
8.2 during winter to 6.8–9.5 during summer, being of meso-eutrophic type. Its water
exhibits unstable thermal stratification with dimictic and meromictic conditions.
Dissolved oxygen concentrations are low during most of the year to the bottom; high
levels of dissolved oxygen are recorded near the surface from June to September,
because of phytoplankton blooms. The benthic fauna has comparatively few species, but
high biomass, while most of the species indicate extension of sapropelic deposits. During
the last 17 years (1965 - 1982), the fish production decreased from 510 t to 160 t annually and the species structure changed. The lake is one of the traditional fishing centres of the mainland (Drouga, 2006). The fishing productivity over the last 30 years reaches the 78kg for each hectare of the lake. Fishing therefore together with fur industry is the most important basis of the region’s economy.

6.2. Climate and Vegetation
The region is characterized by a mountainous relief, with an intermediate type of climate between Mediterranean and continental, having semi-humid to humid, hypo-tropical conditions (C2s, B1b3 type according to Thornthwaite) (Karras, 1973). These conditions are characterized by medium shortage of water during summer and a tension of even rainwater distribution throughout the year. Annual rainfall reaches 2550mm, with mean values at 660mm (Pavlopoulos et al., 2009); the least humid months are June to September. Temperature shows big fluctuations between summer and winter; during winter, it drops below zero resulting in the freezing of the lake waters (Gianelli, 2009). The lake of Kastoria is covered by ice averagely every 2 years for almost 10 days (Kousouris et al., 1987). The mean annual temperature is 12.46°C, with the maximum temperature of 22.81°C during July-August and the lowest in January 2.39°C (Balafoutis, 1977).

Vegetation is influenced in a great extent by the human factor (Kouli, 2002); therefore, more than 40% of the region is covered by cultivable land and pastures. The riparian vegetation consists of willows (Salix sp.), poplars (Populus sp.), plane trees (Platanus orientalis), elms (Ulmus sp.), and other water-loving trees and shrub; the aquatic vegetation consists mainly of water lilies (Nymphaea alba, Trapa natas, Myriophyllum sp.), as well as reeds (Phragmites australis) and rushes (Typha sp.), which form extensive marshes, covering an area of 1410 acres. In hilly areas, mixed forests of oak trees (Quercus sp.) and deciduous shrubs are predominant. At the south of Aliakmon River, chestnut forests (Castanea sp.) of small extent are developed and at the mountains the vegetation is dense with extended forests of beech (Fagus sp.). At higher elevations forests of conifers and black pines (Pinus nigra) predominate. The beech forests are developed over 700m, they are generally homogeneous and rarely include other species.

6.3. Geology and geomorphological setting
The geological formations of the region are related to two main factors (Brunn, 1956): a) the Alpine orogenesis during the Tertiary, which led to the formation of the mountain
ridges, and b) the intense tectonism during the upper Tertiary and Quaternary. The region belongs to its largest part to the Pelagonian zone; the western part represents part of the Sub-Pelagonian zone and the Mesohellenic Trough. Four major categories of rocks can be found (Vafeiadis, 1983), which are associated with specific geomorphological characteristics according to recent study conducted in the Kastoria drainage basin (Pavlopoulos et al., 2009) (fig. 6.1).

a) Metamorphic, semi–metamorphic and plutonic rocks of the Pelagonian zone, dated to the Paleozoic are found at the NW, N and E of the drainage basin. The relief of this zone shows intense vertical disintegration and intense phenomena of deep erosion.

b) Calcareous rocks of Mesozoic Age (Tertiary-Jurassic) at the SE and W of the lake are related to the formation of karstic sources feeding the lake. Most of them are fractured and karstified, with cracks, cavities and caves (Drakos cave), caveolae, dolines and screed surfaces. The hydrographic network is sparse and displays seasonal runoff. The streams flow only in cases of prolonged rains with high intensity.

c) Tertiary formations mainly constituting of molasse of the Mesohellenic Trough (Meiocene Age) extent at the SW of the lake and consist of marls, conglomerate sandstones and limestones. Plio-Pleistocene lacustrine fluvial formations are found at the N, NE of the lake. They consist of loose conglomerates, clays and loose sandstones.

d) Quaternary deposits consist of modern loose alluvia, derived mainly from the Aliakmon River. Moreover, alluvial cones and fans are formed at the output of the streams, old fluvial deposits are seen S of the lake, characterized by hilly and undulating topographic relief; the littoral plains are characterized by a substantially horizontal planar topography. These deposits extend along the plains of the lake and consist of sands, silty sands and silts. Modern deltaic deposits occur around the lake due to the ongoing erosion of the mountainous region and terraces (fig. 6.1.).

The lakeside plains have a relatively small width and limited extent appearing only in the north-eastern part of the perimeter of the lake (fig. 6.1.). The lake area displayed recently a gradual shrinkage expressed regarding the extent, the average depth and its volume (Pavlopoulos et al., 2009). The mountain region develops in a circular form around the lake, occupying a total area of 203 km² and is characterized by a relatively dense river network. It includes the watersheds of the following streams (with basin area > 5 km²): Aposepos, Vissinias, Toixiou, Metamorphosis and Fotinis, which occupy an area of 175,
6 km² (fig. 6.1). The Pleistocene alluvial cones of Xeropotamos, Korissos, Lithias and Vassilia end at an altitude of 680-700m and are likely to correspond to an old local base level of deposition, which is represented by the closed basin of Stavropotamos-Vassilia, showing quite well developed soil horizons probably related to the Lower Pleistocene.

Of all the hydrographic networks that surround the lake of Kastoria, Giole stream (fig. 6.1) is the only watercourse exhibiting terraces (Pavlopoulos et al., 2009). The presence of an Upper Pleistocene river terrace at 625-630m elevation, which correlates well with the terrace of 620-625 m of Aliakmon River, shows that the development of the southern part of Giole stream is directly connected with the evolution of Aliakmon River (fig. 5.1). The southern part (from Ampelokipoi to the connection with Aliakmon River functioned and evolved differently from the north (from Ampelokipoi to Lake Kastoria).

The evidence for this hypothesis is: a) the existence of terraces in the south b) the absence of terraces in the north and c) the fact that the northern section follows the form and evolution of other hydrographic networks flowing to the lake and affected by changes in lake levels. The southern part of Giole stream was connected to the northern part as a result of regressive erosion of the southern part and was united to the north.

The lake therefore remained for a long time, probably from the Middle Pleistocene until its connection to Aliakmon River through Giole (possibly after the Upper Pleistocene), a relatively closed system (fig.5.1 and 6.1).

6.4. The archaeological site
6.4.1. The history of research

Traces of the prehistoric settlement of Dispilio were first located by A. Keramopoulos (1932), professor at the Aristotle University of Thessaloniki, who returned at the site in 1940 to conduct excavation (Facorellis et al., 2014). As noted by Keramopoulos (1940), various technical works that were held in the area since 1935, including the construction of the road that connects Dispilio with Kastoria, resulted in the falling of the lake water level, leading to the discovery of a significant number of piles. More than 50 years have passed since the first excavations in 1940, when the modern systematic excavations in 1992 began, by the Aristotelian University of Thessaloniki. Until 2013, the excavation was still in progress under the direction of late professor G.H. Hourmouziadis (1996, 2000a, 2000b, 2002, 2008, Hourmouziadis and Sofronidou 2007). Currently, the study of the site is conducted under the direction of professor. K. Kotsakis, at the Aristotle University of Thessaloniki.
The area of the settlement forms a low, mound-like feature about 10,000 m² and 1.3 m high. Archaeologically sterile natural layers of the site have been reached in the east excavation sector (fig. 6.3) ca 2.2 m deep. In the western and southeastern sectors of the excavations, only very limited exposures in the natural layers have been revealed.

6.4.2. Stratigraphy and chronology
Occupation of the settlement started in the Middle Neolithic and ended during the Early Bronze Age (Hourmouziadis, 1996, 2002, Sofronidou, 2008). Three main occupation phases have been recorded (Karkanis, 2000, Hourmouziadi and Giagoulis, 2002) (A to C) describing the position of the site in relation to the water level and defined as lacustrine, amphibian and terrestrial. These phases have been further divided in finer occupation episodes (6 in total). Pottery styles are attributed to the Middle Neolithic (5800–5300 BC.), Late Neolithic I (5300–4800 BC.), and Late Neolithic II (4800–4500 BC.), but with some phases assigned to the Chalcolithic (4500–3200 BC.) and Early Bronze Age (3200–2100 BC.) in the uppermost and more disturbed layers of the excavation (Sofronidou, 2008, Facorellis et al., 2014).

A series of charcoal and wood samples, originating mostly from the Middle and the Late Neolithic layers of the site, give radiocarbon dates ranging from ~5470 to 2100 BC (Facorellis and Maniatis, 2002, Karkanis et al., 2011, Facorellis et al., 2014).

In the upper layers, phase A, only few postholes are found, but also remains of mudbricks, related to rectangular and ellipsoid structures. Foundations are rather shallow and are set directly on the ground. The floors are made of clay and the walls are covered with mudbrick structures, which do not permit any conclusion on spatio-organizational practices.
At the lower part of phase B (subphase V) certain horizontal structures are detected. The lower layers of the site (phase C: lacustrine) (below 1.60 m) preserve wooden piles in upright position and other wooden structures. It is the richest phase in terms of both structural features and finds. The prevailing humid conditions allow the preservation of organic material, horizontal piles, pieces of clayey construction materials and many floors. The early phase C is thought to be destroyed by fire (Karkanas et al., 2011) and the organic material demonstrates different degrees of burning. More specifically, Phoca-Cosmetatou (2008) implied that the bones were not actually burned; the seeds (Margaritis, 2011) indicate temperatures that do not exceed 450°C, which are not considered adequate for burning bone remains. Furthermore, the preservation of seeds designates that the fire must have been of short duration, otherwise the plant remains would have been turned to ash. Nevertheless, the collapse of platforms into the water would have extinguished the fire allowing some seed remains to be preserved. Bone surfaces show signs of rapid burial (Phoca-Cosmetatou, 2008), being well preserved and minimally weathered.
The study of the stratigraphy and use of space conducted by Hourmouziadi and Giagoulis (2002) demonstrated several spatio-organizational complications. The distribution of vertical piles is arbitrary, as is their number and depth, and it is thus often problematic to make associations related to the location and plan of spaces and structures. Furthermore, the piles that penetrate several layers disturb their original structure, and as a result, when a horizontal layer is excavated several episodes of the settlement coexist, an issue that can lead to stratigraphic misinterpretations.

As already discussed, the stratigraphical complexities of wetlands are furthermore related to natural processes. The deposits underlying the raised platforms are often not directly associated with the actual anthropogenic activities (Karkanias et al., 2011); the water action has a strong post depositional effect on the materials. The degree of preservation is still another factor of interest, differentiating the characteristics between the lower (lacustrine) and upper layers (terrestrial) of the site (Hourmouziadi and Giagoulis, 2002). Even if there is an identical deposition in these two layers, the different degree of preservation would create a totally different archaeological context. While for example the construction material, i.e. clays, can be found as compact layers in the upper terrestrial layers, the lower layers often preserve homogeneous masses of organic material or decayed clays, which lose their constructional integrity, as they fall in the water.

6.4.3. Previous research
6.4.3.1. The site
The above stratigraphical complications have rendered the use of micromorphological analysis critical for interpreting and contextualizing the arrangements of the materials and understand the complex interaction of natural and anthropogenic processes. Previous micromorphological research therefore (Karkanias et al., 2011) yielded many microfacies related to the macroscopically identified episodes described above, deciphering the formation of the lacustrine and anthropogenic sediments, before, during and after the habitation of the site.

Before the occupation of the settlement a mostly submerged sand ridge separated a shallow littoral zone from an offshore zone. The deepest layers of the settlement consist of grayish/bluish clayey silts deposited in an anoxic lacustrine setting. A sand layer with large amounts of mollusc fragments blankets all underlying sediment, probably a relict of a storm event.
Just before the onset of the Neolithic occupation, sediments become enriched in intact diatoms, ostracods and some phytoliths, characteristic of a shallow near shore marsh environment, where the first evidence of occupation exists dated to the end of the Middle Neolithic, with the oldest ages clustering around 5400–5300 B.C. Houses were built on raised platforms in the littoral zone. This occupational phase (Ga) is thought to be destroyed by fire at the beginning of the Late Neolithic I, between 5300 and 5200 B.C.

This episode and the subsequent accumulation of materials contribute to the formation of the settlement, create local micro-environments and lead to the final terrestrialization of the mound. Microfacies F followed the burning episode but should be mostly an indirect result of it. The high amounts of construction material that fell into the near shore area produced an artificial shallowing, where the light charred remains preferentially settled.

Microfacies E represents a totally different environment, with evidence of bioturbation, reworking, and exposure. However, the influence of the lakeshore environment was still strong and seasonal flooding was probably frequent.

Microfacies D indicates intensively bioturbated and reworked sediments (perhaps by trampling) with preserved earthworm excrements and abundant anthropogenic remains, which mark a gradual change to a more terrestrial environment.

Microfacies C corresponds to a dry land environment, with evidence for the construction of houses directly on the ground. Human input increases dramatically, and in places the sediment can be regarded as of pure anthropogenic origin.

The development of a hardpan (microfacies B) at the top of microfacies C is the result of the gradual cementation of the underlying sediment. This led to the formation of temporary stagnant ponds of water that facilitated the formation of calcareous crusts at ca 3600 B.C., within the Chalcolithic Period. It is likely that this feature marks an abandonment of the site.

After the destruction episode, different parts of the mound exhibit diverse occupational patterns creating a complex mosaic of chronostratigraphic sequences. During this process the dwellings are initially built on piles; when the mound is fully formed, the mudbricks are placed on the ground, even though it is evident that both types are occasionally coexisting during the transitional phases of the settlement.
From approximately 5200 to 5000 B.C. (i.e., early part of the LNI), the supra-littoral transitional and dry land environment were occupied in the western sector; the littoral zone was occupied in the eastern and southern sectors. This was probably an indirect consequence of the previous destruction phase, which had a different impact on the sedimentation pattern in the western and eastern sectors. Thus, an area above the water level formed early in the western sector, whereas in the east the lake waters started to regress a little later.

From around 5000 to 4300 B.C. (late part of LNI, LNII, and early part of the Chalcolithic), there is evidence of occupation only in the transitional (eastern and southeastern sectors) and dry land (western sector) environments, but the very few available dates cannot support intensive occupation of the mound at that time.

Between 4300 and 3900 B.C., we have evidence of occupation on the dry land environment.

There is evidence of later anthropogenic activity in the transitional supra-littoral environment at the end of the Early Bronze Age (2300–2100 B.C.) at a depth of ca. 140–170 cm, on the southern edge of the mound, which can be related to a possibly fall of the water level and the relocation of the settlement towards the present shore.

6.4.3.2. The lake

Climatic reconstructions (Kouli, 2002) from the lake Orestias suggest that during the Late Glacial, cold conditions prevail; the lake is characterized as mainly oligotrophic with high water levels (fig. 6.4). During the Younger Dryas, the lake exhibits characteristics which are more closely associated with the Alpine Lakes, with conditions ranging from mesotrophic to oligotrophic, slightly higher temperatures than the earlier stages, and stable water levels. During the Holocene, more eutrophic conditions predominate. More specifically, at around 10,000BP, the lake becomes gradually mesotrophic; at around 9,000BP an abrupt and short regression is recorded, related to a general lowering of the water levels in the Balkans (Bottema, 1974), which has been linked to a period of drought. This event is followed by a gradual transgression; the trophic conditions remain mesotrophic to eutrophic. Around 8,000BP, the water levels are regressing, the regime is more closely to eutrophic and the temperature is probably warmer. During the habitation phases of Dispilio, the lacustrine setting exhibits alternating fluctuations, from mesotrophic to eutrophic and hypertrophic. In total 5 events of transgression are recorded. Even during these periods, however, the lake does not reach the levels of the previous transgression stage. At around 6000BP, a gradual rising is recorded, though the
conditions around the settlement remain palludal. After 5000BP the water levels gradually drop and drier climatic conditions predominate.

6.4.4. Vegetation, landscape and economy
Charcoal and pollen data (Kouli 2002, Ntinou, 2010, Karkanas et al., 2011) designate that during the Neolithic habitation the riparian vegetation consisted of some Alnus and Salix trees and a large variety of herbs, such as Cyperaceae, Poaceae, Apiaceae, and several pteridophytes. Aquatic plants included Sparganium emersum, Typha latifolia, and Nymphaea. Deciduous oak woodland was the dominant vegetation in the area probably growing towards the southern and topographically smoother part of the Kastoria basin. Conifers would have been growing at higher elevations, but it is possible that Pinus nigra would have been present at a small distance from the lake on the northwestern and western part of the basin, where elevation changes. Open woodland formations of Juniperus, various sun-loving shrubs and small trees were probably growing on the flat plain—especially the east-southeastern part.

The modern landscape around the site includes open vegetation, pastures, cultivable land, shrubs and low vegetation. This is in accordance with the hypothesis of an “intensive” model of cultivation at Dispilio (Mangafa, 2002). In this line of thought, it is, however, important to consider that there is no major impact on woodland vegetation further away from the site (Ntinou, 2010) for the creation of new and possibly bigger fields for cultivation, describing a small scale agricultural regime at the site. The palynological evidence (Kouli, 2002, 2008a, 2008b) suggests that there are episodes—periods, when the influence of man on the landscape is more pronounced and others when the impact is less intense; there are facies when the vegetation disturbance is mainly due to agriculture expansion and one facies when the emphasis is on livestock; erosion and deforestation due to overgrazing are further observed. These periods of major anthropogenic disturbance can be correlated with the three periods of major constructing activities described by the archaeological study of the Neolithic settlement (Kouli and Dermitzakis, 2008).

More specifically, the gradual impact on woodland vegetation is seen already from the onset of anthropogenic presence on the site (Kouli, 2008) (palynological phase Di-I). Gradually the impact on coniferous forests, even if found in a distance from the site is probably related to the preference for this type of wood as construction material (Ntinou, 2010) (palynological phase Di-II). On the contrary, the gradual clearance of
vegetation for cultivation and grazing, must have had an impact on deciduous forests. The cultivation areas must have been found very close to the site (Kouli, 2008), probably in the settlement in the form of gardens. Extended grassland suitable for grazing must have surrounded the settlement. The vegetation around the lake is restricted probably due to the use of alder as construction material. At a later stage (Di-III), the expansion of deciduous forest is contradictory to the contemporaneous intensification of cultivation and is tentatively related to climatic factors. A period of intensive exploitation of vegetation mainly for construction material, with strong indications of soil erosion (phase Di-IV) is succeeded by another woodland expansion (phase Di-V). The phase that follows (Di-VI) is linked to an intensified use of the vegetation, with indications of exploitation of new species. The low water levels offer new cultivation potential and the reed beds in the lake are hitherto densely formed reaching their maximum extent at ca 4000BP. When the settlement seems to be abandoned (phase VII), agriculture and grazing are steady, but not intense; the vegetation and landscape return to conditions similar to those prior to the habitation of the site. The abandonment of the Neolithic site therefore, takes away the environmental stress on the natural vegetation, but the continuous presence of man -though not so intensive-is still evident, suggesting though that human activity is hitherto more terrestrial and not so closely associated with the lacustrine regime. Furthermore, the significant concentrations of Rubus (Margaritis, 2011) designate an intensive exploitation of the natural environment, which, although previously recorded for the Neolithic, has never been proven by the presence of fruits and nuts, due to adverse preservation conditions. The archaeological data therefore demonstrate the cultivation of small patches of land adjacent to the site, where crop rotation and manuring with dung and household waste would be the prevailing cultivation practices. However, dung was more evident during the Bronze Age implying the intensity of the stock-raising during this period (Tsartsidou, 2010).

Indications of storage are derived from grain-rich concentrations of emmer (Margaritis, 2011); possible storage areas for wheat are identified at the NW part of the east sector, where complete ears of emmer wheat were recovered intact, being heavily affected by fire. In addition, thousands of waterlogged stored blackberry seeds and hazelnut were found at this area; this part of the site also produced large amounts of unburnt and macroscopically burnt mammal and fish bones, as well as large cooking vessels (Stathopoulou et al., 2013). Fish has been a staple food throughout the use of the site (Theodoropoulou, 2008). Fishing equipment net i.e. weights, stone hooks and silex
points designates specific fishing practices (Stratouli, 2008). Important catches of fish are thought to come to Dispilio mainly from spring to autumn and less during winter. Some were destined for direct consumption; others for being smoked or dried. Fish bones were also used to produce tools and ornaments.

On the above observations, it can be suggested that the village was based on a specialized mixed farming economy (Touloumis, 2008) with the vital contribution of fishing on a seasonal basis taking place during spring and summer (Thedoropoulou, 2008) and supplemented with hunting and gathering. Furthermore, the frequency of ovicaprids shows that the inhabitants of Dispilio turned to the land for their livelihood and survival rather than hunting (Phoca-Cosmetatou, 2008). Evidence of agriculture comes from seeds and phytoliths (Margaritis, 2011, Tsartsidou, 2010) as well as tools: pestles, millstones and blades all for processing food, as well as transferring and storing food. There is not enough proof for the secondary use of animal products, especially at earlier periods of the habitation.

Jewellery and stone rings are indications of technological knowledge (Ifantidis, 2008). Wood crafting, on the other hand, has also being verified by the selection of specific types of wood for related purposes and practices (Chatzitoulousis, 2006, 2008). Oak trees were used throughout the lifespan of the settlement and this selection was probably associated with the proximity of the oak forests to the settlement (Ntinou, 2010). Their use was mainly connected to everyday practices; conifer trees were also used for the construction of houses and for furniture. Furthermore, the system of transfer and crafting of wood and the fact that all the stages of processing, from raw material to final products have been evidenced at Dispilio, indicate a high level of specialization. Wooden tools have been found and it has been suggested that for the different types of tools, different types of wood have been selected (Chatzitoulousis, 2006, 2008), considering the properties of the wood type (hardness, endurance, etc). The most unexpected of the finds, a wooden tablet bearing engraved symbols, was $^{14}$C dated to 5260 ± 40 BC (Facorellis et al., 2014); clay tablets and pottery vessels engraved with similar symbols were further unearthed from layers of the same period.