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Prehistoric human remains reviewed: Palaeopathology and palaeodiet in Neolithic and Chalcolithic Cyprus, Limassol district

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ABSTRACT

The current paper presents the results from the recent reexamination of osteological material deriving from Ceramic Neolithic and Chalcolithic sites of the Limassol district, Cyprus. The available skeletal material was macroscopically examined in order to identify possible palaeopathological lesions, while stable isotope analyses (carbon and nitrogen) were conducted aiming to reconstruct past diets. Although only a small percentage of the samples provided acceptable collagen, this study still offers valuable insights into the economic strategies and everyday practices during the mid-5th to late-4th millennium B.C. It is also noted, that nearly all the available skeletal material from the Ceramic Neolithic period on the island was sampled. This study, therefore, provides a useful basis for future comparative research.

1. Introduction

Osteoarchaeological studies in Cypriot Archaeology appear already during the early and mid-20th century, when several final publications of prehistoric sites included chapters on human bones (e.g. the early excavations of Porphyrios Dikaios at Erimi, Khirokitia and Sotira; see Guest, 1936, 58–62; Angel, 1953; 1961, 223–229, appendix 1). Nevertheless, the recorded data were limited to cranial measurements, as well as to a few observations on palaeopathology and demography. The latter were based largely on tentative comparisons with intra and inter-island populations. The potentials of isotope analyses in palaeodietary reconstructions were only recently acknowledged and the relevant studies in Cypriot contexts are still quite rare (e.g. Lange-Badré and Le Mort, 1998; Sciré-Calabrisotto, 2017; Goude et al., 2018. For a recent, albeit short review of stable isotope studies in the eastern Mediterranean see Goude et al., 2018, 115). Equally scarce are studies discussing aspects of palaeopathology (e.g. Lunt, 1985; Lunt et al., 1998; Fox et al., 2003; Moyer and Todd, 2004), while the palaeodemographic profiles of individuals are only examined in sites with abundant human remains, such as Khirokitia *Vouni* (see Niklasson, 1991; Le Mort, 2000, 2003, 2008, table 3.1). The present paper draws results from the Neolithic and Chalcolithic Cyprus Project (NCCP) and attempts to partly fill the existing gaps by reinvestigating skeletal material deriving from Ceramic Neolithic and Chalcolithic sites of Limassol district.

1.1. Sites under investigation

The three selected sites of this study are located in the southern-central part of Cyprus near the mouth of river Kouris (Map. 7). The recently published settlement of Kantou *Kouphovounos* (Mantzourani, 2009; Mantzourani and Voskos, 2019) is situated in a hilly area near the west bank of Kouris, while Erimi *Pamboula* (Dikaios, 1936; see also Dikaios, 1962, 113–132; Bolger, 1988) developed within an alluvial area, at the eastern bank of the river and only a few kilometres far from the coast. The hill of Sotira *Teppes* lies further inland. The settlement controls a small, well-watered valley with at least two or three perennial springs lying in its vicinity (Dikaios, 1961, 1). Kantou and Sotira fall into the geological formation of Pachna (see Panagides and Mantzourani, 2009, 12) dominated by light-yellowish sedimentary rocks (mainly marls, chalks and sandstones). Regarding the qualitative soil characteristics, analyses from Kantou have shown that the area consists of neutral to slightly alkalic grounds (pH: 7,3–7,4), while the site's hinterland must have been heavily forested in the past (Mantzourani, 2009, 14). The fact that all three sites lie within a radius of a few kilometres makes the lower part of Kouris valley an ideal area for a diachronic investigation of socio-economic structures in a regional level.

1.2. Aims and objectives

The discovery of several early Neolithic sites during the last three

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Product	Aceramic Neolithic	Ceramic Neolithic	Chalcolithic
Emmer/Einkorn	√	√	√
Bread Wheat	-	√	√
Barley	√	√	√
Rye	-	√	√
Oats	-	√	√
Lentils	√	√	√
Pea	√	√	?
Chickpea	-	√	√
Vetch	-	√	√
Nuts, Figs	√	√	√
Olive, Grape	√	√	√

Fig. 1. Table showing the main archaeobotanical varieties identified in Neolithic and Chalcolithic sites in Cyprus (Voskos, 2018, 470, Table 48.1).

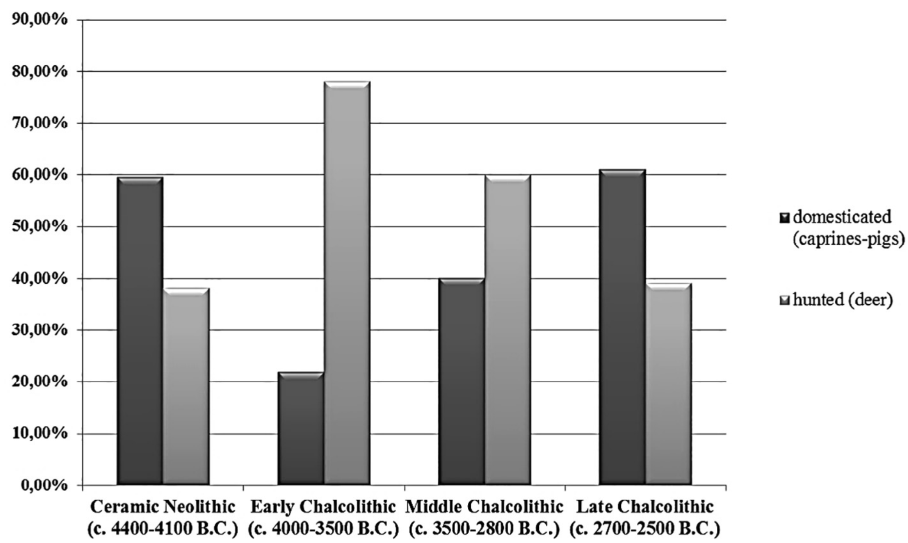


Fig. 2. Average percentages of domesticated and hunted animals. Data deriving from selected Ceramic Neolithic sites (Ayios Epiktitos *Vrysi*, Kantou *Kouphovounos*) and Chalcolithic sites (Kalavasos *Ayious*, Lemba *Lakkous*, Kissonerga *Mosphilia*) of Cyprus (modified from Voskos, 2018, 470, Fig. 48.3).

decades has significantly enriched our knowledge on prehistoric Cyprus (Map. 6). The existence of early agropastoral communities belonging to the 9th-8th millennium B.C. (e.g. Ayios Tychonas *Klimonas* and Parekklisia *Shillourokambos*; see Vigne et al., 2011; Guilaine et al., 2011) has, by and large, challenged the view that the island was a late recipient of the 'Neolithic package'. During the Ceramic Neolithic and Chalcolithic periods (ca. 5th to mid-3rd mil. B.C.), the social groups of the island were still basing their subsistence economy on crop cultivation (crops mainly include cereals and legumes; see Kyllo, 1982, 90–93; Colledge, 1985, 101–102, 209–211; Colledge, 2003, 239–245; Murray, 1998, 215–223; Margaritis, 2019, 377–391) and on the exploitation of faunal species that were introduced from the mainland several millennia ago (i.e. ovicaprids, fallow deer and pigs/boars; see Croft, 1991; Wasse, 2007). Figs. 1 and 2 summarise the current state of knowledge on this subject based on data originating from selected Neolithic-Chalcolithic sites of the island. Most interesting remains the issue of the continuous reliance on deer hunting, a long-lasting and anachronistic practice that survived until the Late Bronze Age, marking a socio-economic paradox and the unique character of early prehistoric Cypriot communities (Voskos, 2018).

The dominant socio-economic model of Ceramic Neolithic-Chalcolithic Cyprus is another debatable issue. Clarke (2001, 70–71), for instance, has argued in favour of increased mobility and the seasonal utilisation of various sites, at least during the 5th-early 4th millennia B.C. Voskos (2018), on the other hand, attempted to explain the diverse character of sites by connecting the anachronistic economic model of Cyprus with existing social trends and the persistence of an insular identity (see also Kloukinas and Voskos, 2013). In this study our aim is to employ advanced analytical techniques, such as stable isotope analysis, for the reconstruction of past human diets. The results are expected to contribute into the discussion concerning the plausibility of proposed economic scenarios for the Ceramic Neolithic-Chalcolithic way of life on the island. Thus, useful data will be provided for future reassessments on the existence and function of various types of sites, including permanent settlements (e.g. Kantou *Kouphovounos*, Erimi *Pamboula*, Ayios Epiktitos *Vrysi*, Lemba *Lakkous*), semi-permanent sites/camps (e.g. Dhali *Agridhi* and Politiko *Kokkinorotsos*; see Lehavy, 1974; Lehavy, 1989; Webb et al., 2009) and other sites possibly related with seasonal occupation (e.g. Kalavasos *Kokkinoyia* and Kalavasos *Pampoules*; see Clarke, 2004, 2009).

Three specific objectives were set:

1. To explore the analytical potentials of skeletal remains from Cypriot prehistoric sites in relation to bioarchaeological applications: previous research (e.g. the pilot study of Goude et al., 2018) noted the extremely poor organic preservation.
2. To contribute to the reconstruction of the dietary profiles of humans and animals using stable isotope analysis.
3. To correlate the evidence with various sets of archaeological information on the way of life in an intra-site level, such as the recording of palaeopathological data. The latter provide information on activity related skeletal changes reflecting everyday domestic and non-domestic practices.

Table 1
Burials of the Ceramic Neolithic period (recorded data according to the original publications). SOT: Sotira *Teppes*, KAN: Kantou *Kouphovounos*, KAL: Kalavasos *Kokkinoyia*.

Site	Burial - tomb no	Pit dimensions	Remains - sex - stature- age etc.	Other data/finds	References
SOT	Grave 1 (D-E6)	Oblong pit dimensions: 0,7 × 0,6m., depth: 0,2m.	Adult	Contracted position, body lying on its right side, head to the NE, face looking SE-E, layer of soil and a few pebbles overlying the bedrock, few stones on either side of the head and the long bones, no other movable finds	Dikaios, 1961, 143 and Pls 38, 56
SOT	Grave 2 (D4)	Oblong pit dimensions: 0,6 × 0,5m., depth: 0,2m.	Adult	Contracted position, body lying on its right side, head to the N, face looking W, chest curved forward, few stones near the knees and other parts of the body, 21 sherds within the layer of the burial (inv. no: 722)	Dikaios, 1961, 143–144 and Pls 38, 56
SOT	Grave 3 (C6)	oblong pit dimensions: 0,8 × 0,72 m., depth: 0,1m. (originally deeper)	adult - male (estimated age: 39 years old)	Loosely contracted position, head to the S, face looking E, layer (33 cm thick) of soil and pebbles (also containing ashes, pottery and animal bones) resting on bedrock, limestone boulder on the chest, small stone behind the head, 12 sherds (inv. no: 766) and one flint (inv. no: 767) from the grave filling	Dikaios, 1961, 144 and Pls 38, 57
SOT	Grave 4 (B4)	Oblong pit dimensions: 1 × 0,6m., depth: 0,3m. (originally deeper?)	Adult - female (estimated age: 42 years old)	Contracted position, body lying on its right side, head to the S, face looking E, layer containing pebbles, ashes, pottery and animal bones, upper part of the body partly covered with stones, stone on the pelvis, 28 sherds (inv. no: 764) and one flint (inv. no: 765) from the grave filling	Dikaios, 1961, 144–145 and Pls 38, 57
SOT	Grave 5 (B6)	Oblong pit dimensions: 0,9 × 0,5m., depth: 0,1m.	Adult - male (estimated age: 36 years old)	Body placed on its back and slightly to the right, head to the S, face looking E, limestone boulder placed on the lower part of the spine and pelvis, no movable finds	Dikaios, 1961, 145 and Pls 38, 57
SOT	Grave 6 (B5)	(-)	Adult (possibly the same individual lies in graves 6 and 7)	Disturbed burial with fragments of human remains, no movable finds and other data mentioned	Dikaios, 1961, 145
SOT	Grave 7 (B4)	(-)	Adult (possibly the same individual lies in graves 6 and 7)	Disturbed burial with fragments of human remains, no movable finds and other data mentioned	Dikaios, 1961, 145
SOT	Grave 8 (D2)	Oblong cavity dimensions: 1 × 0,55 m., depth: 0,3m.	Adult - male (estimated age: 43 years old)	Contracted position, body lying on its right side, head to the S, face looking E, layer with dark coloured soil and a few stones, limestone boulder on the chest, stones at the back of the head (behind the neck), 13 sherds (inv. no: 768) collected among the stones near the body and 2 sherds (inv. no: 769) coming from the area under the stone filling	Dikaios, 1961, 145–146 and Pls 38, 57
SOT	Grave 9 (A4)	Oblong pit dimensions: 0,95 × 0,38 m, depth: 0,25 m.	Child (only the skull and a few phalanges were saved), (estimated age: 4 years old)	Limestone boulder placed on the chest, 17 sherds (inv. no: 770) and 1 flint (inv. no: 771) coming from the grave filling	Dikaios, 1961, 146 and Pl 38
SOT	Grave 10 (C1)	(-)	Adult - female (only fragments of the skull were saved), (estimated age: 20 years old)	Disturbed burial (?), human bone fragments found among stones and carbonized matter	Dikaios, 1961, 146
SOT	Grave 11 (B5)	Oblong pit dimensions: 0,74 × 0,5m, depth: 0,15 m.	Adult - male (see below for different sex) (estimated age: 38 years old)	Contracted position, body lying on its left side, head to the NW, face looking E, many stones were placed all over the body, no movable finds are mentioned	Dikaios, 1961, 147 and Pls 38, 57
SOT	Grave 12 (D3)	Oblong pit dimensions: 1,3 × 0,7m, depth: 0,3m.	Adult - male (estimated age: 37 years old)	Loosely contracted position, head to the S, face looking E, the pit was filled with stones after the burial, 72 sherds (inv. no: 659) from grave filling	Dikaios, 1961, 147 and Pls 38, 57
KAN	Tomb 1 (Building 15, IB 27 - Rectangular phase)	Oval pit dimensions: 0,32 × 0,4m., depth: 0,255 m.	Infant (estimated age: 3–4 years old) but see below for a new estimation	Only the skull was saved, pit covered with slab, orientation of tomb: N-S	Mantzourani, 2009, 71–72 and figs 105–106; Karali, 2019, 362–363
KAN	Tomb 2 (Building 15, IB 28 - Rectangular phase)	Oval pit dimensions: 0,99 × 0,46 m, depth: 0,325 m.	Adult - male (estimated stature: 1,55 m., estimated age: 45–55 years old)	Contracted position, part of the skeleton is crushed, pit covered with slab, orientation of tomb: NE-SW, face pointing to the east, small stone tool (possibly connected with the burial)	Mantzourani, 2009, 71–72 and fig 107; Karali, 2019, 363–364 and fig. 446:2
KAN	Area of Building 1 (B9 - phase II - expansion?)	(-)	Unidentified tooth of an adult	Destroyed tomb (?) under a boulder	Mantzourani, 2009, 161–162; Karali, 2019, 361
KAN	Area north of Building 1 (B25 - phase II - expansion?)	(-)	15 Unidentified teeth of an adult	Destroyed tomb (?) under a boulder	Mantzourani, 2009, 161–162; Karali, 2019, 362
KAL	Burial (2 2 9)	Circular pit dimensions: diam.: 1,2m., depth: 0,59 m.	Adult - female (+a few long bones from another skeleton, possibly previous occupant?)	Semi-contracted position, body lying on its right side, head orientated to the SW, face looking E, stone placed under the skull, cobble near the right shoulder, excavated within the northwestern part of a figure-of-eight feature	Clarke, 2007a, 21–22 and fig. 10; Clarke, 2009, 45 and fig. 15

The following subsection provides a short description of the available osteoarchaeological material from Ceramic Neolithic and Chalcolithic contexts.

2. Materials and methods

2.1. Materials: Ceramic Neolithic-Chalcolithic burials and the related osteoarchaeological material in Cyprus

In contrast with the fairly abundant skeletal remains of the Late Aceramic Neolithic and Chalcolithic periods (especially the Middle-Late Chalcolithic phase), the burials dated to the Ceramic Neolithic period are quite scarce. The burials excavated at the site of Sotira *Teppes* form the largest assemblage of human remains dating to the Ceramic Neolithic period of Cyprus (Dikaios, 1961, 142–147. See also Table 1). At the nearby settlement of Kantou *Kouphovounos*, two more burials were excavated in two different pits cut inside the floor of Building 15 (Mantzourani, 2009, 71–72, Fig. 105–106; Karali, 2019, 362–364, Fig. 446:2). In addition, a number of human teeth attributed to two individuals were recovered from the western sector of the settlement, in the vicinity of Building 1. Another intact burial as well as fragments of a previous one, were excavated at the site of Kalavasos *Kokkinoyia* (Clarke, 2007a, 21–22, Fig. 10; Clarke, 2009, 45), whereas Dikaios (1962, 135) refers to a burial of unknown date (possibly of Late Neolithic or Early Chalcolithic period; see also Clarke, 2009, 45) at the nearby site of Kalavasos *Pampoules*. Lastly, an enigmatic chamber tomb is reported from the unpublished site of Philia *Drakos A΄*. Although this was dated to the Ceramic Neolithic period (e.g. Walker, 1975), a later date within the Chalcolithic or even the Prehistoric Bronze Age is more probable.

Equally few are the human remains from sites dated to the Early Chalcolithic period (Table 2; also Clarke, 2007a, 22). This is not irrelevant to the small number of excavated sites of the period. Although no intact skeletons were found, several disarticulated human bones coming from ca. 8–10 individuals are reported from Kissonerga *Mylouthkia* (see Fox et al., 2003, 221–223, Table 19.1). All available data come from disturbed levels and, therefore, cannot be related to well-defined contexts. The same may be supported in the case of the disarticulated human remains from Kalavasos *Ayious* (Moyer and Todd, 2004, 198–199). Among the three identified individuals, only the skeleton of a child (Moyer and Todd, 2004, 198–199, Fig. 21:9, Pl. XXII:2) coming from a shallow depression points to some kind of intended inhumation.

As already mentioned, the picture of scarce burial data from the 5th and early 4th millennia B.C. contrasts with the abundant osteoarchaeological material of the Middle-Late Chalcolithic period (ca. 3500–2500/2400B.C.). Peltenburg (2006, 153), summarises the available data amounting to more than one thousand (1017) identified burials. However, it is noted that only half of these burials were excavated and published, whereas an even smaller number (231 according to Peltenburg, 2006, 153) is directly associated with excavated sites (see Table 3. Additional burials from the recent investigations at Souskiou *Laona* cemeteries are now available; e.g. Crewe et al., 2005; Lorentz, 2016). Although the available human remains are admittedly numerous, there seems to be a concentration of investigated sites in the southwest part of Cyprus (Paphos district), while only a few skeletons derive from the site of Erimi *Pamboula*, within the area under investigation by the NCCP.

In sum, the osteoarchaeological material examined by the NCCP includes nearly all the available skeletons dating to the Ceramic Neolithic period on the island, as well as some rare Chalcolithic human remains from Limassol district.

2.2. Methods

2.2.1. Stable isotope analysis for palaeodietary reconstructions

Stable isotope analysis is a direct quantitative method of reconstructed past diets, successfully applied in archaeological assemblages. Its principle lies in the understanding that isotopic signatures travel from producers to consumers in a predictable and measurable way, thus allowing researchers to reconstruct ancient foodways.

Carbon and nitrogen are the elements most commonly used in archaeology for dietary reconstructions, measured from bone collagen extracted from humans and animals under investigation. Collagen is the most abundant organic component of bone, and generally survives well in burial environments. Additionally, several quality criteria exist, in order to evaluate the collagen quality and suitability for analysis (Ambrose, 1990; DeNiro, 1985).

In diets with adequate protein consumption, it is accepted that a direct routing mechanism exists for organisms, whereby protein from diets will be used to construct the protein within an organism (Schoeninger, 1989). Therefore, measuring isotopes from collagen will largely show the protein component of the diet consumed. Depending on the selected bone, an averaged diet of the last 5–30 years prior to the individual's death will be recorded in this analysis (Hedges et al., 2007).

Stable isotope values are expressed as a difference (δ) of stable isotope ratios (R) in a sample related to an international standard with known ratios, in units of per mil (‰).

Both carbon and nitrogen isotopes can be used to distinguish between marine and terrestrial food sources (DeNiro and Epstein, 1981; Hull and O'Connell, 2011), depending on the ecosystem. Carbon isotope ratios ($\delta^{13}C$) are also used to identify plant sources based on their photosynthetic mode. Thus, $\delta^{13}C$ distinguishes between C3 (e.g. wheat, barley) and C4 (e.g. millet, maize) plants. Nitrogen isotope ratios ($\delta^{15}N$) indicate the trophic level of an organism, thus separating between herbivores, omnivores, and carnivores, both in terrestrial and in marine ecosystems (for an example, see Fig. 3). A stepwise enrichment is expected for both elements, approximately 1‰ for $\delta^{13}C$ and 4‰ for $\delta^{15}N$ per trophic step in the food-chain (Lee-Thorp, 2008; Schoeninger and DeNiro, 1984; Hull and O'Connell, 2011), although the process of transfer is influenced by extra-dietary parameters as well (e.g. Tieszen et al., 1983; O'Connell et al., 2012).

In the present study, we expected isotopes to support the consumption of C3 plants, as this was recorded in previous studies (see Fig. 1).

2.2.2. Analytical methods

Thirty-two human and faunal samples from the three sites were selected for $\delta^{13}C$ and $\delta^{15}N$ isotope analysis. These include nine (9) samples from Erimi *Pamboula* (5 human, 4 animal), eleven (11) samples from Sotira *Teppes* (8 human, 3 animal) and twelve (12) samples from Kantou *Kouphovounos* (5 human, 7 animal). The number of samples was dictated by the financial allowances of the project and the available skeletal material. The variable anatomical representation of the skeletons also dictated the variability in the location of sampling (see Table 4). With a few exceptions, the remains from Sotira *Teppes* and Kantou *Kouphovounos* are the only human remains of the Ceramic Neolithic on the island and, therefore, this study also serves as a pilot for organic preservation during this time period.

Chemical preparation and isotopic measurements were conducted at the Centre for Isotope Research, University of Groningen, following a modified Longin protocol (Longin, 1971). Approximately 1 gr of cortical bone was demineralised in 0.5 HCl at room temperature for several days. The demineralised bone was rinsed to neutrality with ultra-pure water and gelatinised in pH3 distilled water at 70^0 C for 48 h. The resulting solution was centrifuged to remove insoluble material and consequently crystallised at 60^0 C for 24 h. Collagen crystals were weighted into tin capsules and combusted in an IsoPrime 100™ isotope ratio mass spectrometer coupled to an Elementar Vario Isotope Cube™ elemental analyser. Internal laboratory standards include oxalic acid, caffeine and laboratory collagen. Analytical precision was better than 0.15 for $\delta^{13}C$ and 0.30 for $\delta^{15}N$.

Table 2
Burials of the Early Chalcolithic period (recorded data according to the original publications). K.M.: Kissonerga *Mylouthkia*, KAL-A: Kalavasos *Ayious*.

Site	Burial - tomb no	Pit dimensions	Remains - sex - stature- age etc.	Other data/finds	References
K.M.	Pit 1 (Unit 1.02 - hearth)	(-)	One fragmentary human bone (portion of metacarpal shaft and base), possibly from an adult	(-)	Fox et al., 2003, 221 and Table 19.1
K.M.	Pit 1 (Units 1.05, 1.17 and possibly 1.12?)	(-)	Remains of 1 adult male (individual 1), see inventory (Fox et al., 2003, 222)	Slightly burned bones (after post-mortem fracturing)	Fox et al., 2003, 221–222 and Table 19.1
K.M.	Pit 1 (Units 1.05, 1.17 and possibly 1.12?)	(-)	Remains of 1 adult female (estimated age: 19–24 years old) (individual 2), see inventory (Fox et al., 2003, 222)	Slightly burned bones (after post-mortem fracturing)	Fox et al., 2003, 221–222 and Table 19.1
K.M.	Pit 1 (Unit 1.11)	(-)	Remains of 1 child (estimated age: 6–14 years old) (individual 3), see inventory (Fox et al., 2003, 222)	Slightly burned bones (after post-mortem fracturing)	Fox et al., 2003, 221–222 and Table 19.1
K.M.	Pit 1 (Units 1.11, 1.16)	(-)	Remains of an adult or late adolescent (?) (estimated age: 15–17 years old) (individual 4), see inventory (Fox et al., 2003, 222)	Slightly burned bones (after post-mortem fracturing)	Fox et al., 2003, 221–222 and Table 19.1
K.M.	Pit 16 (Unit 16.04)	(-)	Remains of an individual (estimated age: minimally 14.5 years old), see inventory (Fox et al., 2003, 223)	Fair state of preservation	Fox et al., 2003, 221, 223 and Table 19.1
K.M.	Pit 108 (Unit 108.01)	(-)	Only 1 bone (possibly right humerus shaft) of an individual (possibly adult)	(-)	Fox et al., 2003, 221, 223 and Table 19.1
K.M.	Pit 109 (Unit 109)	(-)	Only 1 fragmentary bone (left femoral shaft) of an individual (possibly adult)	(-)	Fox et al., 2003, 221, 223 and Table 19.1
K.M.	General deposit 131	(-)	Only 2 bones (2nd cervical vertebra, lateral half of right clavicle) of an individual (possibly adult)	(-)	Fox et al., 2003, 221, 223 and Table 19.1
K.M.	Building 152 (General deposit 152.163)	(-)	Only 2 bones (vertebral body fragment, distal left humerus) of an individual (possibly adult)	Possibly linked with the remains of the individual of fill 152.182	Fox et al., 2003, 221, 223 and Table 19.1
K.M.	Building 152 (Unit 152.182)	(-)	A few remains (sternal manubrium, fragment of right scapula, right 2nd metacarpal, two fragments of left clavicle) of an adult (estimated age: 20–24 years old)	Possibly linked with the remains of the individual in general deposit 152.163	Fox et al., 2003, 221, 223 and Table 19.1
K.M.	Pit 300 (Unit 300.256)	(-)	A few remains (three fragments of immature parietal bone) of a subadult (child)	(-)	Fox et al., 2003, 221, 223 and Table 19.1
KAL-A	Burial 1 (NW Area, B 4, 3.3)	Shallow depression dimensions: 1,2m. (NE-SW) × 0,7m. (NW-SE), depth: 0,07 m.	Disturbed skeleton (for the remains see Moyer and Todd, 2004, 198–199) of a child (estimated age: 4–5 years old)	Tightly contracted lower limps, body lying on its right side, face looking N, no grave goods, uncertain date	Moyer and Todd, 2004, 198–199, Fig. 21:9, Pl. XXII:2
KAL-A	NW Area, C 6, A/B	(-)	Few remains (see Moyer and Todd, 2004, 199) of an adult (undetermined age and sex)	Coming from an unstratified deposit, unknown date	Moyer and Todd, 2004, 199
KAL-A	West Central Area, C 11B, 5.9	(-)	Small quantity of human remains (three unidentifiable bone fragments and 12 teeth; see Moyer and Todd, 2004, 199) from a child (estimated age: 6 years old; indeterminate sex)	Coming from the fill of a deep pit (not a funerary feature)	Moyer and Todd, 2004, 199

Table 3
Burials of the Middle and Late Chalcolithic period (recorded data according to the original publications). ERI: Erimi *Pamboula*, K.M.: Kissonerga *Mylouthkia*, SOU: Souskiou *Vathyrkakas*, LEM: Lemba *Lakkous*, K.MO: Kissonerga *Mosphilia*.

Site	Burial - tomb no	Pit dimensions	Remains - sex - stature - age etc.	Other data/finds	References
ERI	Burial 1 (circular pit - level V)	Diam.: 1,20 m., depth: 0,75 m.	Adult male (skeleton no 1 - estimated stature: 1,54 m.). For the remains see Guest, 1936, 58–59.	Contracted position, head pointing to the NW, large pebble over the head, skeleton crushed under large stones. Finds: burnt sherd, upper part of RM vessel lying on the legs (within possible pot setting), fragments of stag's antler and an animal shoulder bone under the skeleton.	Dikaios, 1936, 11 and Pls III:1, XIV: 4; Guest, 1936, 58–59; Bolger, 1988, 30.
ERI	Burial 2 (oval pit - level IX). Currently exhibited in the Cyprus Museum	Pit dimensions: 1 × 0,53 m., depth: 0,25–0,30 m.	Adult male (skeleton no 2 - estimated stature: 1,7m.)	Contracted position, head pointing to the E, no finds related to the burial	Dikaios, 1936, 19 and Pls IV:2, XIV:5; Guest, 1936, 59; Bolger, 1988, 30.
ERI	Burial 3 (shallow pit under a group of stones - level IX)	(-)	Child (skeleton no 3 - estimated stature:1,33 m. and age: 10–11 years old) For the remains see Guest, 1936, 59–61.	Crouched position, no finds related to the burial	Dikaios, 1936, 19 and Pls IV:2, XIV: 1–3; Guest, 1936, 59–61; Bolger, 1988, 30.
ERI	Burial 4 (level VIII, A)	Pit dimensions: 1 × 0,53 m., depth: 0,25–0,30 m.	Adult or child? (skeleton no 4 - estimated stature: 1,5m. and age: 14? years old) For the remains see Guest, 1936, 61–62.	Fragmentary (only the upper part was saved), no finds related to the burial	Dikaios, 1936, 13 and Pl. IX:4; Guest, 1936, 61–62; Bolger, 1988, 30.
K.M.	Building 200 (occupation deposit 211 + general deposits 200.270 and 200.305)	(-)	Remains of a subadult (child), see inventory (Fox et al., 2003, 224)	Fair state of preservation, traces of burning (possibly a fire victim?)	Fox et al., 2003, 221, 223–224 and Table 19.1
SOU (overall)	ca. 82 tombs (62 Units – 31 secure, all Middle Chalcolithic)	Pits of 4 main types (see Peltenburg, 2006, 158, Fig. 12.4)	ca. 200 individuals	All data are summarised in Peltenburg, 2006, 154–155, Table 12.1	Peltenburg, 2006
LEM (overall)	56 graves (22 in Area I and 33 + 1 in Area II). All dated to Middle-Late Chalcolithic	Pits of 2 main types (Type I and Type II)	ca. 55–60 individuals (ca. 22 in Area I and 33–34 in Area II)	All data are summarised in Niklasson, 1985, Tables 4, 67–69 and also catalogues of graves 3.3.3 and 4.3.1. On human dentitions and palaeopathological data see Lunt, 1985, catalogues 3.4.2 and 4.4.1	Niklasson, 1985, 43–53, 134–149; Lunt, 1985, 54–58, 150–153
K.MO (overall)	ca. 24–27 in periods 3A-3B (Middle Chalcolithic) ca. 49–60 in period 4 (Late Chalcolithic)	Pits of types 1 and 2 (Middle Chalcolithic), types 1, 2, 3 and 5 (Late Chalcolithic)	ca. 15–19 individuals (Middle Chalcolithic), ca. 39–44 individuals (Late Chalcolithic) see Lunt and Watt, 1998, 74, Table 4.3	All data are summarised in Lunt et al., 1998, 66–68, Table 4.1. See also Baxevani et al., 1998, 87–120 (Chapter 16 in LAP Vol. II.1B).	Lunt et al., 1998, Chapter 4; Baxevani et al., 1998, Chapter 16

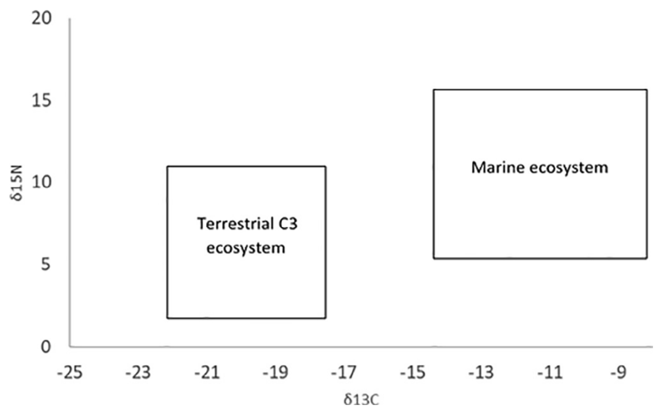


Fig. 3. Example of typical bone collagen stable isotope ratios for temperate Europe.

It should be mentioned that the skulls from Sotira *Teppes* had been treated with glue (*Alvar,* a polyvinyl acetal resin) during the original study of the material by Angel (1961, 223–229, appendix 1). Six of the Sotira samples still retained visible glue, in the form of a thick and bubbly light-yellow residue. Most of the visible residue was removed by hand using a scalpel. As no more information about the extent of the treatment was offered in the original publication, a three-step solvent wash (Dee et al., 2011) was repeated twice in an effort to remove as much of the contaminant as possible.

2.2.3. Osteological observations

The skeletal material was examined macroscopically for the assessment of sex and age-at-death, as well as for the identification of palaeopathological lesions to the bones. Anatomical representation was extremely poor and, in most cases, each individual was represented by a few bone fragments. Sex was determined based on pelvic (Phenice, 1969; Buikstra and Ubelaker, 1994) and cranial features (Buikstra and Ubelaker, 1994). Age estimation of adult skeletons was not possible due to poor preservation. Subadults were aged on tooth formation and maturation (but see Halcrow et al., 2007), as well as according to the stage of epiphyseal fusion (Scheuer and Black, 2000). The original publications of the excavations contain sections with osteological observations. However, in many instances the information was not recorded following a proper terminology that would allow for a comparative analysis of the results. Here, we aim to offer an updated view, considering that, in some cases, the initial studies were conducted more than seventy years ago.

2.2.3.1. Sotira Teppes. Twelve burials are mentioned in the original publication of Sotira (Table 1). In two cases (Graves 1 and 2), the preservation is described as poor, while in the case of two more burials (Graves 6 and 7) only fragments of bones were traced. Regarding the remaining eight burials, only the skulls were available for observation. Since there is no relevant mention in the original publication and since the osteological study of Angel only reports observations and metrics on the skulls, it is not known what happened to the post-cranial remains. The efforts to locate the material in the Cyprus Museum of Nicosia and

Table 4
Isotope data. E: Erimi *Pamboula*, S: Sotira *Teppes*, K: Kantou *Kouphovounos*. Dup denotes duplicate sample. Accepted data in bold.

Sample name	Description	Sample details	Collagen yield (%)	%C	%N	C:N	δ13C	δ15N
CY1-E	Animal	Herbivore	1,36	3,51	1,46	2,8		
CY1/dup			1,36	3,21	1,38	2,7		
CY2-E	**Animal**	**Herbivore**	**0,32**	**40,05**	**13,93**	**3,4**	**−20,58**	**5,88**
CY3-E	Animal	Herbivore	0,13	42,57	12,10	4,1		
CY4-E	Animal	Herbivore	0,19	8,11	2,95	3,2		
CY6-E	Human	Skull						
CY8-E	Human	Rib	0,28	4,63	1,76	3,1		
CY10-E	**Human**	**Rib**	**1,73**	**40,51**	**13,44**	**3,5**	**–22,16**	**8,03**
CY10/dup			**1,73**	**40,90**	**13,41**	**3,6**	**−21,26**	**8,17**
CY11-E	Human	Ulna	0,54	11,78	4,61	3,0		
CY11/dup			0,54	11,17	4,30	3,0		
CY12-E	**Human**	**Long bone diaphysis**	**5,18**	**41,34**	**14,58**	**3,3**	**−21,00**	**7,70**
CY12/dup			**5,18**	**41,35**	**14,44**	**3,3**	**−20,56**	**7,90**
CY14-S	Human	Vertebra	0,23	48,56	4,43	12,8		
CY16-S	Human	Vertebra	1,13	7,53	0,97			
CY16/dup			1,13	6,61	1,00			
CY18-S	Human	Skull						
CY19-S	Human	Skull	0,08	28,51	1,16	28,7		
CY21-S	Human	Skull	0,17	3,63	0,27	15,6		
CY22-S	Human	Skull	0,11	8,76	0,72	14,3		
CY23-S	Human	Skull	0,23					
CY25-S	Human	Skull	0,64	10,58	0,44	27,9		
CY27-S	Animal	Herbivore	0,65	207,06	61,40	3,9	−17,85	6,56
CY28-S	Animal	Herbivore	1,04	8,16	2,96	3,2		
CY29-S	**Animal**	**Herbivore**	**7,97**	**31,45**	**10,94**	**3,4**	**−21,82**	**4,98**
CY29/dup			**7,97**	**31,56**	**10,84**	**3,4**	**−21,16**	**5,01**
CY31-K	Human	Skull	0,09	3,36				
CY32-K	Human	Femur	0,18					
CY33-K	Human	Skull (petrous)						
CY34-K	Human	Long bone diaphysis	0,01	16,59	6,05	3,2		
CY37-K	**Human**	**Long bone diaphysis**	**1,23**	**37,28**	**13,25**	**3,3**	**−21,72**	**7,83**
CY37/dup			**1,23**	**38,02**	**13,09**	**3,4**	**−20,46**	**7,75**
CY38-K	Animal	Herbivore	0,01					
CY39-K	**Animal**	**Herbivore**	**0,26**	**33,75**	**11,51**	**3,4**	**–22,19**	**6,03**
CY40-K	Animal	Herbivore						
CY41-K	Animal	Herbivore						
CY42-K	Animal	Herbivore	0,14					
CY43-K	Animal	Herbivore	0,03					
CY44-K	Animal	Herbivore	0,42	1,60	0,20			
CY44/dup			0,42	0,10	0,10			

the Archaeological Museum of Limassol district was fruitless.

The skulls from Sotira were poorly preserved. Additionally, conservation glue had been added to the bones without prior removal of the soil. As a result, most surface characteristics were not observable. Skeletons 10 and 12 are represented by few non-diagnostic fragments. The rest include four adult males (Skulls 3, 4, 5, 8), one adult possible female (Skull 11) and one subadult (Skull 9).

Owing to the poor preservation and anatomical representation, only localised palaeopathological observations were possible. The lack of post-cranial elements makes it impossible to record any systemic pathological expressions or post-cranial trauma. Skull 11 exhibits a large lytic lesion in the area between the left auditory canal and the mastoid, with obliteration of the mastoid process. Slight marginal lipping is recorded. The inner surface is not available for observation as it has been treated with glue without removal of the soil. The lesion is consistent with a focal, non-specific infection of the ear (e.g. mastoiditis, otitis media; see Homøe et al., 1996). The same individual presents a pattern of linear wear along the lower left canine and premolars. The corresponding upper teeth are missing. The pattern is located on the occlusal surfaces and is directed mesiodistally. If this attrition is attributed to masticatory reasons, then it is possible that the individual may have exhibited an edge-to-edge bite (Reinhard, 1983). Non-masticatory reasons may include repeated activities where the teeth are used as a tool, including basket-making or preparing animal sinews (e.g. Bonfiglioli et al., 2004).

2.2.3.2. Kantou Kouphovounos. Two burials were located under the floor of Building 15 (see Table 1). One skeleton has been restored with paraloid glue and is almost entirely covered with conservation sand, as a means to protect the bones from further deterioration. Only part of the right side was available for observation. The skeleton belongs to an adult male. An oval shaped depression measuring 1x2cm is located over the right orbit, consistent with blunt force trauma. The second burial contained the teeth and a few cranial fragments of a subadult aged 9 months ± 3 months (Ubelaker, 1978; Moorees et al., 1963; cf. Karali 2019, 362–363). An additional fifteen teeth that had been located north of the building probably belong to one more adult. Originally, one more tooth was reported from the same area, raising the minimum number of individuals (MNI) to two.

2.2.3.3. Erimi Pamboula. Four burials are reported at the site of Erimi *Pamboula*. One of them is on permanent display at the Cyprus Museum (Nicosia) and is therefore unavailable for further study. Of the remaining three, one burial includes the severely fragmented remains of one adult and one subadult, one belongs to a possible adult male (Skull II) and the third belongs to a possible adult female (Skull III). Consequently, there seems to be a notable inconsistency with the data recorded in the original publication (Table 3).

Skull II is identified as an adult, possible male. Anatomical representation is very poor. The skeleton is generally gracile, although it exhibits robusticity of deltoid tuberosities bilaterally. This is consistent with the engagement in activities requiring systematic use of the arms (Rhodes and Knüsel, 2005). A small fragment of the right part of the maxilla and mandible is present. There is moderate wear on the occlusal surface of the retained upper right M1, while the retained lower right molars exhibit the initial stages of caries (Hilson, 2001).

Skull III is identified as an adult, possible female. Similarly to Skull II, anatomical representation is poor. Slight periosteal reaction with new bone formation and diffuse microporosity is recorded on the *linea aspera* bilaterally. Slight syndesmphytosis is recorded on the Achilles' insertion of the right calcaneus. These observations, rather than being pathological, are the result of wear-and-tear consistent with aging. Skull III retains the mandible. Third molars had not erupted. There is antemortem loss of the right M1, with complete alveolar resorption, and severe wear of the left M1 on the labial side of the occlusal surface. There is also loss of the central incisors, possibly as the result of periodontal disease: a large perforating lesion of the alveolar is recorded buccolingually with new, irregular bone formation around the margins.

The remaining burial contains the commingled remains of an adult and at least one subadult along with faunal bones. Based on the development of the dentition, the subadult is estimated to have been 5 years ± 9 months at death. Carious lesions are recorded on both mandibular deciduous first molars. An additional diaphysis of a subadult tibia is present.

3. Results

From the total of thirty-two samples that were prepared for analysis, twenty-seven had collagen (approx. 84%). However, the majority of these samples yielded very poorly preserved or contaminated collagen that could not provide acceptable isotopic results. In the case of Erimi *Pamboula*, eight out of the nine samples had collagen, but only three complied with acceptable criteria. Ten out of the eleven samples from Sotira *Teppes* had collagen, but only one provided acceptable results. Similarly, while nine out of the twelve samples from Kantou *Kouphovounos* had collagen, only two provided acceptable results (Table 4).

The primary quality criteria employed for collagen quality were %C, %N, and C:N ratios. Samples with carbon content less than 30 weight % (wt%) and nitrogen content less than 10 wt% (Ambrose, 1990), as well as C:N ratios outside the extended 2.9 to 3.6 range (DeNiro, 1985) were not accepted for analysis, and their data are not reported or discussed here. Furthermore, the accepted samples have very low collagen yields (between 0.26% and 7.97%), a fact that should be taken into consideration in the evaluation of the data.

There is no difference in preservation between human and animal bones, considering both quantity and quality of collagen. None of the Sotira *Teppes* human samples yielded acceptable collagen. As was already noted, the skulls from this site had been treated with glue as a means of conservation during their initial study by L. Angel. Although a rigorous protocol suitable for radiocarbon analyses was applied to these samples, it appears that the conservation treatment caused irreparable damage to the organic quality of the bones.

If Sotira is excluded from the discussion, a comparison between Erimi *Pamboula* and Kantou *Kouphovounos* reveals a slightly better success rate for Erimi, in terms of both the quantity and the quality of collagen. Eight out of nine Erimi samples had collagen, while three out of nine had acceptable collagen. Concerning Kantou, nine out of twelve samples had collagen, but only two out of twelve were acceptable. For Erimi, this translates to 89% success rate for quantity and 33.3% for quality, while at Kantou success rate was 75% for quantity and 16.7% for quality. It is crucial to keep in mind that the absolute numbers of samples are rather small and, therefore, any discussion needs to be tentative. Although both sites lie on similar geological formations (see paragraph 1.1 above), Kantou *Kouphovounos* is situated on a prominent hill (altitude: 243 m), while Erimi *Pamboula* is on a plain. The elevation difference is a possible factor contributing to preservation differences. Most importantly, there is a chronological difference between the sites, as Erimi *Pamboula* is Chalcolithic, while Kantou *Kouphovounos* falls into the Ceramic Neolithic period. Goude et al. (2018) report similar results in preservation with time. However, their study also includes Bronze Age samples, which appear to have slightly better preservation compared to the ones from the Neolithic/Chalcolithic period. Sciré-Calabrisotto (2017) reports more than 50% success in her Bronze Age samples from Erimi *Laonin tou Porakou*. It is, therefore, reasonable to assume that chronological age is an important preservation factor for the Cypriot samples.

Across sites, $\delta^{13}C$ for humans ranges between −21.7‰ to −20.78‰, while $\delta^{15}N$ ranges between 7.8‰ to 8.1‰. The reported values are averages between duplicate measurements. The contribution of these results to palaeodietary reconstructions are discussed below.

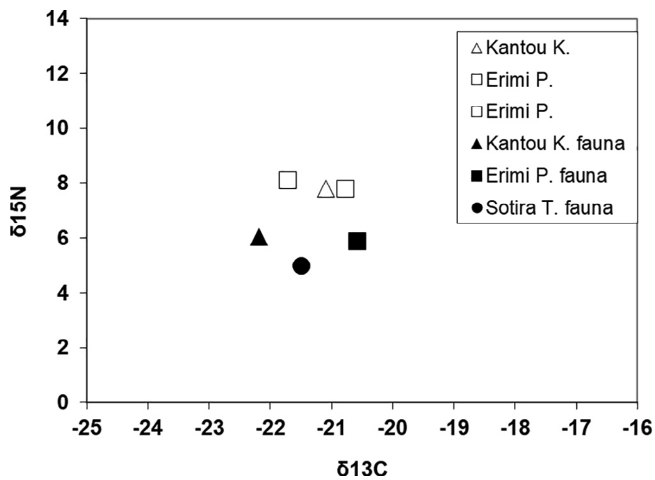


Fig. 4. Plot of accepted isotope data.

4. Discussion

The results discussed here involve a small number of human remains and, therefore, any extrapolation to the general population living on the island in this time period is far from the goals of the present project. However, the general scarcity of the skeletal material amplifies the importance of the observations recorded here. It is hoped that continuous work on Cyprus and especially the Kouris region will significantly enhance our understanding of prehistoric lifeways on the island.

The macroscopic examination of skeletal material from all three sites revealed in some occasions a number of inconsistencies between the extracted information and the published data. At Erimi, the remains of one more individual were identified, raising the minimun number to five, contrary to the original publication, where only four individuals had been reported. At Kantou, a closer re-examination of the dentition suggests that the subadult was aged around 9 months, and not 3–4 years as originally reported by Karali (2019, 362–363). Lastly, at Sotira, Skull 4 was now attributed to a possible male and Skull 11 to a possible female.

One of the Sotira skulls exhibits lesions that could be macroscopically associated with non-specific infections of the ear. Although a unique case in the study sample, the possible presence of infection within a population is an important observation. Only a small percentage of individuals who suffer from serious infections will exhibit skeletal lesions. Healing around the lesions denotes a persistent condition, which in turn denotes a strong immune system: the affected individual does not succumb to the infection but lives with it chronically. The location of the lesion suggests a non-specific infection of the ear. Generally, infections of the middle ear are a disease of childhood. However, a recurrent infection can result in perforations of the mastoid process. Further observations through radiography and/or microscopy would be necessary in order to fully assess the lesions present in this case. Other skeletal indicators of stress were not observable within the study sample.

Signs of interpersonal violence are not recorded, with the possible exception of the adult male at Kantou *Kouphovounos*. Although it is tempting to connect the existence of a blunt force trauma to the skull with some kind of social unrest, the scant indications for intra-site or regional competitions in a largely egalitarian society (Voskos, 2018) are against this possibility. In contrast with the ubiquitous practice of intramural burials in the Aceramic Neolithic Cyprus (e.g. at Khirokitia *Vouni*), the two burials of *Kouphovounos* are the only cases of inhumation within a seemingly abandoned building in the Ceramic Neolithic period. This fact could echo a differential social status for the deceased, either ascribed or achieved (for a similar discussion see Le Brun, 2002, 26–28, although the Khirokitian sample is much more abundant and informative) or even the attempt of a specific group of people to highlight their connection with the buried ancestors (Voskos, 2019, 90). Much more evidence and comparative data are admittedly needed to support this speculation. Nevertheless, if indeed the economic model of the period was characterised by increased mobility, intra-site burials could act as a means of status affirmation and the legitimisation of rights of semi-mobile individuals/groups who sought to create a symbolic bond with the settlement or at least with specific buildings and spaces (for relevant practices related to the manipulation of memory and buried ancestors see for example Galaty, 2018; Voskos, 2019).

The case of Skull 11 at Sotira exhibits an interesting wear pattern on the dentition. Masticatory (e.g. edge-to-edge bite) and non-masticatory reasons can be responsible for the formation of such patterns. For example, horizontal attrition could have been the result of basketry crafting. Until at least the mid-20th century A.D., most of the households on the island owned a series of baskets and mats created by plant stems (normally coming from reed and wheat), like the so-called tsestoi (in greek: οι τσέστοι, ο τσέστος, το τσεστί etc.). The *tsestoi* were used in various daily practices such as storage, food collection/processing and carrying. Concerning the Neolithic-Chalcolithic period, several researchers (e.g. Clarke, 2007b, 91) have argued for the existence of basketry, since the typological variety of pottery was rather limited and several household needs must have been met through the use of baskets or, perhaps, wooden vessels. So far there is only indirect evidence of this craft mainly deriving from coarse ware trays with relevant signs of baskets or mats imprinted on their bases (e.g. Clarke, 2007b, 100). The case of Skull 11 exemplifies a different, more direct approach in which everyday activities can be studied through the human skeleton.

The results from the isotope analyses are summarised in Table 4 and Figs. 4 and 5. Both human and faunal diets are consistent with a C3 terrain. Although no fish bones were analysed, it appears unlikely that fish made any significant contribution to the diets of these individuals, as seen in the δ^{13}C values. On the other hand, terrestrial animal protein was routinely consumed. Although stable isotope analysis from bone collagen does not differentiate qualitatively between the protein sources of the same animal (i.e. the meat and the milk of the same animal will present as isotopically indistinguishable), it is certain that either or both of these sources were part of prehistoric diets in Cyprus. Despite our consistent consultations with a team of zooarchaeologists, it was not possible to identify the fragmented faunal samples to a great detail of species. They all belong to herbivores, while the samples from Erimi and Kantou can -with some confidence- be attributed to large herbivore mammals. As was expected, all faunal data are consistent with consumption of C3 plant sources. Across Sotira and Kantou, the

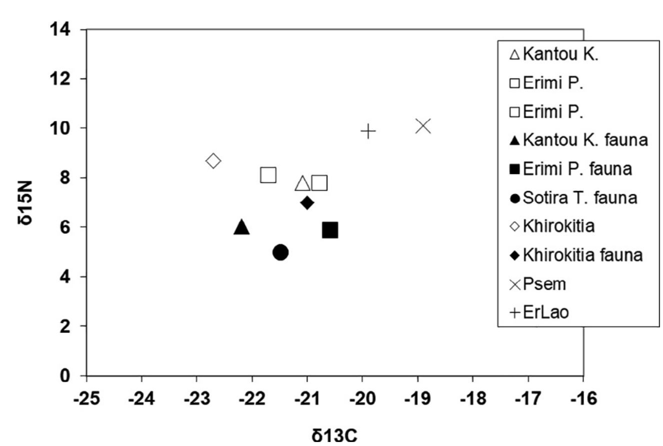
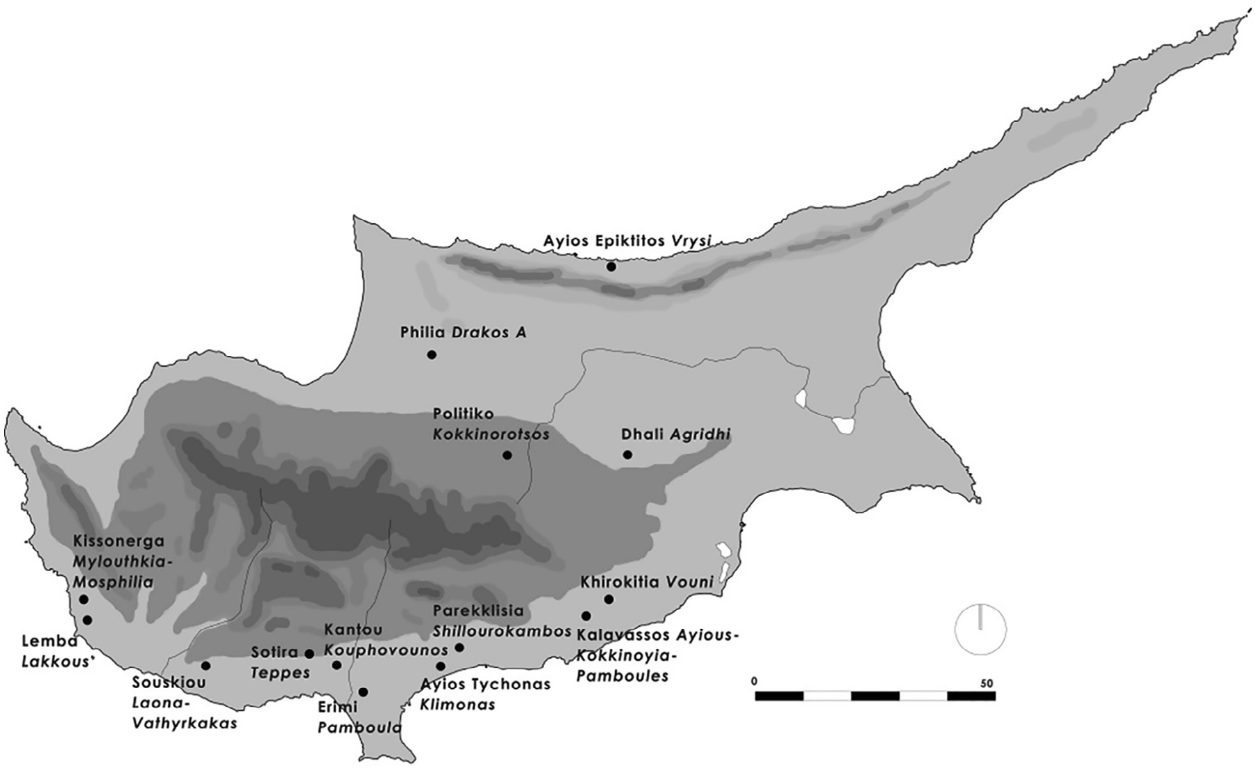
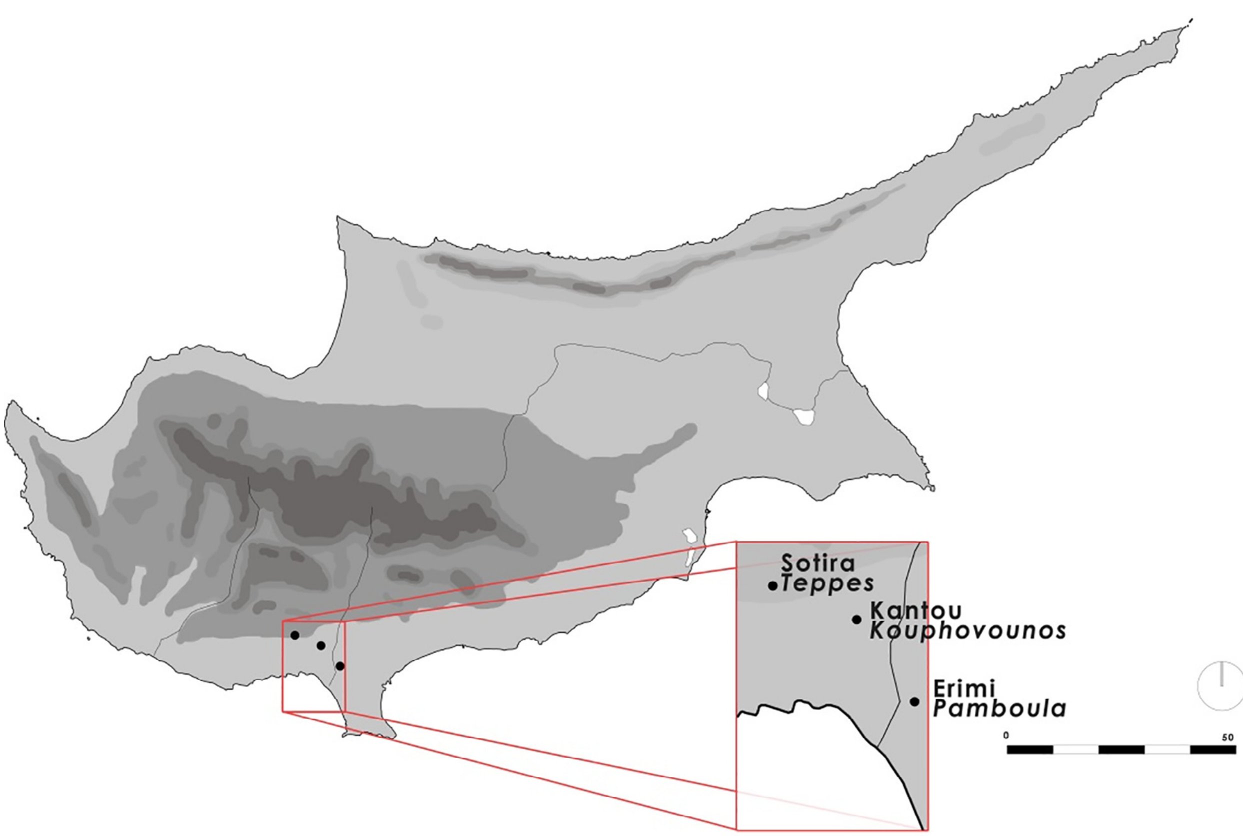


Fig. 5. Plot comparing data in this study with other published bone data from Cyprus (Khirokitia *Vouni*: Neolithic, Lange-Badre and Le Mort, 1998, Psematismenos *Trelloukkas*: Early Bronze Age, Goude et al., 2018, Erimi *Laonin tou Porakou*: Bronze Age, Sciré-Calabrisotto, 2017).



Map. 6. Map of Cyprus with sites mentioned in the text (prepared by A. Marda).



Map. 7. Map of Cyprus with sites under investigation by the NCCP (prepared by A. Marda).

faunal values are quite closely clustered, with low $\delta^{13}C$ potentially indicative of the location of the animals on the hilly sites. A previous study on faunal material from Neolithic Khirokitia also reports similar, depleted $\delta^{13}C$ values (Lange-Badre and Le Mort, 1998). On the contrary, in the Neolithic of the Greek mainland (Papathanasiou, 2015) $\delta^{13}C$ values as a whole appear enriched by at least 2‰ on average over those of Neolithic Cyprus, introducing for Greece the debate on the consumption of C4 plants (as of yet unidentified). The single sample from Erimi has more positive $\delta^{13}C$ values, which is perhaps indicative of foraging in a less wooded terrain than the animals from Sotira and Kantou. However, this slight enrichment is not reflected in the human values and, therefore, at present we cannot use it as an indication of general herding or foraging practices.

5. Conclusions

In relation to the initial objectives of this study, it is possible to summarise the following: regarding the evaluation of preservation (Objective 1), it was noted here that indeed collagen quality is gravely affected. Chronological age seems to be the factor contributing more crucially to the poor results, a fact that was observed in previous studies as well. Any future projects should take this point into account and should try to substantially raise the number of samples analysed, as it seems highly likely that a large percentage will fail to yield acceptable results. Regarding the contribution of different sources into diets (Objective 2), the results are inconclusive. In relation to the data from mainland Greece, where agropastoralism is the norm for this time period, the Cypriot samples are enriched in $\delta^{15}N$. If extra-dietary factors are excluded, it is rendered possible that a higher input of terrestrial protein (meat and milk) was making its way into human diets. This fact, along with the recorded abundance of deer bone on the island (e.g. Croft, 1991; Wasse, 2007, 61), can be used as an indication of a different, mixed economic model, involving important contributions from hunting. Although the dominance of deer in zooarchaeological assemblages is established, further work is admittedly needed in order to strengthen the identification of dietary patterns during this time period. Concerning Objective 3, the recovered palaeopathological information is rather limited due to poor preservation and the loss of previously published skeletal material. Nonetheless, the reexamination of old material demonstrates the potential contribution of paleopathology to the study of interpersonal conflict or everyday activities.

Overall, the information from Sotira *Teppes*, Kantou *Kouphovounos* and Erimi *Pamboula* discussed here offers a glimpse on the everyday life and subsistence in Neolithic and Chalcolithic Cypriot communities. It further suggests that the application of advanced analytical techniques in the study of skeletal remains may enrich the available evidence, even if the sample is small and poorly preserved.[1]

CRediT authorship contribution statement

Ioannis Voskos: Conceptualization, Methodology, Investigation, Resources, Writing - original draft, Writing - review & editing, Visualization, Supervision. **Efrossini Vika:** Methodology, Formal analysis, Investigation, Resources, Data curation, Writing - original draft, Writing - review & editing.

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[1] Tables 1-3 contain the available information on burials and the osteoarchaeological material from Neolithic-Chalcolithic sites according to the original publications. All the new information deriving from the reexamination conducted by Dr Vika is presented and discussed in subsections 2.2.3 and 4.

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