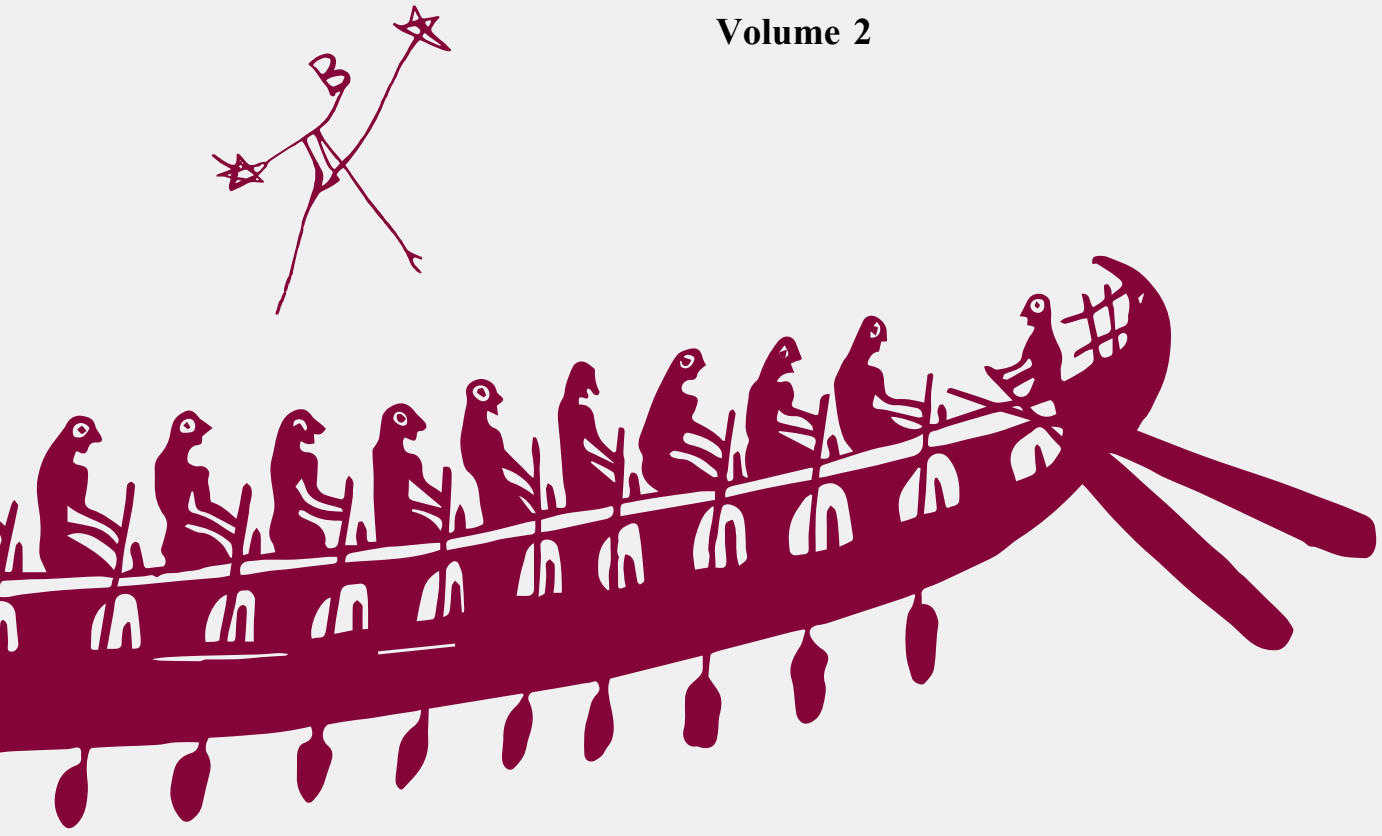
EUBOICA II

Pithekoussai and Euboea between East and West

Proceedings of the Conference
Lacco Ameno (Ischia, Naples), 14-17 May 2018

Teresa E. Cinquantaquattro, Matteo D'Acunto and Federica Iannone

Volume 2



Napoli 2021

UNIVERSITÀ DI NAPOLI L'ORIENTALE
DIPARTIMENTO DI ASIA AFRICA E MEDITERRANEO

AION

ANNALI DI ARCHEOLOGIA E STORIA ANTICA

Nuova Serie | 28

2021 | Napoli

ANNALI
DI ARCHEOLOGIA
E STORIA ANTICA

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Volume 2

UniorPress
Napoli 2021

ISSN 1127-7130

Abbreviazione della rivista: *AIONArchStAnt*

Quarta di copertina: Pithekoussai (Ischia), T. 500, sigillo del Lyre Player Group
(rielaborazione grafica UniorPress)

Sovracopertina: nave dipinta sul cratere corinzio del LG nel Royal Ontario Museum di Toronto, inv. C.199 (disegno S. Verdan); e costellazione incisa su un cratere del LG di fabbrica pitecusana, trovato nell'area di S. Restituta a Pithekoussai, Ischia
(rielaborazione grafica M. Cibelli)

I contributi sono sottoposti a *double blind peer review* da parte di due esperti,
esterni al Comitato di Redazione

I contributi di questo volume sono stati sottoposti a *peer review* da parte di:
Ida Baldassarre, Laura Ficuciello, Fausto Longo, Eliana Mugione,
Giacomo Pardini, Carmine Pellegrino, Alfonso Santoriello, Michele Scafuro

ABBREVIATIONS

Above sea-level: above s.l.; Anno Domini: AD; and so forth: etc.; Before Christ: BC; bibliography: bibl.; catalogue: cat.; centimeter/s: cm; century/ies: cent.; chap./chaps.: chapter/chapters; circa/approximately: ca.; column/s: col./cols.; compare: cf.; *et alii*/and other people: *et al.*; diameter: diam.; dimensions: dim.; Doctor: Dr; especially: esp.; exterior: ext.; fascicule: fasc.; figure/s: fig./figs.; following/s: f./ff.; fragment/s: fr./frs.; for example: e.g.; gram/s: gm; height: h.; in other words: i.e.; interior: int.; inventory: inv.; kilometer/s: km; length: ln.; line/s: l./ll.; maximum: max.; meter/s: m; millimeter/s: mm; mini- mum: min.; namely: viz.; new series/nuova serie etc.: n.s.; number/s: no./nos.; original edition: orig. ed.; plate/s: pl./pls.; preserved: pres.; Professor: Prof.; reprint: repr.; series/serie: s.; sub voce: *s.v.*; supplement: suppl.; thick: th.; tomb/s: T./TT.; English/Italian translation: Eng./It. tr.; volume/s: vol./vols.; weight: wt.; which means: scil.; width: wd.

Abbreviations of periodicals and works of reference are those recommended for use in the *American Journal of Archaeology* with supplements in the *Année Philologique*.

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EUBOEAN, EASTERN AND INDIGENOUS PEOPLE: A BIOARCHAEOLOGICAL INVESTIGATION OF ANCIENT PITHEKOUSSAI (8TH-7TH CENTURY BC, ISCHIA ISLAND, CAMPANIA)*

Melania Gigante, Alessandra Sperduti, Ivana Fiore, Francesca Alhaique, Luca Bondioli

Introduction

The most recent contributions of funerary archaeology are based on the interdisciplinary approach, which integrates historical-archaeological evidence with environmental and biological records[1].

Archaeozoology, archaeobotany, and the analysis of human skeletal remains provide a deeper understanding of funerary rituals and facilitate the reconstruction of the biocultural processes and adaptations of past communities[2].

Where human remains are concerned, skeletons provide information on palaeodemography, palaeopathology, palaeonutrition, mobility, and ancestry both at the individual and population levels[3].

The analysis of single individuals allows for the assessment of "osteobiographies"[4], i.e., the life history of the deceased, through the joint and integrated analysis of different moments and aspects of their lives. On the one hand, this operation allows for a better understanding of the complex relationships between the multiple factors and events (e.g., growth, health and stress, reproduction, mobility, senescence) experienced in the course of life; on the other hand, defining individuals' osteobiographies aims to establish identity and social role, as also emerging from the funerary rituals. While it is true that social relationships can affect the biology of individuals, the opposite is equally true. Sex, age, origin, and the health conditions of individuals are not just biological definitions. They are also parameters that can determine status within a community and influence multiple relationships with other social actors[5].

Nevertheless, reconstructing past social structures, hierarchies, traditions, social identities, or sex/gender relations based on funerary evidence is challenging since tombs only partially reflect the original socio-demographic composition of a given community. More often, skeletal samples from archaeological contexts are the outcome of cultural, biological, and environmental filters that are not always quantifiable[6].

This paper discusses the results of the gross morphological and osteometric assessment con-

* This study, part of more comprehensive research for the reconstruction of Pithekoussai's funerary landscape (Gigante *et al.* 2021) mobility and society, was encouraged by synergistic and collaborative work between the "Servizio di Bioarcheologia" of "Museo delle Civiltà" (formerly, "Museo Nazionale Preistorico Etnografico L. Pigorini" at Rome) and the "Soprintendenza Archeologia, Belle Arti e Paesaggio per l'Area Metropolitana di Napoli", which granted access to Pithekoussai's skeletal collection. We would like to thank Dr Filippo Maria Gambari, Prof. Matteo D'Acunto, and Prof. Alessia Nava, Dr Carmen Esposito for their help, support, and fruitful discussions around a pile of poorly preserved but still exciting skeletal remains. A special thanks to Prof. Teresa Elena Cinquantaquattro and Prof. Bruno d'Agostino for providing essential information about Pithekoussai's tombs, and for their valuable suggestions on the intricate and still puzzling Pithekoussai's evidence. Abbreviations in use: PTH I (Buchner's excavations, 1952-1961: Buchner – Ridgway 1993); PTH II (Buchner's excavations, 1965-1982, unpublished). We would also like to thank Dr Rachele Salerno for her English language review of the manuscript.

[1] Pearson 1999.

[2] Larsen 1997; Katzenberg – Saunders 2000; Wright – Yoder 2003; Buikstra – Beck 2010.

[3] Sperduti *et al.* 2018.

[4] Hosek – Robb 2019.

[5] Baker – Bolhofner 2014; Fay 2006; Marsteller – Torres-Rouff – Knudson 2011; Roberts 2016; Kieffer 2017.

[6] Pearson 1999; d'Agostino 2011; Sperduti *et al.* 2018.

ducted so far on human and faunal remains of burials dated from the mid-8th to the 7th century BC at Pithekoussai's necropolis.

By integrating human osteological data with taphonomic observations and the study of faunal remains in the tombs, this paper provides an unprecedented characterisation of the funeral practices of Pithekoussai's community.

Material

The archaeological setting

The necropolis of Pithekoussai is located in San Montano Valley, adjoining the modern village of Lacco Ameno, in the northwestern corner of Ischia Island, in the Gulf of Naples.

According to historiographical sources, around 775-750 BC, Euboeans from the cities of Chalkida and Eretria, founded Pithekoussai, the oldest Greek settlement in the western Mediterranean[7].

At the end of the eighteenth century, the local scholar Francesco De Siano first identified Pithekoussai's necropolis[8]. However, modern archaeological excavations did not start until 1952. The first research campaign, led by Giorgio Buchner, took place between 1952 and 1961. Two adjoining areas (A and B), measuring roughly one thousand square meters, were investigated and more than 700 graves were uncovered. Secondary cremations, primary inhumations, and *enchytrismoi* were recovered side by side.

Buchner's excavations continued from 1965 until 1982, thanks to the support of the "Soprintendenza delle Antichità di Napoli". However, archaeological investigations at the site are still incomplete.

In 1993, graves from one to 723 were published as *Pithekoussai I* (*hereinafter* PTH I). Figure 1 shows a graphic re-elaboration (see Methods) of the graves' spatial distribution according to the three stratigraphic levels recognized in the PTH I area.

In 2012, the "Soprintendenza Archeologia, Belle Arti e Paesaggio per l'Area Metropolitana di Napoli" created a research group to analyse the unpublished information about the group of tombs investigated between 1965 and 1982 (*hereinafter* PTH II). This latter group included a batch of about five-hundred tombs, dated from the mid-8th century BC up until the Roman period.

Pithekoussai's graves unveiled remarkable variations in material culture assemblages and funerary customs. On the one hand, Geometric Euboean pottery was largely documented at Pithekoussai, as we would expect in the Euboean settlement. On the other hand, evidence of proto-Corinthian, Levantine, Rhodian and Phoenician artefacts, eastern exotica or *orientalia*, as well as vessels and products from the indigenous world have provided a more intricate picture of Pithekoussai's society[9].

Furthermore, not only is the necropolis characterised by the co-existence of inhumations and cremations but also by the intentional overlapping of the tombs through time. The second phenomenon, defined as "agglutination" by Buchner[10], generally involves cremation cairns. Concerning the osteological material, the agglutination may have resulted in a significant admixture of the skeletons because of their fragmented state. The use of shared *ustrina,* which appears to have been customary at Pithekoussai*,* may have also caused the skeletons to become accidentally mixed. Moreover, the absence of the ritual of non-perishable urns for collecting the cremated remains may have induced some degree of stratigraphic contamination, which often occurred in the aforementioned agglutination.

Finally, according to written and iconographic sources, ritual gestures in both cremations and inhumations included the deposition of faunal remains as offerings[11].

Pithekoussai's skeletal and dental collection

The morphological assessment was performed on Pithekoussai's cremations and inhumations, which chronologically range from the mid-8th to the 7th century BC. Table 1 reports the suggested

[7] Str., V, 9; Liv. *Auc.,* VIII.

[8] Buchner – Ridgway 1993.

[9] Buchner – Ridgway 1993; d'Agostino 2011.

[10] Buchner – Ridgway 1993.

[11] *Il.* IX 465–469; Hdt. 2.38, 2.39, 2.40, 2.41, 2.42; O' Day – Van Neer – Ervynck 2004.

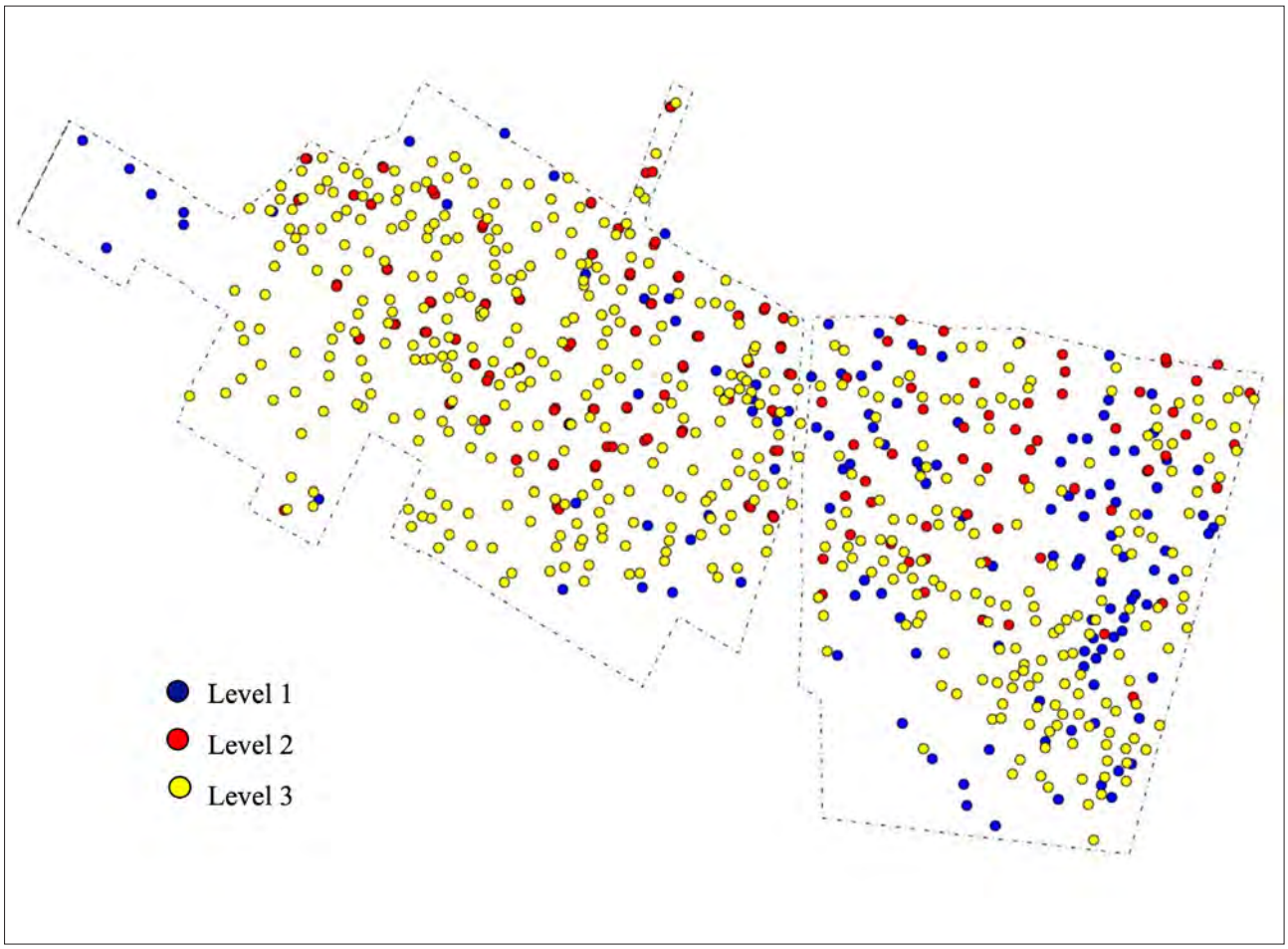

Fig. 1. Spatial distribution of the PTH I tombs by the three stratigraphic levels identified in Buchner – Ridgway 1993: *blue dots* = level 1; *red dots* = level 2; *yellow dots* = level 3

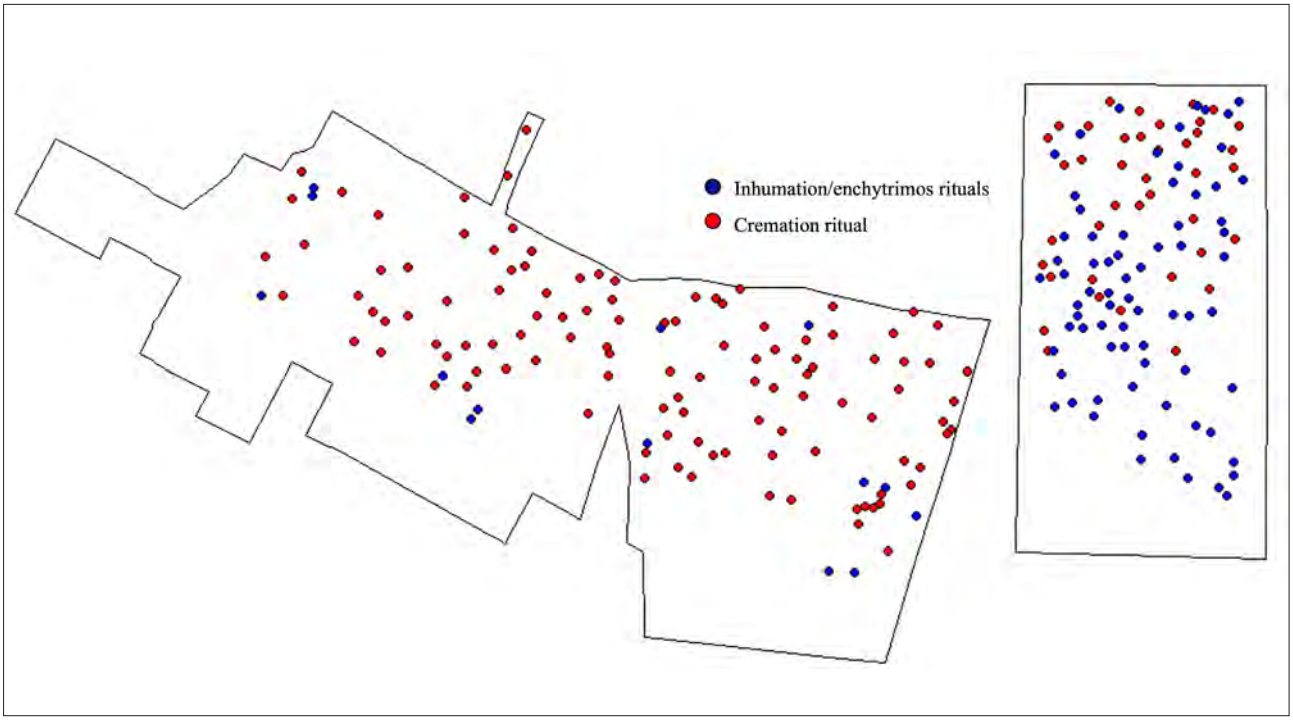

Fig. 2. Spatial distribution of the tombs made available for this research from the PTH I and PTH II: *blue dots* = inhumations and *enchytrismoi*; *red dots* = cremations

date ranges and abbreviations used in this study following Buchner and Ridgway[12].

Period	Abbreviations	Dates
Late Geometric I	LG I	ca. 750-725 BCE
Late Geometric II	LG II	ca. 725-675 BCE
Middle Proto-Corinthian	MPC	ca. 675-650 BCE

Table 1. Chronology for the early periods of Pithekoussai's necropolis (mid-8th to 7th century BC, Buchner – Ridgway 1993)

Topographically, the funerary record here analysed pertains to PTH I (Buchner's excavations, 1952-1961[13]) and PTH II (Buchner's excavations, 1965-1982) (Fig. 2).

In 2015, the "Soprintendenza Archeologia, Belle Arti e Paesaggio per l'Area Metropolitana di Napoli" authorised the relocation of Pithekoussai's skeletal collection from the "Museo Archeologico Nazionale di Villa Arbusto" in Lacco Ameno (Ischia Island, Naples) to the "Servizio di Bioarcheologia" of the "Museo delle Civiltà" (Rome). A study aiming to determine the palaeodemographic profiles coupled with the diachronic information on the residential mobility patterns within Pithekoussai's society, through $^{87}Sr/^{86}Sr$ isotope ratio analysis of tooth and bone mineralised tissues is under development[14].

This study analyses 256 tombs: 104 tombs from PTH I (88 cremations, 15 inhumations, 1 *enchytrismos*) and 152 tombs from PTH II (55 cremations, 84 inhumations, 13 *enchytrismoi*).

Overall, this study includes 143 cremations, 99 inhumations, and 14 *enchytrismoi*.

Massive diagenetic alterations affect the preservation of human remains from inhumations. Secondary volcanic phenomena characterise the geological history of Ischia Island[15]. Across Lacco Ameno Bay, where the necropolis is located, fumarolic activities and hot spring waters are attested even today. The warm-to-hot volcanic sediments and the elevated geothermal gradient have created a burial environment unfavourable for skeletal preservation at both macroscopic and biomolecular levels, whereas Ischia's soil is better suited to cremated bone preservation.

Previous studies

In the 1970s and 1990s, R. Munz and M.J. Becker led preliminary osteological investigations on several burials from PTH I[16].

Munz examined 123 inhumations, most of which yielded only fragments of skull, maxilla, and mandibula. The poor state of osteological preservation and the absence of morphological traits of sexual dimorphisms limited sex diagnoses for the individuals. Conversely, age-at-death estimations were performed «(…) according to the teeth growth rates found in an anatomy manual»[17].

Between 1991 and 1992, Becker conducted more extensive research. He analysed skeletal and dental remains from 17 inhumations and 112 cremations, dated from 750 to 675 BC. Two inhumations from the Hellenistic-Roman period were also included in the morphological assessment.

Becker focused not only on the individuals' basic bioanthropological analyses but also on attempting to ascertain the "ethnocultural identities" of the deceased, by combining material culture assemblages with a sort of biodistance analysis, based on non-metric traits of teeth. The sexing of the inhumed individuals was achieved by observing the dimorphic traits of post-cranium elements (e.g., long bone shaft diameters), while age-at-death was estimated through the evaluation of permanent and deciduous teeth development. Concerning cremations, the evaluation of the pyre temperature was performed by identifying the macroscopic alterations in the colour and shapes of the bones after burning.

The present research allowed for the re-individualisation of the skeletons from PTH I which were analysed by Munz and Becker. Gross morphology and osteometric analyses were also extended to the unpublished skeletal series from PTH I and PTH II. Although faunal remains were never discussed in the previous study but will be considered in this study since they represent an integral part of funerary customs.

Methods

The analysis focused on investigating both taphonomic and biological parameters to (1) identify

[12] Buchner – Ridgway 1993.

[13] Buchner – Ridgway 1993.

[14] Gigante – Bondioli – Sperduti 2012-2013.

[15] de Vita *et al.* 2006; D'Antonio *et al.* 2013.

[16] Munz 1970; Becker 1995, 1999.

[17] Munz 1970.

commingled faunal and human remains; (2) assess the biological composition of the skeletal assemblage for each grave unit; (3) estimate the Index of the Minimum Number of Individuals (MNI) for each tomb/deposition; and (4) determine the demographic profile of the skeletal population.

The MNI index has been performed estimating: a. the presence of multiple representations of the ipsilateral bone/tooth; b. presence of morphological distinct skeletal and dental elements, i.e., different ages at death in a single burial context[18]. Double cremations *sensu stricto*, namely intentional double cremations, have been confirmed through the quantitative relationships in mass and representativeness of the individuals[19].

Different methodologies for the estimate of sex, age-at-death, and other biological parameters have been adopted on the cremated and inhumated individuals.

All statistical analyses, graphic outputs, and graves' spatial distribution rendering were made with the statistical package R (ver. 4.0.2)[20].

Inhumations

Inhumed remains were scored into four categories of representativeness/completeness: (1) scarce representation (<25% of the skeleton); (2) low representation (25-50% of the skeleton); (3) good representation (50%-75% of the skeleton); and (4) high representation (>75% of the skeleton).

Age-at-death of non-adult inhumed individuals has been estimated by the dental formation and the eruption of deciduous and permanent dentition[21]; long bone lengths[22]; the epiphyseal fusion of skeletal elements[23]. The indicators applied for the adult individuals were pattern and grade of tooth-wear[24]; degenerative changes of the pubic symphysis[25]; degenerative changes of the auricular surface of the ilium[26]; degenerative changes of the sternal end of the IV rib[27]. Age-at-death determinations are divided into eight age classes: 0-1 year; 1-5 years; 5-10 years; 10-15 years; 15-20 years; 20-40 years; >40 years; "generic adult" (>20 years).

Sex diagnosis for inhumed remains was performed by examining the sexually dimorphic morphological traits of the pelvis, cranium, and mandible[28].

Cremations

Fire and high temperatures destroy and modify the size, colour, mass, and shape of skeletal tissues[29] thus reducing the effectiveness of the standard morphological and osteometric techniques routinely adopted in the study of unburnt skeletons[30]. However, in the last few years, a wide range of more specific techniques for investigating cremation practices have been developed[31].

The analysis of the cremated remains focused on: (1) macroscopic observations of bones modifications (warping, shrinkage, colour and size changes) and fragmentation patterns to estimate any differential effects of fire on various skeletal parts for each individual, as well as intra-individuals[32]; (2) weight for each skeletal district (i.e., cranium and mandible; teeth; vertebrae; sternum and ribs; shoulder girdle; arm; hand and foot; pelvis; legs) as an indicator of selective collection of bones from the funeral pyre, and/or as an indicator of taphonomic (or post-depositional) contamination between two or more individuals[33]; (3) macroscopic identification of human and non-human bone remains for each funerary burial[34]; (4) age-at-death and sex assessment, as reported for inhumation series; whenever possible, sex determinations have been performed by the osteometric methods recently described in Cavazzuti *et al.*[35].

[18] Lambacher *et al.* 2016.

[19] Wahl 2008; Schmidt – Symes 2015.

[20] R Core Team (2020). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL https://www.R-project.org/.

[21] AlQahtani – Hector – Liversidge 2010.

[22] Scheuer – Black 2000; Ubelaker 2008.

[23] Cardoso 2008.

[24] Lovejoy *et al.* 1985.

[25] Klepinger *et al.* 1992.

[26] Lovejoy *et al.* 1985.

[27] Işcan – Loth – Wright 1984.

[28] Acsàdi – Nemeskéri 1970; Buikstra – Ubelaker 1994; Ubelaker – Volk 2000.

[29] Thompson 2015.

[30] Lemmers 2012.

[31] Boschin *et al.* 2015; Ellingham *et al.* 2015; Cavazzuti *et al.* 2019; Martyn *et al.* 2020.

[32] Holck 1986.

[33] Ubelaker – Rife 2008; Duday 2009; Adams – Byrd 2014; Osterholtz – Baustian – Martin 2014

[34] Whyte 2001.

[35] Cavazzuti *et al.* 2019.

Results

Two hundred sixty-seven individuals were identified from 256 tombs in this study. These include 117 individuals from 113 inhumations (102 pit graves and 15 *enchytrismoi*) and 150 individuals from 143 cremations. Table 2 illustrates the basic anthropological information of a selected skeletal sub-set.

Skeletons Id	Ritual	Sex	Age-at-death
755*	INH	UND	18-25 years
771*	CRM	F	>20 years
775	INH	UND	>20 years
779	INH	UND	20-30 years
805*	ENC	UND	perinatal
826*	CRM	UND	>20 years
841	INH	F	20-40 years
842	INH	UND	25-35 years
849	INH	M?	>40 years
863*	CRM	M?	20-40 years
916 A	CRM	F	>20 years
916 B	CRM	UND	1-5 years
917	CRM	M?	20-30 years
921	CRM	F	>40 years
925	CRM	F	16-20 years
926*	CRM	F?	>20 years
930 A	CRM	UND	>20 years
930 B	CRM	UND	16-20 years
931	CRM	F?	20-40 years
938*	CRM	M	20-40 years
939	CRM	UND	20-40 years
944 A*	CRM	F?	20-40 years
944 B*	CRM	M?	20-40 years
945*	CRM	UND	>20 years
946*	CRM	M?	>40 years
947	CRM	M	20-30 years
948	CRM	F?	>20 years
949*	INH	UND	5-6 years
950*	INH	M	>40 years
951*	INH	UND	5-6 years
955	INH	UND	4-6 years
956	INH	UND	1-3 years
957	INH	M	25-30 years
968	INH	UND	6-7 years
972	ENC	UND	perinatal
973	INH	UND	2-3 years
975*	INH	M	35-40 years
977	INH	UND	8-9 years
978	CRM	UND	20-40 years
981	CRM	M?	20-40 years
982	CRM	M?	>20 years
984*	CRM	M	20-40 years
989	CRM	M?	>20 years
993	INH	M	>40 years
995	CRM	UND	20-40 years
1002	CRM	F	>20 years
1006	INH	UND	1-5 years
1008	INH	UND	1-3 years
1011	INH	UND	4-6 years
1015	INH	F	30-40 years
1016*	INH	UND	1-3 years

Table 2. Sex and age-at-death determinations in Pithekoussai's skeletal sub-set. INH, *inhumation in pit grave*; ENC, *enchytrismos*; CRM, *cremation*; F = *female*; M = *male*; UND = *undetermined*; F? = *possible female*; M? = *possible male*. *Anthropological data available in Gigante – Bondioli – Sperduti 2012-2013

Inhumations and cremations do not distribute randomly in the sample analysed (Fig. 3) and inhumations predominate in PTH II. However, this depends on the dispersal of PTH I inhumations through the years and not on real differences in the two sectors of the necropolis.

The ritual treatment of the bodies and diagenetic factors had a strong negative effect on the preservation of bones and teeth from Pithekoussai (see Fig. 4 for an example). Most of the individuals fall in the first class of representativity, namely, poor representation (<25% of the skeleton) across the entire chronology of the site.

Out of the better-preserved skeletons, the inhumated male from Tomb 950 is a case study. The grave was located under the level of Cremations 938 and 937, both dated to LG II. The skeletal and dental assessment allowed us to diagnose the skeleton as a male, aged > 40 years at death. The body of PTH 950 was supine with the upper limbs stretched along the sides. More interestingly, leg irons constricted his feet. As personal items, he had a scarab and an iron tool. The latter was probably a blade, covered by ivory disks and interspersed with amber or wood elements[36]. The set from Tomb 950 is unusual and unique in Pithekoussai's necropolis, where weapons are completely absent. Figure 5 shows the brown-

[36] Cinquantaquattro 2012-2013.

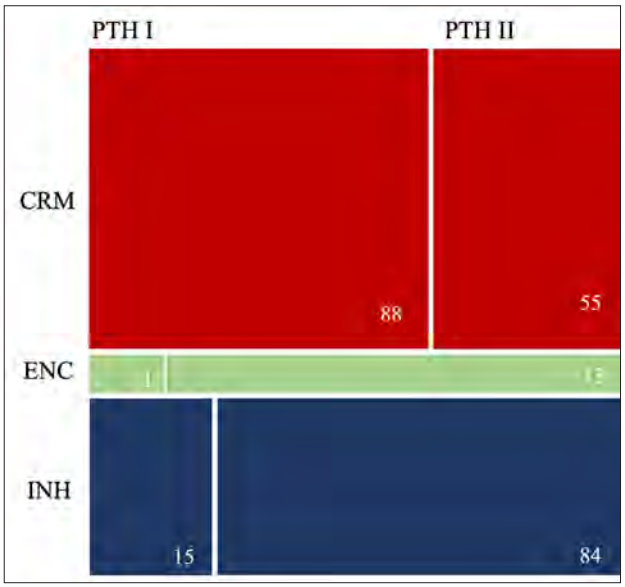

Fig. 3. Box plot of the distribution by rituals in PTH I and PTH II. CRM = cremations; ENC = *enchytrismoi*; INH = inhumations in pit graves

Fig. 4. The portion of maxilla and teeth from PTH 949S, PTH II

Fig. 5. Taphonomic alterations (brownish colour) of the cortical bone in tibiae, fibulae and foot bones in PTH 950. Inhumation 950, PTH II (Cinquantaquattro 2012-2013)

ish-reddish chromatic alteration of the periosteum in the anatomical segments that were in contact with iron objects.

The peculiarity of the funerary ritual induced the archaeologists to hypothesise that the individual was perhaps a leading figure in the indigenous community who died as a prisoner[37]. To investigate instances of interpersonal violence, the anthropological assessment of PTH 950 also focused on identifying traces of *perimortem* traumas. However, the examination yielded no evidence of violent death. The PTH 950 individual shows mild enthesitis in the Achilles tendon area on the left calcaneus only. Due to the different activities involving Achilles tendon disorders, we cannot confidently establish a link between this condition and the application of iron manacles in the later phases of the individual's life.

Regarding skeletal completeness in the cremation series, the burnt remains' weight is not normally distributed (Shapiro-Wilk normality test W = 0.774, p-value <0.01). As shown in Figure 6, the sample distribution deviates from the normality in both the more lightweight and the heavier ones.

Figure 7 illustrates the weight distributions in PTH I and PTH II subsamples. Individuals are highly unrepresented with median weights far from the expectation of ~ 1250-2000 grams[38] (PTH I median = 134.3 grams, PTH II median = 256 grams). Cremation weight significantly differs between the two series PTH I and PTH II. The weight of cremated remains in PTH I is significantly lighter than in PTH II (Wilcoxon rank-sum test with continuity correction W = 1701, p-value <0.01, one-sided test).

Figure 8 shows the distribution of weights according to the periods in the two excavation sectors. The weights change significantly across time (fig. 8, on the left; Kruskal-Wallis rank-sum test, Kruskal-Wallis chi-squared = 10.355, df = 3, p-value <0.05) with the minimum weights in the LG II period. However, over time PTH II constantly shows heavier cremated remains than PTH I (fig. 8, on the right).

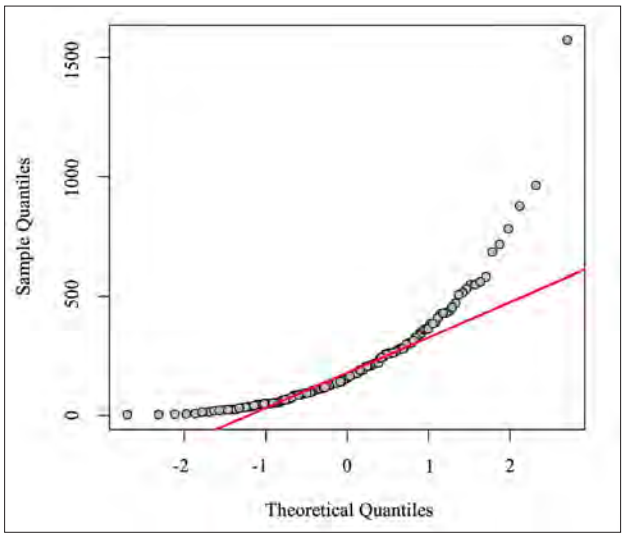

Fig. 6. Normal Q-Q plot (*quantile-quantile plot*) of the weights (in grams) in Pithekoussai's cremation series

Figure 9 (on the left) illustrates the chronological distribution of the MNI in the inhumation series. The percentage of more than one inhumed individual in inhumation tombs is 5.26% between LG I-LG II, and 4.88% in LG II. There is no evidence of double/multiple depositions in LG I and MPC periods. Figure 9 (on the right) illustrates the chronological distribution of the MNI in the cremation series. As for inhumations, double burial in the cremation series is rarely attested. The percentage of double burials is 9.68% in LG I and 3.56% in LG II. No double burials have been identified in the LG I-II and the MPC periods. Some differences can be recognized between the PTH I and PTH II samples. The latter shows a slightly higher frequency of double cremations compared to PTH I.

Enchytrismos 954 (PTH II) represents the only case of double deposition from the LG I-II period. Morphological assessment of the bones showed two different stages of skeletal development, resulting in an MNI of two. PTH 954 A is an individual of 3-4 age-at-death, represented by a single portion of the right hemimandible. Two deciduous teeth and one permanent tooth are still *in situ*: the mandibular first deciduous molar and the mandibular second deciduous molar have fully erupted, whereas the mandibular first permanent molar was in eruption. Conversely, a portion of petrous bone with dimensions compatible with a foetal

[37] Cinquantaquattro 2012-2013, and 2014.
[38] Warren – Maples 1997; Bass – Jantz 2004; Mays 2010.

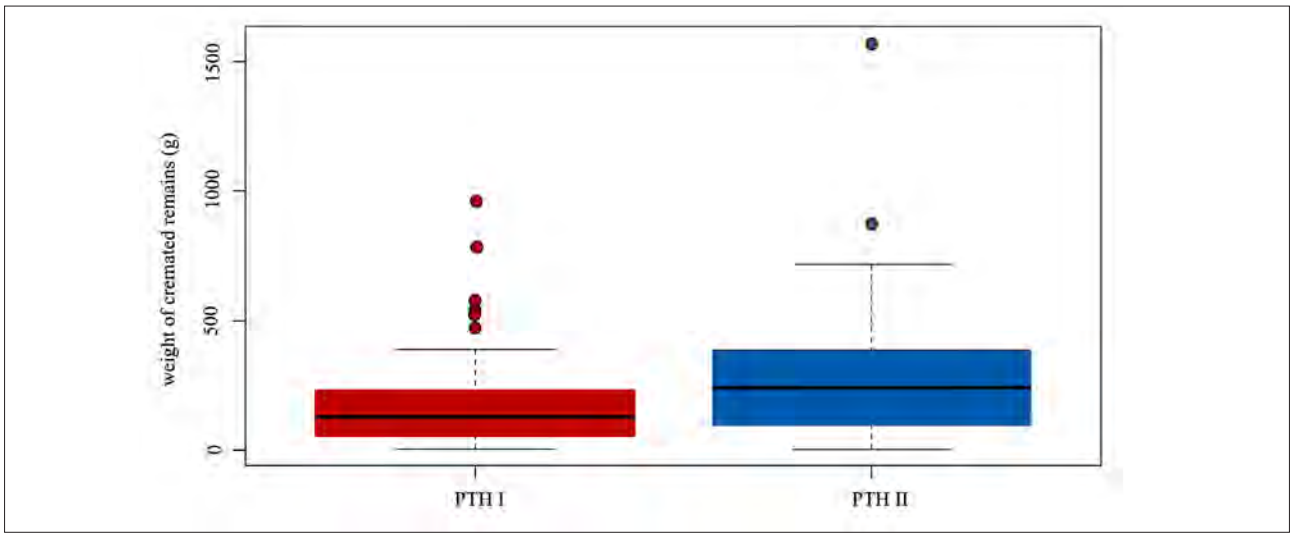

Fig. 7. Boxplot of the distribution of the cremation weights by PTH I and PTH II

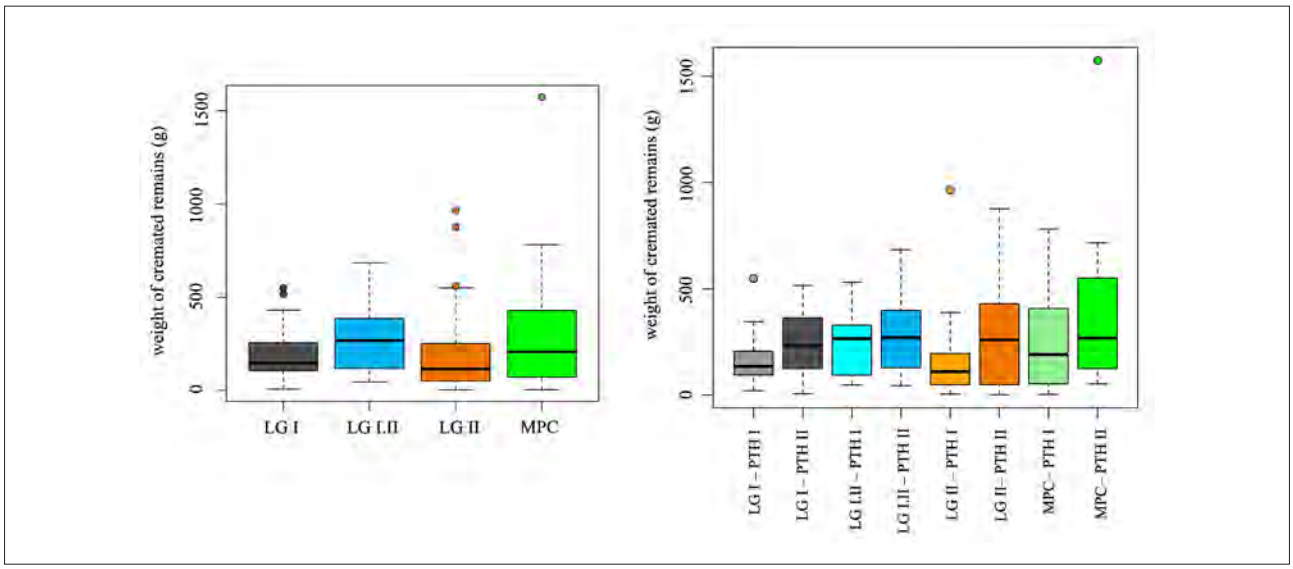

Fig. 8. Distribution of the cremation weights (in grams) by chronology and excavation areas (PTH I and PTH II). On the left: cremation weights by chronology; on the right: cremation weights by PTH I and PTH II and chronology

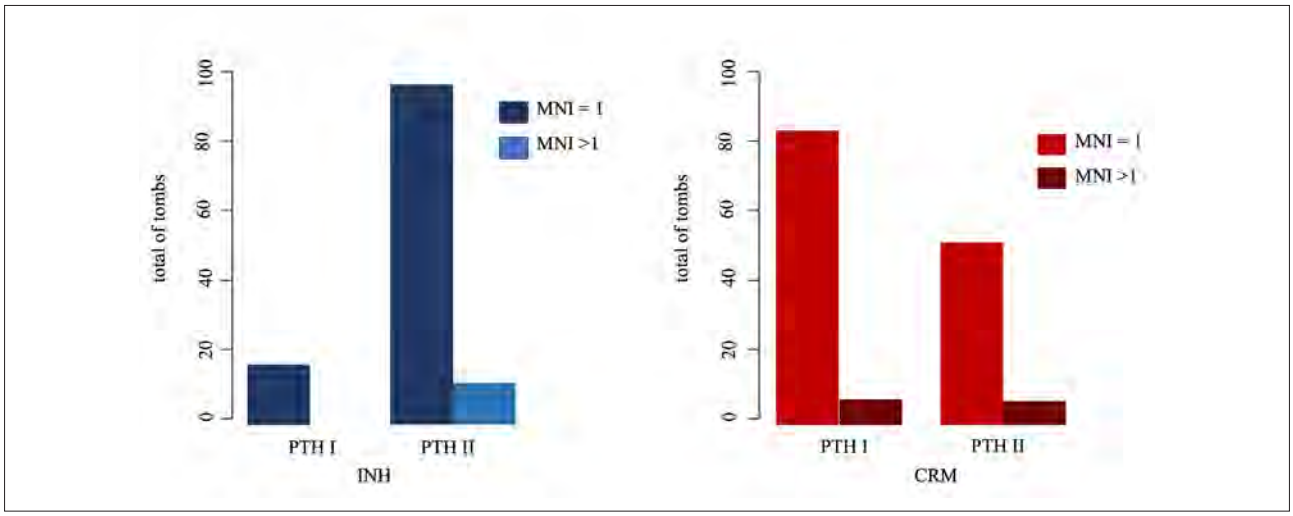

Fig. 9. Distribution of MNI Index (MNI = 1; MNI >1) in Pithekoussai's inhumation (on the left) and cremation (on the right) series

development stage represents the individual PTH 954 B[39].

Cremation 199, dated to LG I, is an example of double burial. Differences in the features of dimorphic traits in the skull and pelvis fragments[40], as well as different patterns of gracility and robustness in long bones portions, were used as the criterion to identify an adult female (PTH 199 A) and an adult male (PTH 199 B).

Similarly, LG I's Cremation 944 contained the commingled remains of two individuals (PTH 944 A and PTH 944 B). According to Buchner and Ridgway[41], the grave goods assemblage identified Cremation 944 as a female burial. The MNI was determined using the presence of ipsilateral anatomic elements and morphological and dimensional differentiation between skeletal elements. PTH 944 A is an adult female, characterized by female features of the skull and a general gracility of long bone portions[42]. PTH 944 B is an adult male, marked by male features of the skull and high robusticity in the postcranium.

The observation of the different developmental stages of the skeletons has allowed distinguish an adult female (PTH 916 A) and an infant (PTH 916 B) among the commingled cremated remains of burial 916 (LG II, PTH II subsample).

Palaeodemographic profile of Pithekoussai's skeletal sample

The diagnosis of sex was performed on skeletons aged greater than 15 years at death.

The completeness and representativeness of the individuals allowed the sex assessment in 76.6% of the cremated remains and 12.82% of inhumated remains. Overall, the males (n = 70) are more frequent than females (n = 60) with a sex ratio (M/F) of 1.17.

Figure 10 (upper box) illustrates the sex distribution in PTH I and PTH II. In PTH II, the sex ratio of 1.9 is significantly skewed toward males, while in PTH I subsample, females predominate

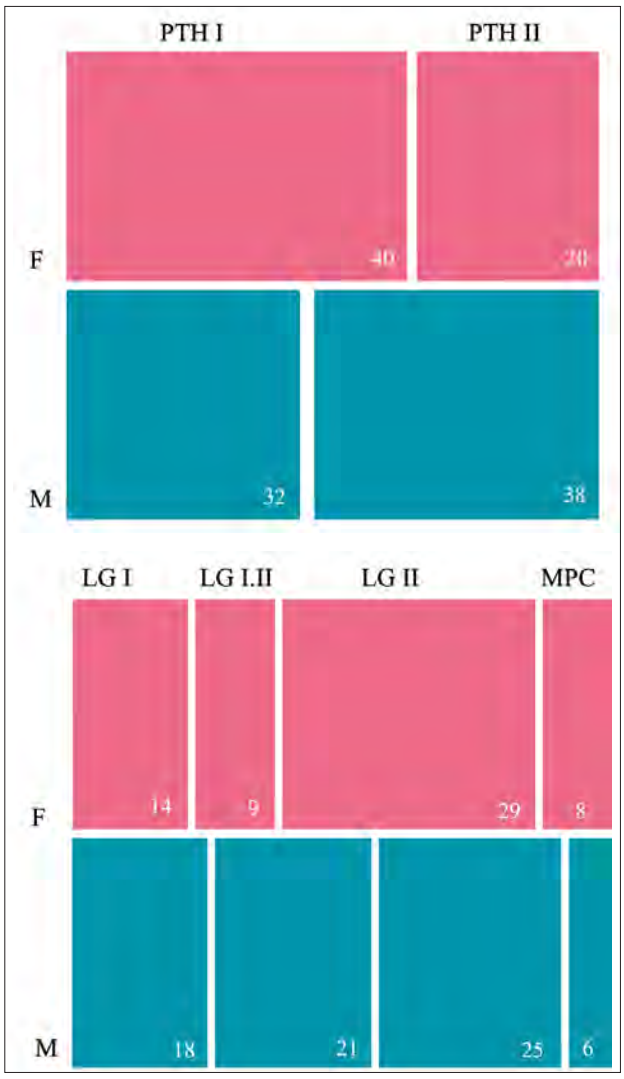

Fig. 10. Distribution of sex Pithekoussai's inhumation and cremation series. On the left: sex by excavation areas (PTH I and PTH II); on the right: sex by chronology. Numbers in the boxes are the row occurrence. F = female; M = male

(Pearson's Chi-squared test with Yates' continuity correction, chi-squared = 4.92, degrees of freedom= 1, $p< 0.05$). The distribution of males and females differs across the periods, and it is skewed in two out of four phases (fig. 10, lower box). In LG I, the sex ratio is 1.3; between LG I and LG II it is 2.5; in LG II it is 0.9; in MPC it is 0.8. However, the differences in sex ratios among periods are statistically not significant (Pearson's Chi-squared test with simulated p-value based on 10000 replicates, chi-squared = 5.14, p-value >0.05).

Overall, the percentage of individuals aged 1 to 15 years at death is 18.35 %, whereas newborns and early infants in their first year represent 7.11% of the skeletons (Table 3).

[39] Scheuer – Black 2000.

[40] Acsàdi – Nemeskéri 1970; Ferembach 1980; Buikstra – Ubelaker 1994; Hill 2000; Ubelaker – Volk 2000; Balci – Yavuz – Cağdir 2005.

[41] Buchner – Ridgway 1993.

[42] Symes *et al.* 2008 ; Cavazzuti *et al.* 2019.

Age class	Female	Male	Undetermined	Total
0-1	0	0	19	19
1-5	0	0	34	34
5-10	0	0	11	11
10-15	0	0	4	4
15-20	4	2	6	12
20-40	18	21	26	65
> 40	12	19	2	33
> 20	26	28	35	89
Total	**60**	**70**	**137**	**267**

Table 3. Sex and age classes in Pithekoussai's inhumation and cremation series (mid-8th to 7th century BC)

Age class	LG I	LG I-II	LG II	MPC	Total
0-1	4	10	4	1	19
1-5	13	7	11	3	34
5-10	3	1	6	1	11
10-15	1	1	2	0	4
15-20	4	2	6	0	12
20-40	10	22	26	7	65
> 40	11	7	12	3	33
> 20	16	13	47	13	89
Total	**62**	**63**	**114**	**28**	**267**

Table 4. Age classes in Pithekoussai's inhumation and cremation series (mid-8th to 7th century BC)

Following Bocquet & Masset[43], the so-called *Juvenile Index* – defined as the ratio between individuals aged 5-15 years at death and the adult subsample (age at death = >20 years) – was calculated. Generally, the Index values should range between 0.1 to 0.3, if the sample is an unbiased sample of a natural population[44]. *Juvenile Index* at Pithekoussai is 0.08. When compared with modelled child mortality rates in ancient and modern populations, this value is smaller than the lower end of the expected range. This result indicates a bias in the demographic representativeness of the sample.

Figure 11 and Table 4 describe the age-at-death distribution by chronology. The mortality profile confirms the strong underrepresentation of newborns and infants aged 0-1 year (5% in LG I; 16.18% in LG I-LG II; 3.60% in LG II; 3.57% in MPC). Diachronic differences are also attested in children aged 1-5 years and 5-10 years, respectively 20% and 5% in LG I; 11.76% and 1.47% between LG I-LG II; 9.91% and 5.41% in LG II; 10.71% and 3.57% in MPC. Where adult age classes are concerned, the highest concentration of skeletons falls in the 'generic adult' class (>20 years; 33.3%), followed by the 20-40 years age class (24.34%). Mortality drops to 17.74% in the fourth decades of life (mature adults) in LG I out of 16.12% of skeletons aged 20-40 years.

Overall, 33.3% of skeletons aged 15-20 years are female.

Figure 12 shows the distribution of females (*on the left*) and males (*on the right*) by chronology. Mortality profiles reveal no significant differences between males and females aged 20-40 years and >40 years in LG I (respectively, 4.83% males and 6.45% females aged 20-40 years; 9.67% males and 8.06% females aged >40 years). Between LG I and LG II, males show the highest mortality rates in the 20-40 years age class (15.15%) and >40 years (9.09%) compared to the females (6.06% in 20-40 years; 1.52% in >40 years). The sex and age-at-death distribution in LG II exhibit no differences in male and female mortality rates, respectively 6.31% in 20-40 years; 5.41% and 4.50% in >40 years. This trend is not confirmed for MPC, whereas the female mortality rate is higher in the 20-40 years age class (10.71%) than males (3.57%).

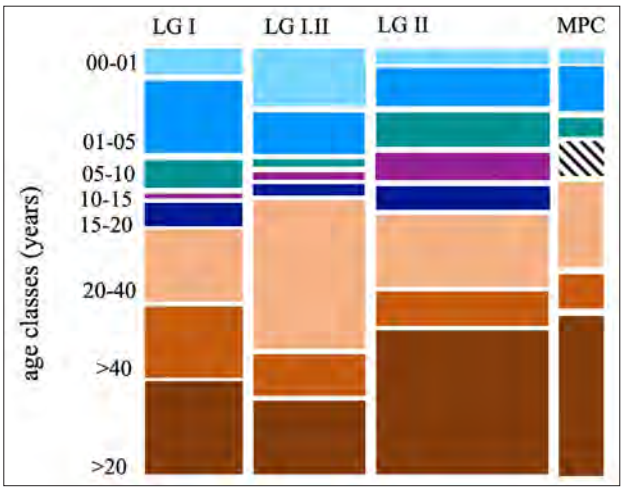

Fig. 11. Distribution of age classes (in years) by chronology in Pithekoussai's inhumation and cremation series

[43] Bocquet-Appel – Masset 1982, and 1996.
[44] Bocquet-Appel – Masset 1982, and 1996.

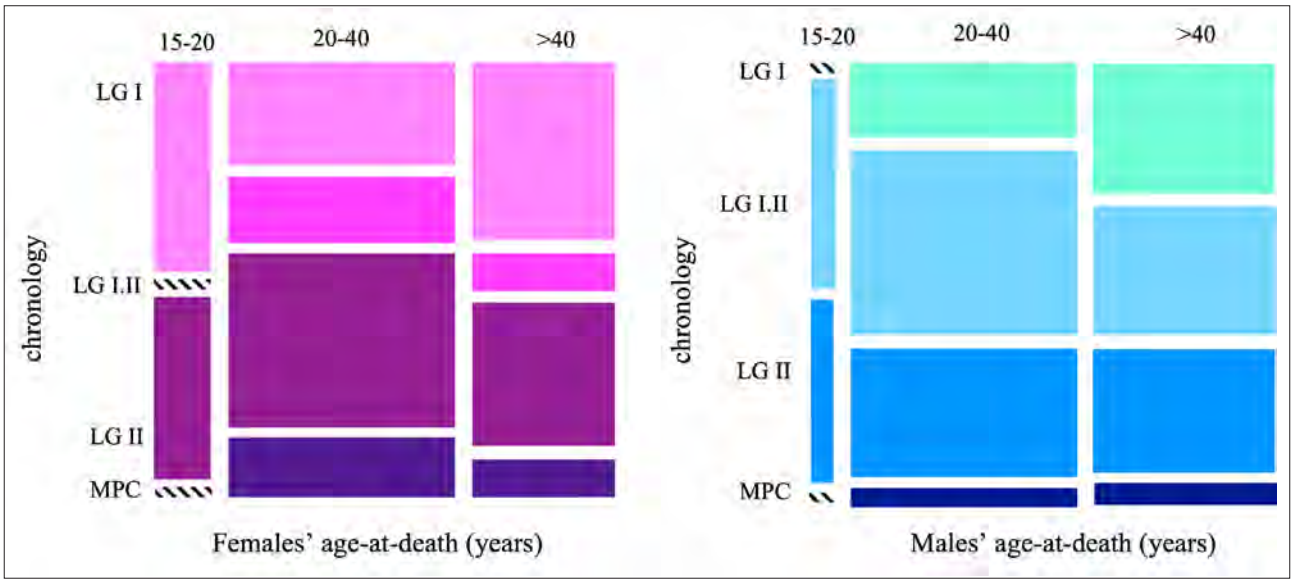

Fig. 12. Distribution of adult females (on the left) and males (on the right) by chronology in Pithekoussai's inhumation and cremation series

Figure 13 highlights the differences in cremated remains' weights by sex and chronology of tombs. Pithekoussai's cremations show average weights between 7.7 and 1574 grams for males and between 14.9 grams and 964.76 grams for females. Although higher cremated remains' weight in males is constant through time, the weight distribution witnesses the very low representation level of the skeletons in both male and female subsamples.

Skeletal and Oral Diseases Observations

Although the poor preservation of the skeletal material did not allow us to systematically record anatomic variants and oral and skeletal diseases, we report here some selected observations. Degenerative diseases included cases of age-related osteoarthritis or spondylosis. Concerning inhumations, axial and appendicular skeletal districts were preserved in 4.67% of individuals (5 out of 107

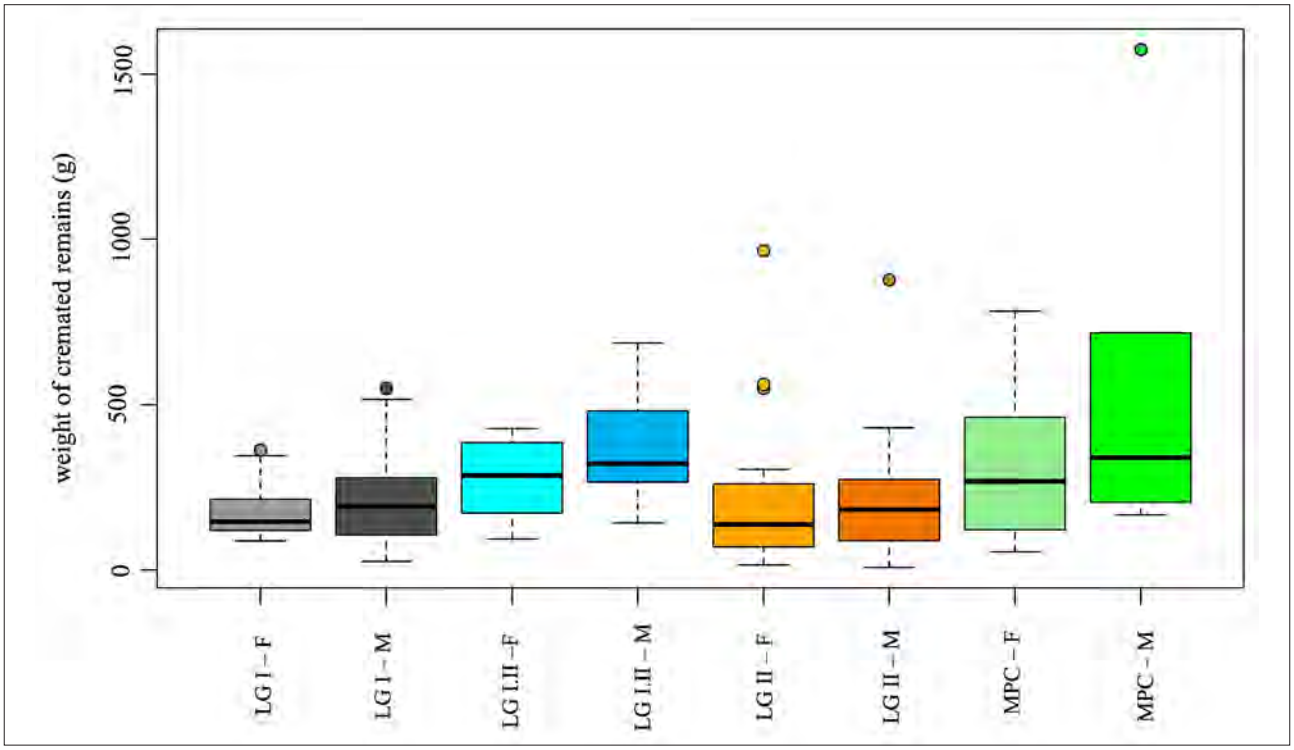

Fig. 13. Distribution of the cremation weights (in grams) by sex and chronology in Pithekoussai's cremation series

individuals), allowing us to observe possible degenerative lesions of the joints, although no individuals were affected by osteoarthritis, spondylosis, or Schmörl's nodes. Better preservation of the postcranial districts in the cremation series allowed us to detect different stages of degenerative lesions on the vertebrae in 47 out of 142 cases (33.09%). Where observable, degenerative lesions are present in 16 out of 53 females (30.18%) and 25 out of 58 males (43.10%).

Teeth, maxillae, and mandibulae were examined for dental caries, periapical lesions, periodontitis, and dental hypoplasia. One adult female out of the 48 examined individuals had caries. The teeth of the subadults were caries-free. Hypoplasia lesions are attested in six cases (two individuals aged 1-5 years; three individuals aged 5-10 years and one individual aged 20-30 years) out of 76 inhumed individuals analysed. Ante Mortem Tooth Loss (AMTL) was attested in 3 adult males out of 48 individuals examined for inhumation series and in three adults (1 female and 2 undetermined) out of 61 observable individuals from the cremation series.

Inside the mortuary practices: the presence of faunal remains

In addition to the human remains, this study identified faunal remains in 52 tombs (20.55%). Due to the high fragmentation, the incomplete state of the skeletons, and the heat-induced bone changes of specimens, it was not possible to establish the taxonomy of the faunal remains at the order or species level for 39.06% of cases. Faunal elements associated with cremations exhibited traces of combustion similar to those observed in the burnt human remains. This evidence is compatible with the simultaneous cremation of humans and animals (Fig. 14). Animal remains in the inhumation subsample are constantly unburnt and present only in a few cases (Inhumations 508; 903; 1006; 1019).

Overall, *Ovis/Capra* and *Sus domesticus* remains are attested respectively in 36.56% and 25% of graves with faunal findings; more sporadically, *Equidae*, *Canis familiaris,* and *Aves* (3.84%) followed by *Bos taurus* (1.92%). Considering only the identified remains, 11.53% of the graves yielded portions of multiple taxa.

Fig. 14. Faunal specimens from Cremations 199 and 208 (PTH I). On the left and upper on the right (A-B): *Ovis/Capra* remains from Cremation 199; lower on the right (C): Galliformes from Cremation 208

Analysing the presence of faunal material by chronology, the results show no significant differences in LG I and LG II (26.32% in LG I, 27.42% between LG I and LG II, and 29.95% in LG II). Conversely, only 3.57% of tombs in MPC exhibit faunal remains (Pearson's Chi-squared test with simulated p-value based on 10000 replicates, chi-squared = 0.17211, df = NA, p-value> 0.05). This trend is extremely clear in the *Ovis/Capra* and *Sus domesticus* distributions, which exhibit a progressive decrease between LG II and MPC (respectively, 8.77% and 7.02% in LG I, 8.49% and 4.72% in LG II, 3.57 % and 0% in MPC) (Pearson's Chi-squared test with simulated p-value based on 10000 replicates, chi-squared = 0.45947, df = NA, p-value > 0.05).

In general, animal offerings were found in both infant and adult graves (Pearson's Chi-squared test with simulated p-value based on 10000 replicates, chi-squared = 7.7699, p-value < 0.05). Where infants are concerned, faunal remains were associated with inhumed individuals aged 1-5 years at death in 5.76% of the graves.

Among burials with the contemporary deposition of animal and human bones, cremations are

predominant (92.3% cremations and 7.7% inhumations).

The distribution of the faunal remains in single cremations revealed differences by sexes. Where observable, female cremations yielded only portions of *Ovis/Capra* and *Sus domesticus*. Conversely, male cremations are characterized not only by *Ovis/Capra* and *Sus domesticus* but also by *Bos taurus* and *Canis familiaris* (11.76%). Among multiple cremations, in 3 cases out of 4, the cremations pertain to a man buried with a woman and portions of Aves, *Ovis/Capra,* and *Sus domesticus*.

Discussion and Conclusions

This study analysed 256 tombs of Pithekoussai's necropolis (PTH I and PTH II). The tombs dated to the early stages of Pithekoussai's settlement, spanning from the mid-8th to 7th centuries BC.

Two alternative forms of funerary ritual are present at Pithekoussai's necropolis, inhumation (in pit graves or amphorae) and the cremation of the deceased bodies. The inhumations are primary burials that often may have become commingled through time. Cremations were certainly subjected to more complex sequences of ritual gestures, which involved the burning of the corpse in shared *ustrina*, the collection and fragmentation of cremated remains, and their final redeposition in secondary burials.

The human skeletal remains are poorly preserved, frequently commingled, fragmentary, and, in the inhumation series, often represented only by a few portions of teeth crowns. The massive physical and chemical degradations of the bone and dental structures resulted from the ritual behaviours (burning process and the subsequent fragmentation of skeletal material), as well as the geology of the burial environment (warm volcanic sediment). According to the excavators, «(…) in parecchi casi gli scheletri sono interamente scomparsi, in molti altri restano soltanto poche tracce e anche in quei casi definiti con l'indicazione "scheletro discretamente conservato", le ossa sono così fragili che asciugandosi si sgretolano[45]». Moreover, as reported by Buchner, the dispersion of the skeletal record might have also occurred due to flooding of the necropolis caused by past tsunamis in the Lacco Ameno Bay[46].

The results obtained by morphological and osteometric assessment led to the identification of 267 individuals. Specifically, osteological investigation detected 117 individuals from 113 inhumations (102 pit graves and 11 *enchytrismoi*) and 150 individuals from 143 cremations.

Overall, both males (35.17%) and females (30.15%), newborns and infants (7.11%), children (18.35%), and adults (74.53%) were represented in the surviving skeletal assemblages, suggesting the inclusive nature of Pithekoussai's cemetery.

However, the poor taphonomic condition of the remains determined the palaeodemographic inconsistency between the exhumed sample and the effective consistency of the burial population at the site. Hence, all remarks on the composition of the skeletal population are purely descriptive and do partially reflect the demographic trends of Pithekoussai's over time only.

The gap between skeletal consistency and funerary evidence emerges in the infant age classes representation. There is a striking difference between the percentage of infants in the skeletal record and the percentage of *enchytrismoi* (the ritual designed for perinatal and young children) among graves. The osteological record shows a lower percentage of newborns and infants (aged 0-1 year) (5% in LG I; 16.18% in LG I-LG II; 3.60% in LG II; 3.57% in MPC), whereas the *enchytrismoi* are the 18% of graves in LG I; 28% in LG II and 10% in MPC, thus reducing the observed gap between theoretical demographic models and Pithekoussai's profiles. In fact, according to demographic models and historical data, in the pre-antibiotic era, the mortality rate of children reaches values above 30% during the first year of life[47].

The cross-checking of the age-at-death and sex distributions and the mortuary practices indicates

[45] « (…) in a number of cases, the skeletons were completely dissolved. In others, it was possible to observe few traces of the skeletal remains and even in those cases, whereas the description of the body was "skeleton fairly preserved", the bones were so brittle that they crumpled when dried» Buchner – Ridgway 1993.

[46] Buchner – Ridgway 1993.

[47] Weiss 1973.

that inhumation is the most common practice regardless of age-at-death.

Conversely, cremation is common among the adult classes. Overall, the results show that the cremation of the bodies is attested in 41.67% of individuals aged 15-20 years, 56.92% of individuals aged 20-40 years, 81.82% of individuals aged >40 years, and 6% of individuals aged >20 years.

However, it is worth noting that double Cremation 916 (LG I, PTH II) yielded osteological remains of an infant aged 1-5 years and an adult female (>20 years), and the single Cremation 140 (MPC, PTH I) that yielded an infant aged 1-5 years. The combustion of infants PTH 916 B and PTH 140 could be an exception to Buchner's assumption of cremation as a ritual restricted to the adults in Pithekoussai's society[48].

There is a significant difference in the funerary customs between males and females. Inhumation is not equally represented in male and female subsets (21.56% and 7.84% of the inhumed adults, respectively). Nevertheless, the difference between sexes might have resulted from the high number of undetermined individuals by sex among inhumed adults (70.58%). In contrast, cremation is equally represented in the male and female subsets (39.9% and 37.3% of cremated individuals respectively).

Overall, 10 double and multiple burials were recorded corresponding to 3.89% of the tombs. Sixty per cent of double or multiple burials are cremations. The aforementioned Cremation 916 is the only case of double cremation, which yielded remains of an infant and a female adult. In 2 cases out of 3, double inhumations were composed of an infant and a female adult (Inhumation 835, PTH II) or two infants (*Enchytrismos* 954, PTH II).

Remains of a second individual in cremated single graves (for example Cremation 159), probably due to unintentional collections, might suggest that skeletal material from the preceding cremation was disregarded in the *ustrinum* and afterwards collected by a second cremation. This hypothesis suggests the use of a unique place for the cremation ritual outside the burial place. Moreover, it has to be acknowledged that the absence of non-perishable urns might have played a key role in the post-depositional alteration of bone assemblages. Likewise, due to the characteristics of Pithekoussai's stratigraphy, the intentional (or not) contamination between two or more graves cannot be excluded. Unburnt human bones were found among cremated ones in four tombs.

The quantitative analysis of the cremated remains indicated an average weight considerably lower than the known modern reference sample. This evidence is extremely clear for Cremations 140 (MPC, PTH I) and 155 (LG II, PTH I), which weigh 4 and 5.6 grams, respectively. Among exceptions, Tomb 154 (LG II, PTH I) yielded 964.8 grams of cremated remains. The stratigraphic sequence of the Cairn 154 indicates that the tomb was only partially affected by the overlapping with the Cairn 155. Hence, in this case, the absence of strong post-depositional events might have resulted in better preservation of the remains.

Analysing the cremated remains' weights by excavation areas and chronology, results show significant differences between the two excavation areas and through time, especially in PTH II. The increasing of cremation weights by chronology might be interpreted as a change of funerary customs in the bone collection from the pyre and/or as a result of a lower frequency of the agglutination phenomena, and therefore, a potentially lower dispersion of osteological remains in the later phases of the necropolis.

Figure 15 illustrates the discrepancy between Becker's[49] weights and the ones of this study in the PTH I subset of tombs. Significant differences are present in 23.68% of the cases. Therefore, it is possible to argue that the generally lighter weights observed in PTH I could have been affected by a later dispersion of skeletal remains and not due to different burial customs in the two Pithekoussai areas.

At Pithekoussai, the necropolis yielded faunal remains supporting the archaeological and historical notions of Late Iron Age funerary practices of food offerings or sacrifices for the deceased, or a remnant of a funerary banquet alongside the pyre[50].

[48] Buchner 1982; Buchner – Ridgway 1993; d'Agostino 2011.

[49] Becker 1995, 1999.

[50] Bond – Worley 2006.

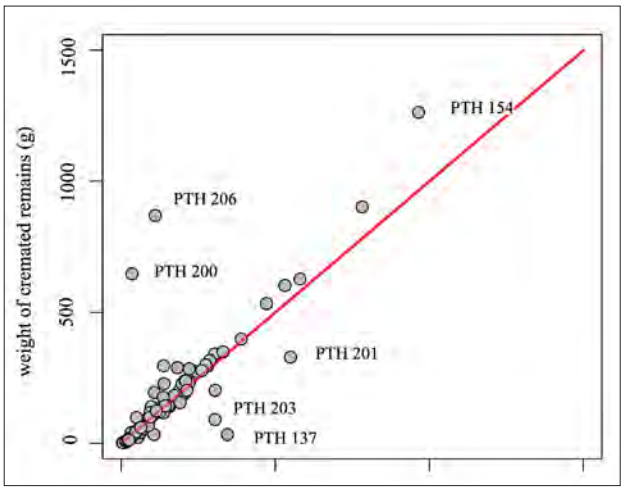

Fig. 15. Comparison between the individual weights (in grams) as reported in Becker's works (1995; 1999) and the individual weights in this study for the same subset of tombs

The integration of data from anthropological and archaeological sources with the findings from the preliminary analysis of the faunal materials allowed a fuller picture of the ritual behaviours in Pithekoussai. Faunal bones (Equidae and *Sus domesticus*) were associated with inhumated individuals aged 1-5 years (PTH 508, PTH 903, PTH 1006). According to Buchner and Ridgway, the individual buried in Tomb 508 is a male child.

Concerning cremations, this study recognised a funeral custom regulating the association between the gender of the deceased and animal offerings. Female cremations yielded only portions of *Ovis/Capra* and *Sus domesticus*, while males were accompanied by more species such as *Ovis/Capra* and *Sus domesticus*, *Bos taurus,* and *Canis familiaris*. Aves, *Ovis Capra,* and *Sus domesticus* were found in double (male and female) cremations.

The interdisciplinary study of the commingled skeletal assemblages from Pithekoussai's tombs (mid-8th to 7th centuries BC) highlights the complex articulation of the funerary landscape, where "agglutinations", taphonomic disturbances, and possible bone dispersions strongly affected both cremations and inhumations. The assessment of osteobiographies in several individuals, the analysis of faunal remains, the observations on changes in bone preservation/collection through time, and the redefinition of biological information of double/multiple burials create a firm basis for any new and more complex interpretation of PTH I funerary assemblage as well as for the future edition of the unpublished contexts (PTH II).

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Colonial Memories and Models

Maurizio Giangiulio, *Euboean Colonial Memories. Mediterranean Mobility, Literary Traditions and Social Memory*

This paper makes a contribution towards the understanding of the nature and origins of the ancient tradition of the Euboean colonization movement in the Mediterranean, with special reference to the western foundations. An overview of the – mainly literary – evidence helps focus on the problem of whether shared historical memories of the colonial origins existed in Euboea and/or in the colonial worlds of Euboean origin. The question is also posed whether local traditions were in place and to what extent they were affected by adaptation and distortion processes, with reference to the role allegedly played by Chalcis and Eretria. One cannot avoid briefly investigating also the issue of "Chalcidian" colonial identity both in the West and in the Aegean in the light of the underlying problem of the *genos Chalkidikon*. How ancient was fifth-century Chalcidian identity in Sicily, and to what extent did it echo an original colonial identity of the cities founded by Euboean colonists? Any modern assessment of literary tradition about the Mediterranean mobility of the Euboeans in the 8th and 7th centuries largely depends on the answers to such questions.

Luca Cerchiai, *Interpretative Models of Euboean Colonization and Impacts on the Indigenous World*

Through a synthesis of research already published, this account outlines the development, the "vocations" and the crisis experienced by Pithekoussai within the structure of relations, mobility and exchanges occurring in the area of the central-western Mediterranean from at least the first half of the 9th century BC.

The first section is dedicated to investigating the network of relations linking Campania to Sicily, Sardinia, the Iberian Peninsula and to North Africa. The second more closely enquires into the foundation of Pithekoussai, around the middle of the 8th century BC, placing the event within the broader dynamic of similar colonial foundation processes, which at that same time are taking place in the western Mediterranean under Phoenician impetus and with the consent of local communities.

Pithekoussai

Teresa E. Cinquantaquattro, *Pithekoussai, Necropolis of San Montano (Excavations 1965-1967). Stratigraphy, Funerary Representation and Intercultural Dynamics*

The article illustrates the funerary sector investigated by G. Buchner between 1965 and 1967, examining the formation of the funerary texture, the forms of funerary representation and the composition of the burial ground from the point of view of intercultural dynamics for the Late Geometric period. The main funerary clusters are presented, analysing their succession in time and deepening the topic of the relative chronology in connection with the identification of the first phase of use of the funerary area. Particular attention is devoted to burials, among which some children's graves stand out for the complexity of their grave goods, and to an unusual grave of an adult male buried with iron shackles on his ankles.

Melania Gigante, Alessandra Sperduti, Ivana Fiore, Francesca Alhaique, Luca Bondioli, *Euboean, Eastern and Indigenous People: A Bioarchaeological Investigation of Ancient Pithekoussai (8th-7th Century BC, Ischia Island, Campania)*

This paper presents the results of the bioarchaeological investigation of skeletal and dental remains from Pithekoussai's necropolis on Ischia Island in the Gulf of Naples (Campania).

This study analyses 256 tombs (104 tombs from *Pithekoussai I*, Buchner's excavations 1952-1962; 152 tombs from *Pithekoussai II*, Buchner's excavations 1965-1982), including 143 cremations, 99 inhumations, and 14 *enchytrismoi*. The tombs date from the mid-8th to the 7th century BC.

The use of multiple techniques in the analysis of both cremated and inhumed remains has facilitated the determination of diachronic changes in ritual behaviour as well as in demographic struc-

tures at the site. Despite the lack of completeness and the poor representativeness of the skeletons, the individualisation of the bone assemblages has allowed to identify commingled faunal and human remains (in 20.3% of the tombs) and to estimate the Index of Minimum Number of Individuals (MNI) for each grave unit.

The number of individuals identified is 267 out of 256 tombs. The overall demographic profile shows low child mortality representation (newborns and infants aged 0-1 year represent 7.11% of the skeletons; young children aged 1-5 years, 12.7%), indicating a strong bias in the demographic composition of these age cohorts. Adult age classes (20-40 years; >40 y; >20 years) exhibit diachronic differences in males to females ratios, namely 1.3 in Late Geometric I (LG I, 750-725 BC); 2.5 between Late Geometric I and II (LG I-LG II, 725-700 BC); 0.9 in Late Geometric II (LG II, 725-675 BC); 0.8 in Middle Protocorithian (MPC 675-650 BC).

Osteological evidence has led to a reconsideration of several funerary contexts, integrating the taphonomic observations of the graves with the biological life history of the deceased. Except for two cases (double Cremation 916, LG I, and single Cremation 140, MPC), this study confirms the exclusion of children from cremation customs.

Valentino Nizzo, *Ritual Landscapes and Ritual Codes in the Pithekoussai Cemetery*

The cemetery of Pithekoussai, in its early phases, was in use for about 150 years. The excavated portion of the burial ground contains more than 600 graves, the majority of which belongs to a period concentrated between 740 and 680 BC. Thanks to Giorgio Buchner's excavations we have significant information about the funerary practices.

Among the most interesting aspects that emerged from a systematic analysis of the stratigraphy was the reinterpretation of the diachronic and demographic evolution of the necropolis. This has provided extremely important data, both about the structure of the funerary groups and the way the ritual landscape was laid out. The analysis here reveals that the community did not discriminate based on categories of age, gender, or social status in the formal disposal of the dead, and possibly also not on the ethnic origin of the deceased. Instead the evidence suggests a degree of integration and cultural hybridization, a point that is particularly interesting considering the historical context.

Thanks to the interweaving of stratigraphic data with "sociological" ones, the interpreters have the uncommon opportunity to investigate the burial ground also through its complex web of family, "ethnic" and social relationships. The cemetery in the Valle di San Montano can therefore become the privileged terrain for an accurate reconstruction of the diachronic evolution of a "multi-ethnic" community, whose composition seems to reflect the "natural" demographic canons and whose representativeness, at the same time, it is not excessively altered by the action of those ritual filters that usually distort the funerary sample.

In the present paper, we will briefly limit ourselves to analysing the main characteristics of the funeral sample, focusing attention on some components of the ritual landscape and on the possible interpretation of their codes.

Costanza Gialanella, Pier Giovanni Guzzo, *The Manufacturing District in Mazzola and its Metal Production*

This contribution resumes the notes written by J. Klein during the excavation conducted in 1969 in the locality of Mazzola on the hill of Mezzavia (municipality of Lacco Ameno, Naples). The structures identified, of which the stratigraphic succession is highlighted, are dated between the middle of the 8th century BC and the beginning of the following century. The site is terraced and was probably abandoned due to landslides and earthquakes. In addition to pottery, evidence has been found of metal smelting, manufacture and repair of bronze fibulae. Iron, lead, silver and glass smelting scraps are abundant, but there is no bronze. Among the best-known finds, the known weight of 8.79 gm and some bronze figurines are discussed. No evidence for the production of gold objects has been identified, nor is the presence of gold deposits on the island verified. On Ischia there is only

Finito di stampare nel mese di marzo 2024
presso l'Industria Grafica Letizia, Capaccio (SA)

per conto di UniorPress

AION

Nuova Serie | 28

ISSN 1127-7130

The intent of the *Euboica II* conference, *Pithekoussai e l'Eubea tra Oriente e Occidente*, held in Lacco Ameno (Ischia, Naples) from 14 to 17 May 2018, was to discuss the themes of colonization, how colonial realities became rooted in different areas of the Mediterranean, the specific traits of Euboean colonization, and forms of contact and relationship between the Greek element and local communities. These Proceedings are divided in two volumes, arranged geographically. They feature a dialogue between historians and archaeologists, with an emphasis on the new important contributions made over the last twenty years by field archaeology in Euboea and in colonial and Mediterranean contexts.