

**ANIMALS AT BURGAZ IN THE CLASSICAL PERIOD FROM THE
EVIDENCE OF FAUNAL REMAINS**

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ABSTRACT

ANIMALS AT BURGAZ IN THE CLASSICAL PERIOD FROM THE EVIDENCE OF FAUNAL REMAINS

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For this thesis the animal bones collected from the archaeological excavations at the ancient site of Burgaz have been analyzed for the study of animal exploitation, human diet, social differentiation and the environment of Burgaz and Datça during the Classical Period. Comparison of the results with evidence from other sites to determine the extent to which there might have been local trends in animal husbandry.

Because this kind of a research is not common among archaeologists specialising in the classical period the methodology and each process of the laboratory work has been set out.

Burgaz/Datça is a coastal settlement but sea products do not have an important place in the human diet of the Datça Burgaz inhabitants. After analysis of the Burgaz bones it was determined that domestic cattle, sheep/goat, pig, horse, donkey and dog were present alongside wild goat, wild pig, fallow deer, red deer,

roe deer, badger and birds as well as fish and shellfish from the sea.

More than half of the bones that were identified, 220 of 430, come from floor filling levels beneath floors. It was understood that these bones were in filling materials that were brought from dump site(s). Among these bones were some worked cattle bones which have close parallels with Roman period finds at Sagalassos.

Because of most of identified bones come from filling levels beneath floors it was not possible to reach definite conclusions about social hierarchy at ancient Burgaz.

Sheep/goat and cattle were kept for their secondary products, such as milk, wool and power. They were slaughtered in their old age by experienced people and played an important place in diet of the Burgaz inhabitants. Pigs, on the other hand, were slaughtered when young.

From the wild species found in the Classical and Hellenistic Periods it can be said that the Datça environment was diverse enough to accommodate a range of wild animals whose habitat indicates the existence of forested areas (with large leafed and coniferous trees) as well as of meadows and grasslands.

Keywords: Animal bones, Animal exploitation, Classical Period, Animal species, Human diet, Burgaz, Datça, Knidos

ÖZ

HAYVAN KALINTILARINDAN KLASİK DÖNEM BURGAZ HAYVAN TÜRLERİNE

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Bu tezde antik Burgaz yerleşkesinden arkeolojik kazılar sonucunda ele geçen kemikler incelenmiştir. Kemiklerin incelenmesi sonucunda hayvan kullanımı, insanların beslenmesi, sosyal farklılaşma, Burgaz ve Datça'nın Klasik Dönem çevre ve bitki örtüsü hakkında bilgi edinildi. Bunun yanısıra diğer merkezlerden farklı olarak hayvan kullanımının bölgesel bir özellik gösterip göstermediği tartışılmıştır.

Bu tür araştırmalar klasik arkeoloji eğitimi alan arkeologlar arasında pek yaygın değildir bundan dolayı kemik araştırma metodolojisi ve laboratuvar çalışmasının her safhası yazılmıştır.

Burgaz bir deniz kıyı yerleşmesi olmasına rağmen deniz ürünleri Burgaz sakinlerinin dietlerinde önemli bir yer tutmamaktadır. Burgaz kemiklerinin analiz sonuçlarına göre şu hayvan türleri tespit edilmiştir: sığır, koyun/keçi, domuz, at, eşek, kopek, yabancı keçi, yabancı domuz, kızıl geyik, kunduz, kuş deniz ürünlerinde ise balık ve deniz hayvanı kabuğu.

Tanımlanmış kemiklerin yarısından çoğu, 430'un 220'si, taban altı dolgulardan elde edilmiştir. Taban altı dolgulardan elde edilen kemikler çöp toplama sahalarından dolgu malzemesi olarak kullanılmak üzere alındığı anlaşılmıştır. Bu kemikler arasından işlenmiş sığır kemikleri Roma Dönemi Sagalassos işlenmiş kemikleri ile benzerlik göstermektedirler.

Tanımlanmış kemiklerin çoğunun taban altı dolgulardan elde edilmesi, Burgazın sosyal hiyerarşisi hakkında kesin bilgi elde etmemizi de imkansız kılmıştır.

Uzman kişiler tarafından ileri yaşlarda ikincil ürünlerinden, süt, yün ve güç, yaralanmak için kesilen Koyun/keçi ve sığır Burgaz sakinlerinin dietlerinde önemli bir yer tutmaktadırlar. Bunun yanısıra domuz koyun/keçi ve sığır gibi ileri yaşlarda kesilmesede Burgaz sakinlerinin dietlerinde önemli bir yer tutmaktadır.

Klasik ve Hellenistik Dönem de bulunan yabancı hayvan türlerinden şu söylenilebilir Datça da çevre yeterince farklılıklar gösteriyordu ki bir çok yabancı hayvanı barındırıyordu. Bu yabancı hayvanların yaşam ortamları bize varolan ormanlık alanları (geniş yapraklı, kozalaklı ağaçlar) ve aynı zamanda çayırılık ve otlakları bildirmektedir.

Anahtar Kelimeler: Hayvan kemikleri, Hayvan kullanımı, Klasik Dönem hayvan türleri, İnsan beslenmesi, Burgaz, Datça, Knidos.

Dedicated to my family and wife

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ABBREVIATIONS

PE	Proximal Epiphysis	RB	Rib
PS	Proximal Shaft	T	Tooth
DE	Distal Epiphysis	INS	Incisor
DS	Distal Shaft	V	Vertebra
PSE	Proximal Shaft Epiphysis	CRV	Cervical Vertebra
DSE	Distal Shaft Epiphysis	CV	Caudal Vertebra
MS	Middle Shaft	LV	Lumbar Vertebra
S/G	Sheep/Goat	TV	Thoracic Vertebra
P	Pig	AST	Astragalus
WP	Wild Pig	A	Atlas
H	Horse	CAN	Canine
D	Donkey	PRM	Premolar
O/C	Ox/Cattle	MOL	Molar
RD	Reed Deer	HR	Horn
ROE. D	Roe Deer	OX	Oxis
FD	Fallow Deer	MX	Maxilla
BAD	Badger	BCM	Butchery Cut Marks
BAD	Bear	BZ	Burgaz
CAR	Carnivores	SE	South East
SH	Shell	NE	North East
FS	Fish	C	Classical
HMR	Humerus	L C	Late Classical
R	Radius	TR	Tarsus
U	Ulna	MT	Metatarsus
CRP	Carpus	TMT	Tarsometatarsus
MC	Metacarpus	SCP	Scapula
PH 1	First Phalange	PL	Pelvis
PH 2	Second Phalange	M	Mandible
F	Femur	SK	Skull
PT	Patella	CLC	Calcaneus
TB	Tibia		
FB	Fibula		
MTP	Metopodia		

CHAPTER 1

INTRODUCTION

The study of animal remains from archaeological sites is commonly known as archaeozoology. The goal of archaeozoology is to gain better understanding of the relationship between humans and their environment, especially between humans and other animal populations (Reitz 1999, 1-5; Klein 1984, 1-10).

The term “archaeozoology”, which is commonly used by researchers working in Eurasia and Africa, emphasises the biological nature of animal remains. “Archaeozoology” here is interpreted as “old zoology” or palaeontology. Archaeozoology as a discipline in its own right has only become established during the last 20-30 years. Most archaeozoologists trained either as zoologists or as archaeologists. They have worked in different parts of the world which has led to the development of different methods, especially on the ways of counting and measuring bones. In its early days, zoologists called upon to analyse archaeofaunal remains were merely expected to provide a list of identified species.

Today it is known that much more than a list of species can be obtained. Quantitative data like age distribution and sex ratio of each species present may tell us how they were exploited in a particular period: for example, whether were they hunted or husbanded, or if they were kept primarily for power, meat, wool or milk (Reitz 1999, 1-5; Davis 1987, 19-31). In addition, from traces left on the bones we can get information about butchery techniques as well as the kinds of tools that were used. Moreover, since every animal species has special requirements for food, water and temperature, reconstruction of ancient environments can also be attempted on the basis of archaeozoological remains.

The archaeozoologist's job is to extract as much zoological information as possible from skeletal remains that often amount to little more than a pile of bones.

CHAPTER 2

LITERATURE SURVEY

2.1. PROBLEMS OF ARCHAEOZOOLOGY

2.1.1. Humans

Most of the archaeological bones represent the garbage of ancient people's meals. Therefore skeletons have become widely scattered as a result of butchering, cooking and deposition practices. Prehistoric people tended to subject bones, apart from small phalanges, carpals and tarsals, to rather hard treatment notably roasting/boiling and fragmenting them to take out marrow because after roasting and boiling marrow which is in solid form in the bone will become soft. They also split and shaped some bones into tools. There are several ways in which bones from archaeological sites may have become fragmented:

1. butchery and pounding the bones in order to extract the marrow.
2. unintentional trampling.
3. unintentional breakage resulting from excavation; this last can usually be recognised by the fresh appearance and lighter surface of the break (Klein 1984, 6; Davis 1987, 24-31).
4. Bones can be fragmented by humans during tool making. Evidence for this was found in the Burgaz settlement which is discussed in the conclusion, bone working part (Figures 6-7) remains. This seems to be the case in the Burgaz settlement. This point will be discussed further in the conclusion.

2.1.2. Carnivores

In certain cases bones may have not have derived from human activity but from the activities of other animal species. One common problem is to determine how much of the bone is cultural. When studying archaeofaunal remains these below points must be taken into account.

The important carnivores which can have left destructive effect on bones or swallow the bones are dog. There are other carnivores which were inactive in settlements like wolves, foxes, leopards and wild cats but the most common carnivore is dog.

Dogs can extensively chew or even break bones. Moreover, dogs can swallow bones which are smaller than about 2,5 cm (Davis 1987, 27).

Hyena can also accumulate the bones in old burrows and can damage the bones with their teeth (Klein 1984, 6).

2.1.3. Gathering, Recording and Protecting the Bones on the Site

The inadequate collection, recording and protecting bones in the field can bias the results of analysis. These are major problems in archaeozoology.

The gathering of bones must be carried out with as much or even more care than is taken for other finds. This means that bones must be separately packed according to the single context where they are found (Schmid 1972, 19). When analysing the finds it is very important to record the archaeological context (square, level, etc.) of each identified bone so that different levels and areas of the site can be separately analysed and compared with one another. The nature of each context should also be considered such as a living floor, dump, butchering area, altar or any other type of special area. Variability within a site can reveal what kind of activity were being carried out and where. Differences between levels may indicate numerous trends, such as economic or climatic. Different

climatic conditions may be observed in levels of different periods during the occupation of any particular site (Davis 1987, 31).

Some palaeontologists and archaeologists have the idea that it is sufficient to select some recognizable bones as being representative of the whole mass. But this idea must be strictly rejected because identification of bones is not related to the size of bones. Such a selection ignores important evidence. On sites with a great quantity of bones sorting the unidentified mass of the bones on the site is recommended. Moreover, selected and eliminated material should be weighed or counted. Workmen and non-specialists are inclined to overlook small bones which are often thought to be of little or no importance. Where deposits contain many small bones these should not be extracted in the field. The right way is to pack the soil complete with the bones in a bag. Even the finest bones and teeth can then be washed out in the laboratory. The spatial distribution of the imbedded bones in the trenches gives evidence on man's activities in the past (Schmid 1972, 1-19).

Table I: Sieving experiments at Sitagroi, Greece (adapted from Payne 1975, 7-17).

	Cattle		Pig		Sheep/Goat	
	<u>Recovered</u> in trench	Missed in trench recovered in sieve	<u>Recovered</u> in trench	Missed in trench recovered in sieve	<u>Recovered</u> in trench	Missed in trench recovered in sieve
Single teeth	6	10	1	41	1	128
Mandible and skull fragments with teeth	2	2	5	10	1	6
Long bones and metapodials	12	7	5	21	13	73
Phalanges, carpals and tarsals	9	13	1	35	0	111

It is clear from Table I that many more bones were collected by sieving than were found in excavating a trench. According to sieving experiments at Sitagroi, where deposit were not sieved only about 25% of the bones were recovered. This

result influences the results of archaeozoological analyses, so it is very important to have a program of sieving on site.

2.2. A Zoological Analysis of the Osteological Material from Lower City of Hellenistic Ilion

Today Troy or Ilion is the modern site of Hisarlik in Çanakkale province. Archaeological excavations in Troy have proved that there were nine separate periods of settlement.

In the Bronze Age Troy was a great power because of its strategic position between Europe and Asia. In the 3rd and 2nd millennia BC, Troy was a cultural centre. After the Trojan War, the site was apparently abandoned from 1100 to 700 BC. About 700 BC Greek settlers began to occupy the Troas. Troy was resettled and named Ilion. Alexander the Great ruled over the area successively from the late 6th century BC. After the Romans captured Troy in 85 BC Troy lost its importance ([http:// www.iit.edu](http://www.iit.edu)).

2.2.1. Materials

The materials were collected during the 1995 season from new trenches, C29, w28 and y28/29 in the Lower City of Troy. The total number of bone samples from the area under examination was 840(n). From these bones 727 samples were identified by species and anatomical location. Almost all skeletal elements had been broken into small pieces, and some had been broken into mere fragments. This fragmentation occurred because of the bones constitute food debris. Some bones bear traces of intentional activities, such as butcher marks or gnawing marks left by carnivores, and some were fired or partially burnt (Fabis1999, 238).

Table:2: Troy Species NISP (adapted from Fabris 1999, 245)

<u>“Species”</u>	<u>NISP (%)</u>
Cattle, BOS	251 = 34.5%
Sheep, OVIS	55 = 7.6%
Capra, CAPRA	13 = 1.8%
Sheep or goat, OVIS/CAPRA	234 = 32.2%
Pig, SUS	93 = 12.8%
Horse, CABALUS	1 = 1%
Donkey, ASINUS	8 = 1.1%
Unidentified domestic equids	1 = 1%
Dog, CANIS	17 = 2.3%
<u>Domestic animals total</u>	<u>673 = 92.6%</u>
Wild or domestic cattle	7 = 1.0%
Wild or domestic pig	4 = 6%
Canidae indet.	3 = 4%
<u>Domestic or wild animals</u>	14 = 1.9%
Hare, Lepus capensis/europaeus	4 = 6%
Wild Boar, Sus scrofa	3 = 4%
Fallow deer, Dama dama	21 = 2.9%
Red deer, Capreolus elaphus	1 = 1%
Roe deer, Capreolus capreolus	3 = 4%
Cervidae indet.	1 = 1%
Ayrochs, Bos primigenius	1 = 1%
Aves indent	5 = 7%
<u>Wild animals total</u>	<u>40 = 5.5%</u>
Identifiable total	727 = 86.5%
Unidentifiable total	113 = 13.5%

2.2.2. Conclusion

In Hellenistic Ilios domestic animals were the most important meat suppliers. Among these the most common group were cattle, sheep, and goat which provided not only meat, but also milk, wool and labour. The age analysis shows that these animals were indeed used for all of these purposes. The fairly large quantity of skeleton remains from sub-adult or adult individuals suggests the secondary

importance of these animals as providers of wool and labour. The pig remains, which were found among the analysed assemblage, indicate that these animals were used to supplement the regular diet. This animal is used almost exclusively for meat production, since they do not provide labour, wool, or milk but are very efficient in terms of reproductive capabilities. Therefore age analysis suggested that pigs were frequently slaughtered while still juveniles or even younger. Wild animals, which represent a rather low percentage among the animal bone remains, did not provide a significant portion of meat for inhabitants of this part of the Lower City (Fabis 1999, 243-248).

A comparison of the body parts with differently-valued meat indicates that there was no special selection of better parts in any of the trenches. In all of these trenches there were, in general, remains of the lowest value.

CHAPTER 3

METHODOLOGY

In this thesis, the animal bones of ancient Burgaz will be analysed. By applying the methods described below I will try to obtain information about animal exploitation, animal species, animal killing patterns, human diet and the environment of Burgaz during the Classical period. Since every animal species has special requirements for food, water and temperature. Moreover, if there are local trends in animal husbandry that are different from those at other sites, that will also be discussed. In addition, it might be possible to determine local sources of nutrition, i.e. wild animals.

In order to provide answers to the questions of human diet, animal husbandry, animal species and animal relative percentage, animal sex and age, Classical Age environment and social hierarchy at the Burgaz settlement the following methods were applied.

3.1. NISP

In the Number of Identified Specimens (NISP) the identification stage can be equated with collecting primary data and the analytical stage with deriving secondary data. Primary data are facts that can be analysed in further ways, such as element representation and taxonomic identification, by subsequent investigators.

Species Proportions will be calculated by two methods: Number of Identified (bone) Specimens (NISP) and Minimum Number of Individuals (MNI).

The most obvious and most readily obtainable index of species abundance is the number of bones or bone fragments. All identified bones were included in the NISP calculation but for unidentified bones only bones which are bigger than 3cm were calculated.

Using NISP has some advantages and disadvantages. The advantage of NISP is that values are additive, that is, it is easy to add new species or bone fragments to the data. The disadvantage of NISP is that it is very sensitive to fragmentation because a bone can be broken into different pieces, thus the same bone may be counted more than once. Moreover, the skeletons of some animals have more parts than the skeletons of others. These two factors can exaggerate the (apparent) abundance of some species. For example, pigs have more metapodials than sheep. This can exaggerate the relative number of pigs.

3.2. MNI

The Minimum Number of Individuals (MNI) represented in a species sample is simply the number of individuals necessary to account for all the identified bones.

The MNI can never be larger than the NISP and is usually smaller. For example, if there are 23 left metacarpals and 13 right metacarpals the NISP = 36 metacarpals of sheep, by application of MNI calculation it can be found that the bones, minimum, belong to minimum of 23 sheep.

In order to calculate MNI, in addition to sorting left from right it is necessary to consider age, sex, measurements, and archaeological context. This is much more complex than NISP (Reitz 1999, 1-5; Klein and Uribe 1984, 26-37). When MNI was calculated left/right, sex and preserved portion of the bone taken in consideration.

The bones were divided in 5 parts in order to prevent recording of same bone twice (Figure 2). If the preserved part of the bone is bigger than 50 % of the

complete part of the bone, this is noted in my database with the number 2. If less than 50% of any part is presented this is noted by the number 1 (Table 4) and if same part of two bones are represented with 1 they were counted as 1 bone during the MNI calculation. Recording the bones by dividing them into five parts prevents exaggeration of the number of animals in MNI calculation.

3.3.Secondary Data

Secondary data includes age classes, sex ratios, relative frequencies of taxa, butchering patterns, dietary contributions and procurement strategies. They are derived from primary data by means of index and other quantification techniques. Primary data may be viewed as more descriptive and objective than secondary data. Primary data based on observational units secondary data are analytical products (Reitz 1999, 1-5).

3.3.1. Mortality profile

In order to determine the animal products used (for example, meat, milk, wool, power) it is necessary to determine at what age the animal was slaughtered. Many age determination methods are based on growth of the skeleton and teeth.

The sex composition of a flock changes according to what product(s) are the most important provided by a species. For example, in an economy aiming at milk production, most females are kept whilst males are slaughtered early in their life. Sex ratio is very also informative, so it is necessary to determine the animals' sex which can be done by the following methods:

In the jaws of some species that contain large canines the females usually lack these teeth or contain very small ones (Klein 1984, 41-50).

From bone size; male skeletal parts tend to be larger than their female homologues in most mammal species. The advantage of this method is that it is applicable to different parts of skeletons.

Because the bones were very fragmented and the sample was small, it was not possible to reconstruct the sex composition of the flocks, but the measurements are presented here as zoological documentation of the animals from Burgaz (Table 15).

Table 3: Fusion Age of Bones, first number: unfused age, second number: fused age.

Element		Species			
		O/C	Sheep	Pig	Horse
Scapula	Distal	7-8mo	6-8mo	42mo	20mo
Humerus	Proximal	42-48mo	36-42mo	42mo	36-42mo
	Distal	15-18mo	10mo	12mo	15-18mo
Radius	Proximal	15-18mo	10mo	12mo	15-18mo
	Distal	42mo	36mo	42mo	42mo
Ulna	Proximal	42mo	30mo	36-42mo	42mo
Metacarpal	Proximal	Before birth	Before birth	Before birth	Before birth
	Distal	15-18mo	18-24mo	24mo	15-18mo
Femur	Proximal	42mo	30-36mo	42mo	36-42mo
	Distal	42-48mo	36-42mo	42mo	36-42mo
Tibia	Proximal	42-48mo	36-42mo	42mo	36-42mo
	Distal	24-30mo	18-24mo	24mo	20-24m
Calcaneum	Proximal	36-42mo	30-36mo	24-30mo	36mo
Metatarsal	Proximal	Before birth	Before birth	Before birth	Before birth
	Distal	27-36mo	20-28mo	27mo	16-20mo
1st Phalange	Proximal	13-15mo	13-16mo	24mo	13-15mo
2nd Phalange	Proximal	18mo	13-16mo	12mo	9-12mo

Teeth usually give clear distinction between adult and senile animals. The most applicable and traditional method applied to domestic animals in order to establish their age is based on dental eruption and wear. One dental dimension that varies strongly with age is the crown height of a tooth.

From the state of epiphyseal fusion for each skeletal part it is possible to form two age classes, adult and immature. The proximal and distal parts of a bone fuse at different ages and since epiphyseal fusion time is known, epiphyseal age classes can be transformed into chronological ones. For example, like proximal epiphysis of tibia of domestic sheep fuse at 3-3.5 years (Klein 1984, 50-59).

3.4. Butchering Marks

A prey animal may have been killed, skinned, jointed and eaten with the aid of various tools, including hand-axe, iron or copper- alloy knife or steel cleaver. Each of them can leave traces on the bones, which constitute one form of evidence for past butchery practices (O'Connor 2000, 45).

By examining traces that have been left by butchery on bones it can be determined if the animal was cut by a butcher or by people who were not experts. A butcher usually will have a technique, repeated for all the animals he/she process whilst non-professionals will have no method and cuts will be randomly located on bones in a haphazard fashion. Butchering techniques and tools used also can be determined by examining butchery marks.

3.5. Domestic versus wild animals

The ratio of domestic to wild animals will be calculated to estimate the role of hunting in the diet and economy.

CHAPTER 4

4.1. The Region of the Datça Peninsula and its Surroundings

“In the Classical Period transplanted cities can be seen more clearly in Rhodes, Cos and Datça. The best examples in Eastern Greece are afforded by the Dorian cities and the neighbouring coast of Caria. After the collapse of the Athenian empire, in 408 BC, the three “old cities” of Rhodes agreed to join and build themselves a great modern city. They chose for this purpose the triangular northern tip of their island and enclosed an area of about a square mile in a new fortification. This union set Rhodes on the high road of history; and in the course of the next two centuries she became the greatest sea power in the world”(Cook 1952, 85).

The other Dorian cities of this corner of the Aegean in due course followed the example of Rhodes. In 366 BC, the people of Cos transplanted their city to Meropis at the east end of their island. The site of Burgaz also followed the trend started by these cities. Archaeological examination has revealed that perhaps about this time, may be a generation later, the Cnidians also moved from old Cnidus “Burgaz” to the tip of their promontory (Cook 1962, 137-153). Further evidence for the relocation of the Burgaz site at Hellenistic Cnidus comes from G. Klaffenbach’s interpretations of an inscription (BMI 796) which was found by Bean and Cook at the Burgaz settlement (Cook 1952, 85-87).

4.2. The Site

The ancient Burgaz site is 2 km northeast of the modern Datça city centre (Figure 1). Burgaz is near the modern town center of Datça. The site was probably preferred because of its harbour facilities. Burgaz, according to a survey which was carried out by Prof. N. Tuna in 1981, was settled from 7th century B.C. to 7th century AD. In the Classical Period, the settlement covered an area of about 38 hectares, and nearly 7,600 souls may have lived there. The settlement was the biggest site on the Datça Peninsula before the Hellenistic Period. The settlement

had an orthogonal plan, orientated SW-NE, and was surrounded by a fortification that can be dated to the early 4th century BC (Tuna 1982, 357-365).

4.3. Date of Excavation

Burgaz was introduced to the world of archaeology by Bean and Cook (Tuna 1995, 283-287). Later, in the 1980s, the archaeological surveys carried out by Prof. Numan Tuna reemphasized the significance of the site. Since 1983 excavations have directed by Prof Dr Numan Tuna with a research team from the Middle East Technical University and other universities in Turkey. The excavation focused on NE-SE and SW sectors in order to understand the settlement plan and architecture.

4.4. Materials

The Burgaz site yielded not only a large amount of ceramic material but also animal remains.

Archaeofaunal materials came from both the Classical and Hellenistic periods. The materials that will be examined in this study were brought to light during the course of the excavations in 1996-2002 and 2003. The bones have been selected from 22 different trenches and 112 levels or loci of the Datça - Burgaz settlement in order to identify differences between houses or districts of the settlement.

4.5. Gathering the Bones at Burgaz Settlement

Gathering of bones was carried out with the same care with which the ceramics and metal finds were dug up. This means that bones have been separately packed and labelled according to the single square, level and localities where they were found. The nature of each context, type of area were recorded on daily field record sheets. Sieving was not carried out. The collected bones were not treated with any chemical intervention for protection, but they were packed in plastic bags and brought to the excavation house depot.

4.6. Laboratory Work on the Burgaz Bones

Laboratory work on the Burgaz bones was done in the order given below. The bones were washed, mud being removed from the bones with a soft toothbrush, before they were dried in sunshine.

Firstly, the bones were identified by comparing the ancient Burgaz bones with modern bone collection of the BIAA. Identification included not only determination of species and whether they were wild or domestic, but also to which part of the skeleton they belonged and whether they came from the left or right side. Moreover, the bones have been analysed in terms of butchery and burnt marks.

Secondly, to determine the age of animals, the state of fusion was recorded. Proximal and distal epiphyses fuse to the shaft of the bone at different ages (as outlined above) so fusion was recorded for one or both of the distal and proximal epiphysis.

Thirdly, the preserved parts were recorded by dividing them into five categories: the proximal epiphysial (PE), proximal shaft (PS), middle shaft (MS), distal epiphysia (DE), and distal shaft (DS), (Figures 2 and 3).

Some bones which give information about the sex of animals have been measured. The points considered before making measurements were: measured bones should be complete and clean, and the measurement must be done with high precision, in tenths of millimetres.

Finally after all these processes had been completed, the number of unidentified bones was calculated for each level in the trenches.

CHAPTER V

CONTEXTS OF THE ANALYSED BONE

Worked materials were collected from the North East (NE) and South East (SE) sectors. NE sector bones were collected from inside 4 different houses and from between their external walls, peristasis.

5.1. House I

5.1.1. BZ.96.NE.3.7.D

Bones from levels 6B, 8, 9 and 10 of this trench were taken for analysis. In this trench the interior of a house surrounded by walls D32, D42, D43, D44, D57 and D81 was investigated.

Level 5 is destruction level. Level 6 was related to filling level of last phase in which the walls were used D42 and D43. Level 8 was excavated to find whether or not there is floor related with wall D44, but no floor was found. In level 9 has been excavated to see if they belong to a wall or not. The stones continued but they do not belong to a wall. In level 10 soil of on wall remains of D57 has been removed (Tuna 1998, 350).

5.1.2. BZ.96.NE.3.7.C Trench Sounding A

Bones from levels 7 and 10 of this trench were taken for analysis. In this trench the interior of a house surrounded by walls D46, D34 and D74 was investigated. In level 7 wall D33, which was found under the wall D31 in 1995,

was investigated. In level 8 a floor which dated to 6th B.C. was found (Tuna 1998, 350).

5.1.3. BZ.96.NE.3.7.B

Bones from levels 10 and 12 of this trench were taken for analysis. While levels before 6 dated to second half of 4th century B.C., after 6 the levels dated to the Classical Period. In levels 10 and 13 the internal space which was surrounded by walls D35, D36 and D37 was excavated (Tuna 1998, 351) (Figure 4).

5.2. House II

5.2.1. BZ.03.NE.4.8.A

Bones from levels 5A. 6. 7. 8. 9. 10 and 11 of this trench were taken for analysis. Excavation continued in this trench in order to understand the NE internal space of house with a well. In level 5, in the middle of trench, was flat area which consisted of big pebbles. The plane surface dated to late Classical Age. In the NE corner of the trench the continuation of wall D 73 and floor which consist of horacane and pebble was revealed. In the NE corner of the trench the continuation of wall D 73 and floor which consist of horacane and pebble was revealed.

Levels 6, 7, 8 and 9 comprised a fill dated to the 5th B.C. containing much pottery (Tuna 2003) (Figure 4). In levels 10 and 11 a filling of stones and pottery (although the pottery was less dense than in the levels above) was excavated. These levels, according to gathered materials, can be dated to middle of the 6th century B.C.

5.2.2. BZ.03.NE.3.8.A

Bones from levels 5, 7, 10, 12 and 14 of this trench were taken for analysis. In level 5 the continuation of wall D78 was found. The northern half of this wall was protected by a clay floor which was used up to the third quarter of the 4th century B.C

In level 6 the continuation of wall D217 was revealed by a scatter of stones. In level 7 a poorly preserved horacane floor was uncovered. In level 11, in the NE corner of the trench, a single row of stones indicated the continuation of walls D217 and D227 and a patch of clay floor was also reviled. Level 12, the filling under the clay floor was found to contain many crudely made pottery pieces. In level 14, under the level 7 floor, the filling also contained pottery (Figure 4).

5.3. House III

5.3.1. BZ.02.NE.3.6.B

Bones were analysed from levels 5, 7, 8 and 8A of this trench. The house which excavated in trench NE.3.6.C - NE.4.6.C and NE.4.6.D extended into this trench. In level 6 the internal wall, D199 of the house has been excavated. While in level 7 excavation continued on the NW side of wall D199, in level 8 excavation was carried out on the eastern side of this same wall. Also in level 8 was an oven that was surrounded with sea shells, pebbles and hard horacane floor.

5.4. House IV

5.4.1. BZ.02.NE.5.5.D

Bones were analysed from level 7 of this trench. In levels 7 and 8 the continuation of external wall, D115 was excavated. Moreover, the clay floor of the room which is defined by walls from D34, D208 and D52 was revealed. The

floor was used in 5th and 4th centuries B.C. The continuation of the same floor was also seen in trench NE.4.5.C and NE.5.6.A.

5.4.2. BZ.02.NE.4.5.D

Bones were analysed from level 4 of this trench. In level 4 the continuation of external wall D165, which is aligned NE - SW, was excavated. Other parts of this wall were unveiled in the excavation of trench NE.3.6.B.

5.5. Peristasis

5.5.1. BZ.96.NE.4.7.A

Bones from level 11 of this trench were taken for analysis. In level 11 excavation continued between external walls, peristasis, D52 and D51 of House V and House II. From the gathered materials this level is dated to the second quarter of the 6th century B.C. (Figure 4).

5.5.2. BZ.96.NE.4.7.D

Bones from levels 6, 7 and 8 of this trench bones were taken for analysis. In this trench the area between external walls, peristasis, D46 and D47, of house II and house III, were investigated. Level 8, according to gathered materials, dated to middle of 6th century B.C. (Tuna 1998, 351).

5.6. SE Sector

5.6.1. Workshop

Part of the main street, which was paved with stone, was excavated in 2001 during excavations in the southwest part of the SE sector. In order to understand the internal spaces behind external wall D172, which is on the north side of the main street, excavation was carried out at trenches SE.2.7.A, SE.2.7.B, SE.2.7.D,

SE.3.7.A, SE.3.7.B, SE.3.7.C, SE.3.7.D, SE.3.8.C and SE.3.8.D. After excavation it was understood that the house was used in two different periods, Classical and Hellenistic. During the first period of use, in the second half of the 5th century B.C., small rooms were opened onto the northwest-southeast corridor. In the second period of use, dating to the second half of the 4th century B.C. the rooms were enlarged by the demolition and removal of some of the internal walls. It was also discovered that during this secondary phase the house was used for industrial purposes; the south-eastern part probably being used as a weaving workshop, and the middle part as a metal workshop while western part of the house seems to have been used for accommodation (Tuna 2002) (Figure 5).

5.6.1.1. BZ.02.SE.2.7.B

Bones from levels 3, 4, 6, 7 and 8 of this trench were taken for analysis. In level 4 excavation revealed an internal wall, D195, which intersected wall D196 thus forming a room. Moreover, D195 and D200 constitute two walls of a corridor. In level 7, near the west part of D195, a cup-kantharos which is dated to 350-325 B.C., that is, to the second phase of use, was found on the floor. In level 8 the filling under the floor was found to contain many pieces of pottery.

5.6.1.2. BZ.02.SE.3.7.A

Bones from levels 4, 5, 6, and 7 of this trench were taken for analysis. The finds which were collected from these levels dated to the second phase of the use of this house. It is understood that D203 had gone out of use, having been demolished and covered by a new floor laid over its remains to form an enlarged space. This part of the house appears to have been used as a workshop (Tuna 2002).

5.6.1.3. BZ.02.SE.3.8.D

Bones from levels 4, 5, 6A, 7 and 8 of this trench were taken for analysis. In level 5 a pithos rim, without any part of the body, surrounded with stones, was

found on the latest floor. To the north of the pithos a flooring, which consisted of small stones, sloped towards the pithos. This area is thought to be a metal workshop, because a few iron pieces were found in the house. Beneath the pithos, in level 6, a floor of the earlier phase, which is dated to the late 5th century B.C. on the basis of the materials recovered, was found. In level 7 wall D197 (which was not used in the later period of use and which was covered by the later floor) was unveiled. In early phase of use this wall, D197, intersected wall D176 to constitute a closed space. Moreover, the continuation of wall D201 was excavated and was seen to intersect with walls D197 and D172 in such a way as to make two separate spaces. In level 8, in south corner of the trench, another internal wall was found (Figure 5).

5.6.1.4. BZ.02.SE.2.7.D and BZ.02.SE.2.7.A

Bones from levels 6A, 6B and 8 of these trenches were taken for analysis. The north half of trench BZ.02.SE.2.7.A and the south half of trench BZ.02.SE.2.7.D (each measuring 2 x 5m), were excavated together. These two trenches constitute a room of the house. In level 7 excavation revealed a well-preserved pebbly floor belonging to the late phase of use. From the terracotta figurine pieces which were found on this floor, this level may be dated to c.350-325 B.C.

5.6.1.5. Z.03.SE.2.7.C

Bones from levels 6B, 7B, 8, 9, 9A, 9B, 11,12 and 13 of this trench were taken for analysis. In levels 5, 6 and 8 a corridor, formed by walls D200 and D195, and a room bounded by walls D195, D220 and D196 was excavated down to the floor. On the northwest of D200 a well was excavated (levels 8A, 9, 9A and 10). The mouth of the well was closed with pithos pieces and surrounded by stone flooring. The half-open area appears to have been a workshop. Access to the well was from the corridor formed by walls D200, D195 and D216. In levels 11, 12 and 13 the floor of room which was surrounded by walls D195, D220 and D196 was excavated (Figure 5) (Tuna 2003).

5.6.1.6. BZ.03.SE.3.7.D

Bones from levels 2, 3, 4, 5, 5B, 6, 7, 10, 10A and 18 of this trench were taken for analysis. No architectural remains have been observed in levels 2, 3 and 4. In level 5 and 6 the continuation of walls D222 and D196 were revealed. In level 7 a floor of late age of use was. In level 10 the filling under walls D223 and D196 was excavated and, from the material found in this level, dated to late 5th and early 4th century B.C. (Figure 5) (Tuna 2003).

5.6.1.7. BZ.03.SE.3.7.B

Bones from levels 2, 5, 6, 6A, 8, 8B and 11 of this trench were taken for analysis. In level 5 an internal wall, D238, against which a few pottery vessels rested, was found. In level 6 excavation continued in south part of the trench where olive seeds have been found. In level 7 the continuation of external wall D222 was excavated and to the west and north of this wall the floor was unveiled. In level 8 the continuation of external wall D223, which had been seen in trench, BZ.03.SE.3.7.D was uncovered.

5.6.1.8. BZ.03.SE.3.7.C

Bones from levels 3 and 5 of this trench were taken for analysis. No architectural remains have been observed in levels 2 and 3. In levels 4 and 5 walls D234 and 235 have been excavated. A nearly complete amphora leaned against wall D234. From the materials recovered these levels could be dated to 3rd quarter of 3rd century B.C.

5.6.1.9. BZ.03.SE.3.8.C

Bones from levels 4, 6, 7, 7B, 7C, 9B, 11, 13, 14, 14A, 15A and 15C of this trench were taken for analysis. No architectural remains have been observed in levels 2, 3, 4 and 5. In the excavation of level 6, wall D241 and the continuation

of wall D210 were found. Moreover, in the eastern part of the trench a pebbly clay floor was found. Level 7, the filling under the floor which ran up to wall D241, was excavated and this level can be dated to later phase of use of the house. Levels 8 and 9 were investigated between walls D210 and D241 and wall D242 and may be dated to the first phase of use. Wall D242 was not used in the later phase when it was covered by a floor. the wall continue till the well which found in level 15. Levels 10, 11, 12, 13, and 14 it were investigated between walls D242 and D241. In level 15 a well which dated to early phase of use was found. In the second phase the mouth of this well was closed with pithos pieces and clay roofing tiles, probably in order to enlarge the space which appears to have been a metal workshop.

5.7. The Lower Sector

The main street, which runs in a northeast-southwest direction, had been found in previous years. The surface of this main street is made of pebbly clay containing many pottery shreds. In order to understand the main street and its surrounding houses excavation was conducted in trenches BZ.03.SE.6.4A, BZ.03.SE.6.4B, BZ.03.SE.6.4C, BZ.03.SE.5.4.A, BZ.03.SE.5.4B and BZ.03.SE.5.4D (Figure 5).

5.7.1. BZ.03.SE.6.4.B

Bones from levels 2, 4, 4A, 5, 7, 12, 18, 19 and 20 of this trench were taken for analysis. No architectural remains have been observed during excavation of levels 2, 4, 4A and 5. In level 6 an internal wall which intersected with wall D95, fronted the south side of the main street. In level 7 horacane and clayey floor of the room, the internal wall of which had been found in level 6, was revealed. Excavation in this room was continued from level 13 to level 20. The main street was excavated as levels 9, 10, 11 and 12.

5.7.2. BZ.03.SE.6.4.C

Bones from levels 12 and 13 of this trench were taken for analysis. In level 12 wall D250 which fronted the north side of the main street. This wall intersected wall D214 in northerly direction, probably changing the direction of the main street. In level 13 the filling above the main street was excavated. The filling included horacane-clayey flooring, pottery pieces, pebble and stream stones. Below this filling surface of the main street, which consisted of stream stones, was found to slope down in a southerly direction.

5.7.3. BZ.03.SE.6.4.A

Bones from levels 2, 3, 4, 6, 7, 11 and 14 of this trench were taken for analysis. In this trench the house defined by external walls D218 and D219 was investigated. This house fronts the south side of the main street. In addition the main street itself was investigated (Figure 5). No architectural remains have been observed in levels 2, 3 and 4. In level 6 the floor of a room was uncovered. The interior of this house was excavated inn levels 12, 13 and 14. The main street has been excavated in levels 7, 8, 9, 10 and 11. From the materials discovered on the main street it has been dated to 350-325 B.C.

5.7.4. BZ.03.SE.5.4.A

Bones from levels 5 and 7 of this trench were taken for analysis. Work was do not only in house of which external wall D219 constitutes the south border of the main street, but also on the main street. In level 5 the continuation of external wall D219 has been excavated. In deeper levels an internal wall, D229, which runs in a westerly direction, was found to intersect wall D219 and a stone flooring was uncovered. In levels 7 and 9 the filling of the main street, which included rough pottery pieces and roof tiles, has been excavated. The main street slopes down from east to west, its surface comprising compact clay with pebbles and pottery shreds.

5.7.5. BZ.03.SE.5.4.B

Bones from levels 4, 5 and 9 of this trench were taken for analysis. The house bounded by external wall D219 along the south side of the main street, as well as the main street itself, were investigated. In level 5 the continuation of wall D219 was traced. In deeper levels a room wall, D237, together with stone flooring between D237 and D229 which is thought to be a courtyard, have been found.

5.7.6. BZ.03.SE.5.4.D

Bones from levels 4, 6B, 6C, 8B, 9 and 13 of this trench were taken for analysis. In addition to the main street, the house of which external wall D233 constitute north border along the main street, was investigated. In level 6 a workshop, in which olive seeds have been found, was excavated. In levels 8 and 13 the surface of the main street flooring has been excavated.

CHAPTER 6

RESULTS AND DISCUSSION

The total number of bone samples from the area under examination was 789. The number of bones identified by species and anatomical part totalled 430. (Table 4 in Appendix A). Whereas those unidentified by species and anatomical part totalled 359 (see Table 5 in Appendix A). The reason for the high number of unidentified bones is that most of the bones were fragmented into small pieces which can not be identified because they were derived from food debris which smashed into small pieces to could be eaten. Moreover, further fragmentation occurred during the excavation. Beside this I think the smallest parts of broken bones were collected without regard to their size and preservation, or whether or not they can be identified. This, of course, is the best way to collect bones from an archaeological site for archaeologists who do not have a zooarchaeology expert.

The overall bone assemblage is clearly dominated by domestic animals: NISP = 376 which makes 88.8%. Among these eight species were identified (for species percentage see Table 6). Sheep / Goat (S/G) accounted for the highest percentage NISP, 138 and MNI 20, and cattle ranked below in the NISP, 112=26.4% and MNI 13, pig followed the order in NISP, 90=21.2% and MNI 10. MNI percentages do not show differences from results of NISP (see tables 6 and 7).

The percentage of bones belonging to wild animals is much smaller than that belonging to domestic animals. Wild animals remains accounted for NISP 31 = 7.3% and MNI 21%. Among these, seven species were identified (for species structure see tables 6 and 7). Most numerous were the finds from elements of red deer: NISP, 12=2.8% and MNI 7% . Other species are represented in smaller frequencies.

Marine species remains are few. Among products of the sea the remains of two categories, fish and shell, were identified (see table 6 and 7).

Table 6 Species (NISP) Distribution Based on Ages -Periods

Animals NISP	Classical		Late Classical		Hellenistic	
		%		%		%
Sheep/Goat	73	30.1	42	39.2	23	31
Sheep	0	0	0	0	2	2.7
Goat	12	4.9	4	3.7	4	5.4
Cattle	72	29.7	25	23.3	15	20.2
Pig	57	23.5	21	19.6	12	16.2
Horse	1	0.41	0	0	3	4
Donkey	2	0.82	0	0	1	1.3
Dog	3	1.2	0	0	1	1.3
Carnivores	3	1.2	0	0	0	0
Domestic Animals	223	92.1	92	85.9	61	82.4
Wild Goat	3	1.2	1	0.93	0	0
Follow Deer	5	2	0		0	0
Red Deer	8	3.3	2	1.86	2	2.6
Roe Deer	0	0	0		1	1.3
Wild Pig	1	0.41	0		2	2.6
Badger	0	0	0		1	1.3
Bird	0	0	4	3.7	0	0
Wild Animals	17	7	7	6.5	6	8.1
Fish	1	0.41	3	2.8	0	0
Shell	1	0.41	5	4.6	7	9.4
Sea Product	2	0.82	8	7.4	7	9.4
Per period in the whole assemblage	242	57.2	107	25.2	74	17.4

Table 7 Species (MNI) Calculation Based on Ages- Periods

Animals	Classical		Late Classical		Hellenistic	
		%		%		%
Sheep/Goat	8	21	3	12	3	12
Sheep	0		0		1	4
Goat	3	7	1	4	2	8
Cattle	6	15	3	12	4	16
Pig	5	13	3	12	2	8
Horse	1	2	0		1	4
Donkey	1	2	0		1	4
Dog	1	2	0		1	4
Carnivores	2	5	0		0	
Domestic Animals	27	71	10	41	15	62
Wild Goat	1	2	1	4	0	
Follow Deer	3	8	0		0	
Red Deer	4	10	1	4	2	8
Roe Deer	0		0		1	4
Wild Pig	1	2	0		1	4
Badger	0		0		1	4
Bird	0		4	16	0	
Wild Animals	9	23	6	25	5	20
Fish	1	2	3	12	0	
Shell	1	2	5	20	8	33
Sea Products	2	5	8	33	4	16
Per period in the whole assemblage	38	44	24	27	24	27

These, NISP and MNI, results suggest that domestic animals formed the most sources of meat in the Classical, Late Classical and Hellenistic periods (see tables 6 and 7). The most common group is sheep/goat (s/g) followed by the cattle group. Sheep and goat provide not only meat but also milk, wool and hair, while cattle provide labour in addition to meat and dairy products. Age analysis suggests that these animals were used for all of these purposes at Burgaz. Amongst the

most numerous skeletal remains of ruminants, i.e. cattle, sheep, goat, which make up more than 64 % of the total bones (see table 6).

6.1. Species

Analysis of the Burgaz bone assemblage has led to the identification of a minimum of 12 different animal species as well as unidentified bird, fish, shellfish and carnivores (cat ?, dog ?) . Sheep, goat, cattle, pig, donkey, horse, dog, , wild goat, wild pig, fallow deer, red deer, roe deer, badger, and have all been identified.

6.1.1. PIG (*Sus scrofa*)

The pig remains indicate that these animals were used to supplement the regular diet. These animals were used almost exclusively for meat production, since they do not provide labour, wool, or milk, but are very efficient in terms of reproductive capabilities. Pig percentage slightly decreased from the Early Classical to the Hellenistic periods.

Table 8: Fusion Percentage of Pigs

Pig fusion tables	Fused	Unfused	Fusion Age
Metatarsal Proximal	3	0	Before birth
Metacarpal Proximal	5	0	Before birth
Total	8 = 21%	0	
Humerus Distal	6	0	12 month
Radius Proximal	1	0	12 month
Total	7 = 18%	0	
Metacarpal Distal	1	3	24 month
Tibia Distal	3	2	24 month
Metatarsal Distal	3	2	27 month
Total	7 = 18%	7=20%	
Calcaneum	2	2	30 month
Radius Distal	2	0	42 month
Total	4 = 11%	4=11%	
TOTAL	26=70%	11=30%	

In the Classical Age pig comprised 21.2 % of the bones. Among the identified pig bones, 26 = 70% were fused while 11= 30% were unfused (see Table 8). When compared with S/G and O/C, in numerical terms the biggest percentage of unfused bones belong to pigs (see Tables 8, 9 and 10). Only 4 pigs were slaughtered at less than 2 years old.

The other bones show that the pigs were more than 2 years old when slaughtered. It is therefore highly probable that these animals were primarily kept for maximum meat use. In general pigs are known to have been pastured in oak, beech and chestnut groves and additionally fed with beans and grain (Cupere 2001).

6.1.2. Sheep / Goat /Oviscaprids

Like cattle, sheep and goat remains can be considered as food remains. Sheep/Goat bones remains in numerical terms comprise the highest percentage, 37.7 %, of identified bones. There are no significant differences in sheep and goat percentages from the Classical to the Hellenistic period. The weight of cattle is some 15-20 times that of sheep or goat, so the amount of meat represented by a single cow is considerable. Just a few bones of sheep/goat, only 4 out of 31, are unfused, 11 = 31% bones of sheep/goat indicate slaughter at 10-16 months. 13 = 37% bones of sheep/goat indicate slaughter up to 24-28 months. Only 4=11% of the sheep/goat bones indicate slaughter at under 28 months (see Table 9). The overall impression is that very few animals were killed under 2 years old whilst most seem to have been kept in the herd for longer than that. bones slaughtered under 28 months (see table 9).

This means that the great majority of sheep and goat were over 2 years old when slaughtered. It is therefore highly probable that these animals were primarily kept for their secondary products; milk, hair and wool. The textile workshop found in the SE sector also supports this idea. Worked bones of sheep/goat as raw material are absent among the material studied.

Table 9: Fusion Percentage of Sheep/Goat

Sheep/Goat Skeletal Elements	Fused	Unfused	Fusion Age
Metatarsal Proximal	2	0	Before birth
Metacarpal Proximal	3	0	Before birth
Total	5 = 14 %	0	
Radius Proximal	6	0	10 month
PH1 Proximal	4	0	16 month
PH2 Proximal	1	0	16 month
Total	11 =31 %	0	
Metacarpal Distal	2	2	24 month
Tibia Distal	6	0	24 month
Metatarsal Distal	5	2	28 month
Total	13 = 37%	4 =11%	
Radius Distal	1	0	36 month
Femur	1	0	36 month
TOTAL	31=88%	4 = 11%	

6.1.3. Cattle/Bos taurus

The cattle remains found at Burgaz are considered to be food refuse. Cattle bones comprise 26.4% of total number of identified bones. The percentage of cattle remains decreased from the Classical to the Hellenistic age (Tables 12 and 13). Fusion of the bones indicated that the animals were consumed at maturity; among the 49 bones of Ox/Cattle (O/C) on which fusion could be determined, only 6 = 12% were unfused, while 4 = 21%, of them were slaughtered under 36 months, 2 = 9% of them were slaughtered under 18 months (see Table 10).

Table 10 Fusion Percentage of Cattle

(O/C) Skeletal Element	Fused	Unfused	Fusion Age
Metatarsal Proximal	7	0	Before birth
Metacarpal Proximal	7	0	Before birth
Total	14 = 100%	0	
PH1 Proximal	10	0	15 month
Metacarpal Distal	6	2	18 month
Radius Proximal	5	0	18 month
Total	21 = 91%	2 = 9%	
Tibia Distal	2	0	30 month
Metatarsal Distal	9	4	36 month
Calcaneum	4	0	42 month
Total	15 = 79 %	4 = 21%	

Therefore age analysis indicated that these animals were not generally kept only for the production of meat. The high number of old cattle was probably to get maximum benefit from their milk, meat and power.

O/C bones were quite commonly used as raw material for the production of objects or tools; 13 out of a total of 18 worked bones came from O/C. This may have increased economic importance of cattle. Supplying raw material for bone working can be another reason for slaughtering cattle at old age.

6.1.4. Horse/*Equus caballus* and Donkey/*Equus asinus*

Donkey and horse together make up 1.6 % of the identified bones (see Table 6). The bones came from the Classical and Hellenistic periods, no such bones being found from the Classical period. It is probable that the majority of the donkey and horse remains found at Burgaz do not constitute food debris. This is because the remains of 3 out of 7 were collected from filling levels while the other 3 came from levels which are close to surface. Another indication is that no butchery cut marks observed on the horse and donkey remains (see Table 4). It is

highly probable that the filling materials from beneath floor levels were brought from dump area(s).

6.1.5. Birds, Fish and Shell

While birds and fish are each represented by 4 NISP, and make up 0.9%, identified bones, all birds remains came from the Late Classical period. For an ancient coastal city the percentage of fish is not as great as might be expected. One reason for this might be that bones of fishes, birds, rodents, reptiles and amphibians are fragile and are not as durable as other mammal bones. A second reason why these animals are not represented, or are only represented in small numbers, is that their bones are small. If sieving had been carried out during the Burgaz excavations the results presented in Table 6 might have been more varied in terms of species and their percentages. Flotation sieving in 2003 and 2004 led to the retrieval of 65 fish bones.

6.1.6. Wild Mammals

Wild mammals are represented by red deer, fallow deer, roe deer, wild pig, wild goat and badger. The percentages of mammal remains are: red deer 2.8 %, fallow deer 1.1 %, roe deer 0.2%, wild goat 0.9%, wild pig 0.7% and badger 0.2%. At a total of only 7 % it is clear that wild animals did not play a significant role in the diet. The equivalent figure at Troy, in the Hellenistic period, was 7.4%, and only 0.8% for the Roman period at Sagalassos. The number of species at Late Classical period Troy and Burgaz are nearly same (compare Tables 3 and 6). It can be concluded that the supply of animal proteins was mainly provided by the typical domestic animals, namely cattle, pig, sheep and goat.

6.2. Remains from Levels Under Floors

Filling levels from beneath floors, especially in the NE sector, provided half of the total number of bones (see Tables 4 and 11). Trenches BZ.03.NE.4.8.A (levels 6, 7, 8, 9, 10 and 11), BZ.03.NE.3.8.A (levels 12 and 14), BZ.02.SE.2.7.B

(level 8), Lower Sector BZ.03.SE.6.4.B (levels 19 and 20) (see Table 11). The levels beneath floors also contain very much pottery. The reason why filling levels below floors in BZ.03.NE.4.8.A (levels 6, 7, 8, 9, 10 and 11) and BZ.03.NE.3.8.A (levels 12 and 14) are so rich must be that material in these levels must have been brought from areas of dump which contained a great variety of rubbish (206 identified bones came from these two trenches).

Table 11 NISP Percentage from Levels Below Floors

Levels Under Floors	Age	Identified
Area		NISP
House II	Classical	209
House II	Late Classical	7
Workshop (BZ.02.SE.2.7.B)	Late Classical	2
Lower Sector (BZ.03.SE.6.4.B)	Late Classical	2
Total		220

Moreover, 8 out of 10 elements which originate from dog, donkey, horse and carnivore came from filling levels under floors and refuse material on the street. This shows that these animals, which are not normally eaten, had been thrown into a dump area and that later they were brought to the houses for under floor filling.

Other levels beneath the floor, in Lower Sector BZ.03.SE.6.4.B (levels 19 and 20) and BZ.02.SE.2.7.B (level 8), did not include so much pottery and other kinds of rubbish.

6.3. Peristasis

Bones from levels 6, 7 and 8, of trench BZ.96.NE.4.7.D, collected from the peristasis, out side the houses .

The total of 26 bones came from the peristasis entirely comprise food debris. These bones are belong to the main meat suppliers, cattle (NISP 8), sheep and goat (NISP 12), pig (NISP 5) and shell (NISP 1).

6.4. Remains from Levels on the Road

The filling levels of the roads in the SE Lower Sector did not contain many bones. Only 9 bones were collected from these levels. Like those from the peristasis, the bones of these levels belong to the main meat suppliers: cattle, sheep and goat, and pig. In addition, roe deer bone was also identified from these levels.

6.5. Bone working

Bone has been used since very early prehistoric times for the manufacture of tools and ornamental objects. Both the physical and aesthetic properties of bone must have played a major role in the choice for this material. About 18 pieces of worked bone could be identified to animal species, i.e. cattle (*Bos taurus*), red deer (*Cervus elaphus*), donkey (*Equus asinus*). All the worked bone fragments except two come from filling levels under floors. It might be assumed that these fragments of worked bone were dumped in a refuse area and that later they were incorporated in the filling materials.

6.5.1. Burgaz and Sagalassos

The worked bones of Sagalassos (dated to Roman Period) and Burgaz are very similar in terms of what species and in what percentages were chosen, as well as in both the techniques used to cut the bone and the exact location where the cut was made, but among Sagalassos worked bones beside metatarsals there are metacarpals too. (Figures 6 and 7). This might suggest that bone-working traditions did not change significantly between the Classic and Roman periods. The skeletal element of red deer and donkey were rarely used. Only one worked

metatarsal was identified as donkey. Reed deer is represented by three worked metatarsals whilst cattle is represented by fourteen metatarsals. Size, shape and density must have affected the selection of certain skeletal elements as raw material. All worked bones have their mid-shaft removed after cutting the distal and proximal shaft and epiphyses. The remaining part, the middle shaft, was used for tool making.

6.6. Traces of Butchery and Gnawing Marks on the Bones

Some bones bear traces of intentional activities, such as butchery marks, and some were entirely or partially burnt. Some bones also bear gnawing marks made by carnivores.

Only fourteen bones bear traces of intentional activities, i.e. butchery cut marks. From this small number of bones bearing traces of intentional activities, it can be said that animals were mostly slaughtered by people who were practised at butchery.

Four bones bear traces of chewing marks while one astragalus shows traces of attack by acid which is thought to have occurred in the stomach of dog during digestion (Figure 8).

6.7. Burnt Bones

Traces of burning was observed on 48 bones. While 40 of the bones came from levels beneath the floor, 6 of them from inside houses, one from the peristasis and one from filling level of the road. The bones are from sheep/goat, cattle, pig and red deer, animals which are main meat suppliers. Every kind of bone element is represented among the burnt bones. The burnt bones from the under the floor filling levels may have been burnt while at the rubbish dump, perhaps accidentally or from fires that were lit to reduce the bulk of rubbish. The sparse burnt bones found in the “living surfaces” perhaps were burnt during

intense cookery (roasting on the spit?) or accidentally, if they have been dropped or thrown in to the hearth or some other domestic fire.

6.8. Classical Period

Classical period bones were analysed after dividing them into two parts: pre 4th century B.C. or Classical and post 4th century B.C. or Late Classical.

Table 12 Spatial Distribution of Classical Age Bones

Animals	Workshop		Peristasis		House II, Levels Under the Floors		Total	%
		%		%		%		
Sheep/Goat	2	2	11	15	60	82	73	30.1
Sheep	0		0		0		0	
Goat	0		2	16	10	84	12	4.9
Cattle	0		8	11	64	89	72	29.7
Pig	2	3	5	8	50	87	57	23.5
Horse	0		0		1	100	1	0.4
Donkey	0		0		2	100	2	0.8
Dog	0		0		3	100	3	7.2
Carnivores	0		0		3	100	3	1.2
Domestic Animals							223	92.1
Wild Goat	0		0		3	100	3	1.2
Fallow Deer	2	40	0		3	60	5	2.0
Red Deer	0		0		8		8	3.3
Roe Deer	0		0		0		0	
Wild Pig	0		0		1	100	1	0.4
Badger	0		0		0		0	
Bird	0		0		0		0	
Wild Animals							17	7
Fish	0		0		1	100	1	0.4
Shell	0		1		0	100	1	0.4
Sea Product							2	0.8
Total	6	2	27	11	209	86	242	100

0.8 % of the total number of identified bones from the Classical age. The smallest percentage of sea products came from the Classical age, increasing in Late Classical and Hellenistic periods (see Tables 12, 13 and 14).

Most, 242 of 430 identified bones, as well as 221 unidentified bones, were recovered from Classical age levels at Burgaz. Most of Classical period bones (209 out of 242) came from levels under floors. It is clear that bones contexts other than under floors are too few to make any meaningful analysis.

16 out of a total of 18 worked bones can be dated to the Classical period. Thus bone working appears to have been more common than in the Late Classical and Hellenistic period, although it could be remains of the bone manufacture were not found since rubbish levels of the Late Classical and Hellenistic periods have not been excavated.

6.9. Late Classical Age

107 identified and 70 unidentified bones came from Late Classical age levels. As in the Classical and Hellenistic ages, the Late Classical bone assemblage is clearly dominated by domestic animals. When comparing with Hellenistic and Early Classical period it should be noted that in the Late Classical Period the settlement spread over a larger area. Hence the Late Classical period bones came from different areas to those of the Classical.

The percentage of domestic to wild animals did not change significantly between the Classical, Late Classical and Hellenistic ages. Domestic animals constitute 86 %, wild animals 6.5% and sea products 7.4 % of the animal bones in the Classical period (see Tables 12, 13 and 14).

Table 13 Spatial Distribution of Late Classical bones

SPECIES	S/G	%	O/C	%	P	%	WM	%	Bird	%	FS	%	SH	%	Total	%
AREA																
House 1	10	40	7	28	6	24	0		0		2	8	0		25	23
House 2	4	44	2	22	2	22	1	11	0		0		0		9	8.4
House 3	0		2	100	0		0		0		0		0		2	1.8
House 4	0		1	50	0		0		0		1	50	0		2	1.8
Under Floor	4	36	3	27	3	27	0		1	9	0		0		11	10.2
Workshoop	20	45	7	15	8	18	1	2	3	6	0		5	11	44	41.2
Lower sector	8	57	3	21	2	14	1	7	0		0		0		14	13
Total	46	42.9	25	23.3	21	19.6	3	2.8	4	3.7	3	2.8	5		107	100

(S/G = sheep/goat, G = goat, O/C = ox/cattle, P = pig, WM= wild mammals, wild goat, RD = red deer, FS = fish and SH = shell)

The main meat suppliers sheep/goat, cattle and pig are found in nearly every context. Among the domestic animals sheep/goat constitute the biggest percentage of the bones while cattle remains can be observed in each context. For detailed information on distribution of animal bones see Table 16 Appendix A.

6.10. Hellenistic Age

In the Hellenistic period more than 90% of the bones came from the SE sector. According to this result, after the transplanting of the city in the Hellenistic Period, the SE sector was the preferred area. This can be because of the proximity of the SE sector to the harbour because in the Hellenistic period Burgaz mostly was an industrial place. In NE sector the Hellenistic period bones came from only from House II.

Table 14: Spatial Distribution of Hellenistic Age Bones

SPECIES	S/G	%	O/C	%	P	%	E	%	Dog	%	WM	%	SH	%	Total
AREA															
House 2	3	60	0		0		1	20	0		1	20	0		5=6.7%
Road Filling	1	14	2	28	3	42	0		0		1	14	0		7=9.4%
Workshop	20	40	10	20	8	16	1	2	1	2	4	8	6	12	50=67.6%
Lower sector	5	38	3	23	1	7	2	15	0		0		2	15	13=17.5%
Total	29	39.1	15	20.2	12	16.2	4	5.4	1	1.3	6	8.1	7	9.4	74=100%

(S/G = sheep/goat, S = sheep, G = goat, O/C = ox/cattle, P = pig, E = Equids, donkey and horse, WM = wild mammals wild pig, R. deer, roe deer, badger) SH = shell).

In the Classical, Late Classical and Hellenistic periods the percentage of domestic animal is 82%, among which sheep/goat - at 31% - are the most common group (Table 14 for detailed species percentage see Table 17 Appendix A). In the Hellenistic Period, while wild animals constitute 8.1% and sea products constitute 9.4%. Thus sea products appear to play a higher role in the Hellenistic period than in earlier times. While no context shows a regular distribution in terms of wild animal species, domestic animals remains can be seen in each context. The Workshop is the richest context of the Hellenistic Period.

Of the 18 worked bones only two are dated to the Hellenistic and Late Classical period, so it can be said that in the Hellenistic period bone manufacturing was not as common as in the Classical period, although the excavated sample is very small and probably biased.

6.11. Environment Reconstruction

Reconstruction of ancient environments can be attempted from the evidence of wild animals.

6.11.1 Wild Pig (*Sus scrofa*)

Wild pig eat a many different things and live in a wide range of conditions, but they have a preference for large leafed trees and forests with mixed trees. Moreover, they like places full of bulrushes and scrub areas (Demirsoy, 1997: 250–267).

6.11.2. Red Deer (*Cervus elaphus*)

Red Deer, like wild pig, prefer large leafed trees and mixed forest. They can live in coniferous forest where there are many open areas and meadowlands. They also like swampy forests which are rich in terms of leaf and grass (Demirsoy 1997, 250-267).

6.11.3. Fallow Deer (*Dama dama*)

Dama dama (Fallow Deer) prefer scrub areas (Demirsoy 1997, 250-267).

6.11.4. Wild Goat

In the summer wild goats prefer highlands with sparse vegetation, but they also like wooded valleys with and rich grassy areas. In the winter wild goats prefer isolated and inaccessible forested valleys (Demirsoy 1997, 250-267).

CHAPTER 7

CONCLUSION

The Human diet

In conclusion, analysis of the animal bones from Burgaz has shed light on the human diet, animal species, animal exploitation, the environment around Burgaz in the Classical period, and bone working traditions. The results could be compared with the published evidence from Halicarnassos in the Classical period, Hellenistic Troy, and Roman period Sagalassos.

Table 18: NISP of Animal of Burgaz , Troy and Sagalassos

Species	Late Classic Burgaz		Hellenistic Burgaz		Late Classic Troy NISP		Roman Age Sagalassos NISP	
	n	%		%	N	%	N	%
Cattle	25	23.3	15	20.2	251	36.4	11429	46
Sheep/Goat	46	42.9	29	39.1	304	44.1	7439	29.9
Pig	21	19.6	12	16.2	93	13.5	5373	21.6
Wild animals	3	2,8	6	8.1	40	5.8	559	2.2

Comparing traditions of human diet at Burgaz with those at other cities, such as Troy on the western coast of Turkey, it can be seen that in the Late Classical period percentages of the main meat suppliers, from maximum to

minimum, is as following; sheep/goat, cattle, pig and wild animals. The order does not differ from Burgaz to Troy. While at Troy the percentage of pig is higher than at Burgaz, the percentage of cattle at Troy is higher than at Burgaz (Table 18).

In the Hellenistic Period the order of animal percentages at Burgaz is no different from those of the Late Classical period.

At Sagalassos in the Roman Period the order and percentages of animals differs significantly from the Hellenistic and Classical periods at Burgaz (Table 18).

Social Hierarchy

In order to explain social hierarchy within a settlement from a study of the remains of animal bones it is necessary to look at the spatial distribution of the bones (good expensive parts of animal versus cheap parts) and what they may mean for the status of the people who used them. 51% of identified and 60% of unidentified bones were collected from filling levels under floors which were derived from refuse areas where rubbish from unknown sources was mixed. According to the evidence of other bones, which were recovered in situ in the internal areas of houses, there is no regular distribution of bones from choice cuts of meat, but because of the low number of bones it is difficult to say that there was no strict hierarchy amongst the inhabitants of Burgaz.

The Environment

From study of the wild animal species it can be said that the forests of the Datça Peninsula in the Classical and Hellenistic period were rich in terms of large leafed trees, coniferous trees, scrub areas, meadowland and grassland, and that it also contained swampy areas full of bulrushes.

The Validity of The Data

The examined bones were collected from different areas of the NE and SE sectors at Burgaz. Therefore the bones are thought to be representative of the entire settlement. The number of bones is insufficient for the application of valid statistical analysis. In addition, varying numbers of bones have been retrieved from each period, with the result that the distribution of bones by period might be skewed. Further, the types of contexts also are different, most of bones coming from beneath floors, peristasis, roads, inside houses etc. These might be factors that affect the interpretation because we do not have the same type of context and the same number of bones from all the periods.

Suggestions for Further Study

One of the main problems in interpretation of the bone material from Datça – Burgaz was the limited number of bones available to me, and these even were coming from different types of contexts. I believe that further study of more bones from Burgaz will contribute greatly to confirming or refuting the discussion I presented here. A larger amount of bone is needed for a sounded statistical analysis. Also, it is necessary to examine a variety of contexts (with sufficient number of bones) from different sectors of the city in order to determine the validity of the archaeozoological study for the whole of the city's population, as well as to evaluate the results against possible bias that may have been caused by bad preservation, recovery bias or chance.

In conclusion I can suggest for fellow archaeologists or students who will join excavations that collection of bones from any site must be done very carefully. Moreover the most important point is that sieving must be undertaken at each excavation. From the table1 we can see this easily; nearly 25% percentage of the bones might be collected at excavation where sieving is not carried out. This result will restrict archaeozoological research and researchers can give wrong statistical results.

Beside this archaeozoological research must be more common as much as pottery because we can get information from bones as much as we can learn from pottery, among archaeologist who get classic archaeologist education. Since I faced many difficulties to find comparative material. Even Prehistorical archaeozoology is better known than Classical Period. I think If archaeozoological lessons add to undergraduate program the archaeozoological research will be more common and reliable because every archaeologist would know what can be learn from the bones and how to collect, preserve, identified etc the bones.

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APPENDICES

APPENDIX A

TABLES

Table:5 Unidentified Bones

Trenches	Level	Age	Identified	Unident. Bigger than 3cm	Explanation
House I					
BZ.96.NE.3.7.D	6B	Late Classical	10	6	
BZ.96.NE.3.7.D	8	Late Classical	1	0	
BZ.96.NE.3.7.D	9	Late Classical	2	2	
BZ.96.NE.3.7.D	10A	Late Classical	1	2	
BZ.96.NE.3.7.B	10	Late Classical	1	1	
BZ.96.NE.3.7.B	12	Late Classical	0	2	
BZ.96.NE.3.7.C	A10	Late Classical	4	4	All Burnt
BZ.96.NE.3.7.C	A.7	Late Classical	4	1	
House II					
BZ.03.NE.4.8.A	5A	Late Classical	7	5	
BZ.03.NE.3.8.A	7	Late Classical	3	0	
BZ.03.NE.3.8.A	10	Late Classical	1	0	
BZ.03.NE.3.8.A	5B	Hellenistic	5	2	1 worked bone
Levels Under Floor of House II					
BZ.03.NE.4.8.A	8	Classical	66	126	5 Skull Pieces
BZ.03.NE.4.8.A	6	Classical	28	16	
BZ.03.NE.4.8.A	7	Classical	43	22	
BZ.03.NE.4.8.A	9	Classical	10	10	All Burnt
BZ.03.NE.4.8.A	10	Late Classical	4	1	
BZ.03.NE.4.8.A	11	Late Classical	4	3	
BZ.03.NE.3.8.A	12	Classical	7	5	
BZ.03.NE.3.8.A	14	Classical	57	30	
House III					
BZ.02.NE.3.6.B	5	Late Classical	0	2	

Trenches	Level	Age	Identified	Unident. Bigger than 3cm	Explanation
BZ.02.NE.3.6.B	7	Late Classical	1	0	
BZ.02.NE.3.6.B	8	Late Classical	1	0	
BZ.02.NE.3.6.B	8A	Late Classical	0	1	
House IV					
BZ.03.NE.4.5.D	4	Late Classical	2	0	
BZ.03.NE.5.5.D	7	Late Classical	0	1	
Peristasis of NE Sector					
BZ.96.NE.4.7.D	7	Classical	11	6	
BZ.96.NE.4.7.D	8	Classical	3	4	
BZ.96.NE.4.7.A	11	Classical	1	2	
Workshop					
BZ.02.SE.3.8.D	6A	Late Classical	1	0	
BZ.02.SE.3.8.D	7	Late Classical	9	5	
BZ.02.SE.3.8.D	8	Late Classical	1	0	
BZ.02.SE.3.8.D	4	Hellenistic	1	1	
BZ.02.SE.3.8.D	5	Late Classical	2	3	
BZ.03.SE.2.7.C	6B	Hellenistic	1	0	
BZ.03.SE.2.7.C	7B	Hellenistic	1	0	
BZ.03.SE.2.7.C	8	Late Classical	3	0	
BZ.03.SE.2.7.C	9	Late Classical	1	1	
BZ.03.SE.2.7.C	9A	Late Classical	1	0	
BZ.03.SE.2.7.C	9B	Late Classical	2	0	
BZ.03.SE.2.7.C	11	Late Classical	1	0	
BZ.03.SE.2.7.C	12	Late Classical	1	2	
BZ.03.SE.2.7.C	13	Late Classical	1	2	
BZ.03.SE.2.7.C	8B	Late Classical	3	3	
BZ.03.SE.3.7.C	3	Hellenistic	1	0	
BZ.03.SE.3.7.C	5	Hellenistic	3	0	
BZ.03.SE.3.7.D	2	Hellenistic	1	0	
BZ.03.SE.3.7.D	3	Hellenistic	2	0	
BZ.03.SE.3.7.D	10	Late Classical	5	5	
BZ.03.SE.3.7.D	4	Hellenistic	4	2	
BZ.03.SE.3.7.D	5	Hellenistic	4	4	
BZ.03.SE.3.7.D	5B	Hellenistic	0	1	
BZ.03.SE.3.7.D	6	Hellenistic	5	0	
BZ.03.SE.3.7.D	7	Hellenistic	2	0	

Trenches	Level	Age	Identified	Unident. Bigger than 3cm	Explanation
BZ.03.SE.3.8.C	4	Hellenistic	2	0	
BZ.03.SE.3.8.C	6	Hellenistic	3	0	
BZ.03.SE.3.8.C	7	Hellenistic	1	0	
BZ.03.SE.3.8.C	7B	Hellenistic	0	4	
BZ.03.SE.3.8.C	7C	Hellenistic	2	0	
BZ.03.SE.3.8.C	13	Late Classical	1	0	
BZ.03.SE.3.8.C	14	Late Classical	0	1	
BZ.03.SE.3.8.C	14A	Late Classical	0	2	
BZ.03.SE.3.8.C	15A	Late Classical	1	0	
BZ.03.SE.3.8.C	15C	Late Classical	2	0	
BZ.03.SE.3.8.C	11	Late Classical	4	4	
BZ.03.SE.3.8.C	9	Late Classical	1	0	
BZ.03.SE.3.8.C	9B	Late Classical	2	2	
BZ.03.SE.3.7.B	6	Hellenistic	0	5	
BZ.03.SE.3.7.B	6A	Hellenistic	0	1	
BZ.03.SE.3.7.B	2	Hellenistic	0	3	
BZ.03.SE.3.7.B	8	Late Classical	2	0	
BZ.03.SE.3.7.B	11	Late Classical	2	0	
BZ.03.SE.3.7.B	8B	Late Classical	2	1	
BZ.03.SE.3.7.B	5	Hellenistic	2	5	
BZ.02.SE.3.7.A	7	Late Classical	2	0	
BZ.02.SE.2.7.B	6	Hellenistic	3	0	
Under Floor Level of the Workshop					
BZ.02.SE.2.7.B	8	Late Classical	2	0	
The Lower Sector					
BZ.03.SE.6.4.B.	2	Hellenistic	1	0	
BZ.03.SE.6.4.B.	4	Hellenistic	2	0	
BZ.03.SE.6.4.B.	4A	Hellenistic	1	2	
BZ.03.SE.6.4.B.	5	Hellenistic	1	1	
BZ.03.SE.6.4.B.	7	Hellenistic	1	0	
BZ.03.SE.6.4.B.	12	Hellenistic	1	0	O/C Skull P
BZ.03.SE.6.4.B.	18	Late Classical	0	5	
BZ.03.SE.6.4.A	2	Hellenistic	0	1	
BZ.03.SE.6.4.A	3	Hellenistic	0	1	
BZ.03.SE.6.4.A	4	Hellenistic	2	0	

Trenches	Level	Age	Identified	Unident. Bigger than 3cm	Explanation
BZ.03.SE.6.4.A	7	Hellenistic	0	1	
BZ.03.SE.6.4.A	14	Late Classical	2	0	
BZ.03.SE.5.4.A	5	Late Classical	2	0	
BZ.03.SE.5.4.B	4	Late Classical	1	0	
BZ.03.SE.5.4.B	5	Late Classical	1	0	
BZ.03.SE.5.4.B	9	Late Classical	1	0	
BZ.03.SE.5.4.D	4	Hellenistic	1	0	
BZ.03.SE.5.4.D	9	Hellenistic	3	0	
BZ.03.SE.5.4.D	8B	Hellenistic	0	1	
BZ.03.SE.5.4.D	6C	Late Classical	0	2	
BZ.03.SE.5.4.D	6B	Late Classical	0	1	
BZ.03.SE.6.4.C	12	Late Classical	8	0	
BZ.02.SE.3.7.A	4	Hellenistic	2	2	
BZ.02.SE.3.7.A	5	Hellenistic	0	2	
BZ.02.SE.3.7.A	6	Hellenistic	3	2	
BZ.02.SE.2.7.A	6B	Hellenistic	5	7	
BZ.02.SE.2.7.A	6A	Hellenistic	0	1	
BZ.02.SE.2.7.B	3	Hellenistic	0	1	
BZ.02.SE.2.7.B	4	Hellenistic	0	1	
BZ.02.SE.2.7.B	7	Hellenistic	0	1	
BZ.02.SE.2.7.D	8	Hellenistic	3	3	
Filling levels of the Lower Sector Road					
BZ.03.SE.5.4.A	7	Hellenistic	1	0	
BZ.03.SE.5.4.D	13	Hellenistic	1	0	
BZ.03.SE.6.4.C	13	Hellenistic	2	5	
BZ.03.SE.6.4.A	11	Hellenistic	1	0	
BZ.03.SE.6.4.A	6	Hellenistic	3	0	
Under Floor Levels of the Lower Sector					
BZ.03.SE.6.4.B.	19	Late Classical	1	0	
BZ.03.SE.6.4.B.	20	Late Classical	1	0	

Table 4: Identified Bones

TRENCH	AGE		LEVEL	C & H	SPECIES	ELEMENT	LEFT/RIGHT	FUSION		PART OF BONE	PS	MS	DS	DE	TRACES	EXPLANATION & COMMENT
	AGE							FUSED	UNFUSED							
Bones From in the House I																
BZ.96.NE.3.7.D	6B	LC	O/C			MT			PSE		2	2				
BZ.96.NE.3.7.D	6B	LC	O/C			R/U	LEFT		PSE		2	2				
BZ.96.NE.3.7.D	6B	LC	O/C			PH 1	LEFT		C		2	2	2	2		
BZ.96.NE.3.7.D	6B	LC	O/C			PH 1	LEFT		C		1	1	2	2		
BZ.96.NE.3.7.D	6B	LC	O/C			PH 2	RIGHT		C		2	2	2	2		
BZ.96.NE.3.7.D	6B	LC	P			AST			C		2	2	2	2		
BZ.96.NE.3.7.D	6B	LC	S/G			SCP										
BZ.96.NE.3.7.D	6B	LC	S/G			TV										
BZ.96.NE.3.7.D	6B	LC	S/G			RB										
BZ.96.NE.3.7.D	6B	LC	S/G			MOL										
BZ.96.NE.3.7.D	8	LC	O/C			M										
BZ.96.NE.3.7.D	9	LC	P			MOL										
BZ.96.NE.3.7.D	9	LC	P			PL										
BZ.96.NE.3.7.D	10A	LC	O/C			MT					2					Worked Bone
BZ.96.NE.3.7.C	A10	LC	S/G			RB										BURNT
BZ.96.NE.3.7.C	A10	LC	S/G			RB										BURNT
BZ.96.NE.3.7.C	A10	LC	S/G			RB										BURNT
BZ.96.NE.3.7.C	A10	LC	P			M										BURNT
BZ.96.NE.3.7.C	A10	LC	P			M										3-4 Weeks old

	LEVEL	AGE		ELEMENT	LEFT/RIGHT	FUSION		PART OF BONE				EXPLANATION & COMMENT	
		C & H	SPECIES			FUSED	UNFUSED	PE	PS	MS	DS		DE
TRENCH													
BZ.96.NE.3.7.C	A.7	LC	P	SCP									
BZ.96.NE.3.7.C	A.7	LC	P	LV									
BZ.96.NE.3.7.C	A.7	LC	S/G	R/U	RIGHT	PSE		2	2	2		BURNT	
BZ.96.NE.3.7.C	A.7	LC	G	PL									Female
BZ.96.NE.3.7.B	10	LC	S/G	PH 1	LEFT	C		2	2	2	2		
Under floor Levels of House II													
BZ.03.NE.4.8.A	8	C	P	MC	RIGHT	C		2	2	2	2		
BZ.03.NE.4.8.A	8	C	P	MC	RIGHT	C		2	2	2		BURNT	
BZ.03.NE.4.8.A	8	C	G	HMR	LEFT	DSE		2	2	2	2	BURNT	
BZ.03.NE.4.8.A	8	C	G	HMR	RIGHT	DSE		2	2	2	2	BURNT	
BZ.03.NE.4.8.A	8	C	O/C	TB	RIGHT	DSE			1			BURNT	
BZ.03.NE.4.8.A	8	C	H	MC	RIGHT	DSE			2	2			
BZ.03.NE.4.8.A	8	C	S/G	MC			DE						
BZ.03.NE.4.8.A	8	C	S/G	MC	RIGHT		DS					1BURNT	
BZ.03.NE.4.8.A	8	C	S/G	TB	LEFT	DSE		1	2	2	2	BURNT	
BZ.03.NE.4.8.A	8	C	S/G	TB	LEFT	DSE		1	2	2	2	BURNT	
BZ.03.NE.4.8.A	8	C	O/C	CLC	RIGHT	C		2	2	2	1		
BZ.03.NE.4.8.A	8	C	O/C	CLC	RIGHT	C		1	2	2	2		
BZ.03.NE.4.8.A	8	C	O/C	CLC	LEFT	C			1	1	1		
BZ.03.NE.4.8.A	8	C	O/C	CLC	LEFT	C		2	2	2	2	2BCM	
BZ.03.NE.4.8.A	8	C	P	CLC	LEFT	DSE	PE	2	2	2	2		

	LEVEL	AGE		SPECIES	ELEMENT	LEFT/RIGHT	FUSION		PART OF BONE				EXPLANATION & COMMENT	
		C & H					FUSED	UNFUSED	PE	PS	MS	DS		DE
TRENCH														
BZ.03.NE.4.8.A	8	C	P	P	RB						2			
BZ.03.NE.4.8.A	8	C	P	P	RB						2			
BZ.03.NE.4.8.A	8	C	P	P	TB	LEFT	DSE				1	2	2BURNT&BCM	
BZ.03.NE.4.8.A	8	C	P	P	TB	LEFT								
BZ.03.NE.4.8.A	8	C	P	P	R	RIGHT	DSE				2	2	2BCM	
BZ.03.NE.4.8.A	8	C	P	P	R	RIGHT	DSE				2	2	2BCM	
BZ.03.NE.4.8.A	8	C	P	P	R	RIGHT					2		BCM	
BZ.03.NE.4.8.A	8	C	P	P	M									
BZ.03.NE.4.8.A	8	C	P	P	M									
BZ.03.NE.4.8.A	8	C	P	P	T									Female
BZ.03.NE.4.8.A	8	C	P	P	T									Female
BZ.03.NE.4.8.A	8	C	P	P	T									Male
BZ.03.NE.4.8.A	8	C	P	P	T									Male
BZ.03.NE.4.8.A	8	C	S/G	T	T									
BZ.03.NE.4.8.A	8	C	S/G	MX										
BZ.03.NE.4.8.A	8	C	G?	M										
BZ.03.NE.4.8.A	8	C	S/G	R		RIGHT	DSE				2	2	2BURNT	
BZ.03.NE.4.8.A	8	C	S/G	PL		?(R)					1		BURNT	
BZ.03.NE.4.8.A	8	C	S/G	PL		?(R)					1		BURNT	
BZ.03.NE.4.8.A	8	C	O/C	PH 1		RIGHT	C				2	2	2BURNT&BCM	
BZ.03.NE.4.8.A	8	C	O/C	PH 1		RIGHT	C				2	2	2BURNT&BCM	

	LEVEL	AGE		ELEMENT	LEFT/RIGHT	FUSION		PART OF BONE			TRACES	EXPLANATION & COMMENT
		C & H	SPESIES			FUSED	UNFUSED	PE	PS	MS		
TRENCH												
BZ.03.NE.4.8.A	8	C	S/G	HR						2		
BZ.03.NE.4.8.A	8	C	P	PL	LEFT					2		
BZ.03.NE.4.8.A	8	C	WG	R	RIGHT	PSE		2	2			
BZ.03.NE.4.8.A	8	C	O/C	SCP	RIGHT				1			
BZ.03.NE.4.8.A	8	C	P	MX					1			
BZ.03.NE.4.8.A	8	C	P	HMR	RIGHT				1	2		
BZ.03.NE.4.8.A	8	C	?	SCP					1	2		
BZ.03.NE.4.8.A	8	C	RD	MT	LEFT	DSE			1	1	1	
BZ.03.NE.4.8.A	8	C	DOG	M								
BZ.03.NE.4.8.A	6	C	P	M								
BZ.03.NE.4.8.A	6	C	P	T								
BZ.03.NE.4.8.A	6	C	P	SK								
BZ.03.NE.4.8.A	6	C	P	SCP		PSE		1	1			
BZ.03.NE.4.8.A	6	C	P	HMR	LEFT	DSE			1	1	1	
BZ.03.NE.4.8.A	6	C	O/C	U		PSE		1	1			
BZ.03.NE.4.8.A	6	C	O/C	MT	LEFT	DSE			1	1	1	Worked Bone
BZ.03.NE.4.8.A	6	C	O/C	MT		PSE		2	2			Worked Bone
BZ.03.NE.4.8.A	6	C	O/C	MT		PSE		1	2			Worked Bone
BZ.03.NE.4.8.A	6	C	O/C	AST								
BZ.03.NE.4.8.A	6	C	O/C	MT					1			
BZ.03.NE.4.8.A	6	C	O/C	MC						2	BURNT	

	LEVEL	AGE		SPECIES	ELEMENT	LEFT/RIGHT	FUSION		PART OF BONE			TRACES	EXPLANATION & COMMENT
		C & H					FUSED	UNFUSED	PE	PS	MS		
TRENCH													
BZ.03.NE.4.8.A	6	C		O/C	CV								
BZ.03.NE.4.8.A	6	C		RD	MT	LEFT	PSE		2	2			Worked Bone
BZ.03.NE.4.8.A	6	C		S/G	PRM								
BZ.03.NE.4.8.A	6	C		S/G	PL								
BZ.03.NE.4.8.A	6	C		S/G	SCP								
BZ.03.NE.4.8.A	6	C		S/G	SCP								
BZ.03.NE.4.8.A	6	C		S/G	HMR	LEFT	DSE			1	2	1	
BZ.03.NE.4.8.A	6	C		S/G	HMR	RIGHT	DSE			2	2	2	
BZ.03.NE.4.8.A	6	C		S/G	MT	RIGHT				2			
BZ.03.NE.4.8.A	6	C		S/G	TB					2			
BZ.03.NE.4.8.A	6	C		S/G	TB					2			
BZ.03.NE.4.8.A	6	C		S/G	MC					1	2		Very young
BZ.03.NE.4.8.A	6	C		S/G									
BZ.03.NE.4.8.A	6	C		G	MC	RIGHT	PSE		2	2			
BZ.03.NE.4.8.A	6	C		G	MT	LEFT	DSE		2	2	2	2	
BZ.03.NE.4.8.A	6	C		G	MT	RIGHT	DSE			1	1		
BZ.03.NE.4.8.A	7	C		RD	MT	LEFT	DSE			1	2	2	
BZ.03.NE.4.8.A	7	C		S/G	TB					1			
BZ.03.NE.4.8.A	7	C		S/G	TB					1			
BZ.03.NE.4.8.A	7	C		S/G	MT					1			
BZ.03.NE.4.8.A	7	C		S/G	R					2			

	LEVEL	AGE		ELEMENT	LEFT/RIGHT	FUSION		PART OF BONE				EXPLANATION & COMMENT	
		C & H	AGE			SPECIES	FUSED	UNFUSED	PE	PS	MS		DS
TRENCH													
BZ.03.NE.4.8.A	7	C	S/G	R									
BZ.03.NE.4.8.A	7	C	S/G	MT	LEFT	DSE							Chewing Marks
BZ.03.NE.4.8.A	7	C	S/G	MT	LEFT	DSE							Chewing Marks
BZ.03.NE.4.8.A	7	C	S/G	HMR	LEFT	DSE							
BZ.03.NE.4.8.A	7	C	S/G	HMR	LEFT	DSE							
BZ.03.NE.4.8.A	7	C	S/G	R	LEFT								
BZ.03.NE.4.8.A	7	C	S/G	R	RIGHT								
BZ.03.NE.4.8.A	7	C	S/G	A									
BZ.03.NE.4.8.A	7	C	S/G	M									
BZ.03.NE.4.8.A	7	C	S/G	T									
BZ.03.NE.4.8.A	7	C	O/C	R	RIGHT	PSE							
BZ.03.NE.4.8.A	7	C	O/C	OS									
BZ.03.NE.4.8.A	7	C	O/C	TV									
BZ.03.NE.4.8.A	7	C	O/C	MT	LEFT	DSE							
BZ.03.NE.4.8.A	7	C	O/C	MT	LEFT		DSE						
BZ.03.NE.4.8.A	7	C	O/C	MC	LEFT		DSE						
BZ.03.NE.4.8.A	7	C	O/C	MC	LEFT		DSE						
BZ.03.NE.4.8.A	7	C	O/C	PH 1	RIGHT	C							
BZ.03.NE.4.8.A	7	C	FD	R	RIGHT								
BZ.03.NE.4.8.A	7	C	P	R	LEFT	PSE							
BZ.03.NE.4.8.A	7	C	P	R	RIGHT								

	LEVEL	AGE		SPECIES	ELEMENT	LEFT/RIGHT	FUSION		PART OF BONE				EXPLANATION & COMMENT	
		C & H					FUSED	UNFUSED	PE	PS	MS	DS		DE
TRENCH														
BZ.03.NE.4.8.A	7	C	P	HMR	HMR	RIGHT	DSE				1	2	1	
BZ.03.NE.4.8.A	7	C	P	HMR	HMR	RIGHT	DSE				1	2	1	
BZ.03.NE.4.8.A	7	C	P	LV										
BZ.03.NE.4.8.A	7	C	CAR	MC	MC	LEFT	PSE			2	2			
BZ.03.NE.4.8.A	7	C	CAR	MC	MC	LEFT	PSE			2	2			
BZ.03.NE.4.8.A	7	C	CAR	HMR	HMR	RIGHT	DSE				2	2	2	
BZ.03.NE.4.8.A	7	C	FS											
BZ.03.NE.4.8.A	7	C	P	T	T									Male
BZ.03.NE.4.8.A	7	C	P	M	M									
BZ.03.NE.4.8.A	7	C	P	M	M									
BZ.03.NE.4.8.A	7	C	DOG	T	T									
BZ.03.NE.4.8.A	7	C	O/C	MOL	MOL									
BZ.03.NE.4.8.A	7	C	O/C	MOL	MOL									
BZ.03.NE.4.8.A	7	C	O/C	MOL	MOL									
BZ.03.NE.4.8.A	7	C	O/C	MOL	MOL									
BZ.03.NE.4.8.A	7	C	O/C	M	M									
BZ.03.NE.4.8.A	9	C	S/G	MND	MND									BURNT
BZ.03.NE.4.8.A	9	C	S/G	MX	MX									BURNT
BZ.03.NE.4.8.A	9	C	P	CAN	CAN									Male
BZ.03.NE.4.8.A	9	C	S/G	HR	HR									BURNT

	LEVEL	AGE		SPECIES	ELEMENT	LEFT/RIGHT	FUSION		PART OF BONE				EXPLANATION & COMMENT					
		C & H					LEVEL		LEFT/RIGHT	FUSED	UNFUSED	PE		PS	MS	DS	DE	TRACES
TRENCH																		
BZ.03.NE.4.8.A	9	C		?	RIB													BURNT
BZ.03.NE.4.8.A	9	C		S/G	MC													
BZ.03.NE.4.8.A	9	C		S/G	HMR	LEFT												BURNT
BZ.03.NE.4.8.A	9	C		P	CLC	LEFT	C											
BZ.03.NE.4.8.A	9	C		S/G	SK													
BZ.03.NE.4.8.A	9	C		?														BURNT
BZ.03.NE.4.8.A	10	LC		O/C	MC	LEFT	DSE											Worked Bone
BZ.03.NE.4.8.A	10	LC		P	MX													Big Size
BZ.03.NE.4.8.A	10	LC		S/G	CV													
BZ.03.NE.4.8.A	10	LC		BIRD	HMR													
BZ.03.NE.4.8.A	11	LC		S/G	TB													
BZ.03.NE.4.8.A	11	LC		S/G	MOL													
BZ.03.NE.4.8.A	11	LC		G	TB	RIGHT	DSE											2 BURNT&BCM
BZ.03.NE.4.8.A	11	C		P	SCP													
BZ.03.NE.3.8.A	12	C		S/G	M													
BZ.03.NE.3.8.A	12	C		S/G	MX													
BZ.03.NE.3.8.A	12	C		S/G	HMR	LEFT	DSE											
BZ.03.NE.3.8.A	12	C		S/G	AST													
BZ.03.NE.3.8.A	12	C		S/G	HMR	LEFT	DSE											Extremely young
BZ.03.NE.3.8.A	12	C		G	TB	RIGHT	DSE											
BZ.03.NE.3.8.A	12	C		P	SK													

	LEVEL	AGE		ELEMENT	LEFT/RIGHT	FUSION		PART OF BONE				EXPLANATION & COMMENT		
		C & H	SPECIES			FUSED	UNFUSED	PE	PS	MS	DS		DE	TRACES
TRENCH														
BZ.03.NE.3.8.A	14	C	O/C	MT	LEFT	DSE					1	2	2	Worked Bone
BZ.03.NE.3.8.A	14	C	O/C	MT	LEFT	DSE					1	2	2	Worked Bone
BZ.03.NE.3.8.A	14	C	O/C	MT	RIGHT	DSE						2	2	Worked Bone
BZ.03.NE.3.8.A	14	C	O/C	MT	LEFT	PSE			2	2				Worked Bone
BZ.03.NE.3.8.A	14	C	O/C	MT	LEFT	PSE			2	2				Worked Bone
BZ.03.NE.3.8.A	14	C	O/C	MC	LEFT		C				2	2		
BZ.03.NE.3.8.A	14	C	O/C	MC	RIGHT		C				2	2		
BZ.03.NE.3.8.A	14	C	O/C	MC			C				2			
BZ.03.NE.3.8.A	14	C	O/C	MC			C							
BZ.03.NE.3.8.A	14	C	O/C	MC		PSE			1	1				
BZ.03.NE.3.8.A	14	C	O/C	MC		PSE			1	1				
BZ.03.NE.3.8.A	14	C	O/C	HMR							1			
BZ.03.NE.3.8.A	14	C	O/C	INS										
BZ.03.NE.3.8.A	14	C	O/C	PH 1	LEFT	C								
BZ.03.NE.3.8.A	14	C	O/C	PH 1	LEFT	C								
BZ.03.NE.3.8.A	14	C	O/C	PH 2		C								
BZ.03.NE.3.8.A	14	C	O/C	TB	LEFT	DSE						2	2	
BZ.03.NE.3.8.A	14	C	O/C	V										
BZ.03.NE.3.8.A	14	C	O/C	U		PSE			2	2	2			
BZ.03.NE.3.8.A	14	C	O/C	RB										
BZ.03.NE.3.8.A	14	C	O/C	RB										

	LEVEL	AGE		SPECIES	ELEMENT	LEFT/RIGHT	FUSION		PART OF BONE				EXPLANATION & COMMENT	
		C & H					FUSED	UNFUSED	PE	PS	MS	DS		DE
TRENCH														
BZ.03.NE.3.8.A	14	C		O/C	RB									
BZ.03.NE.3.8.A	14	C		O/C	RB									
BZ.03.NE.3.8.A	14	C		O/C		LEFT				1				Worked Bone
BZ.03.NE.3.8.A	14	C		O/C	PL									
BZ.03.NE.3.8.A	14	C		O/C	PL									
BZ.03.NE.3.8.A	14	C		O/C	SCP									
BZ.03.NE.3.8.A	14	C		P	TB	RIGHT		DS		2	2			
BZ.03.NE.3.8.A	14	C		P	PL									
BZ.03.NE.3.8.A	14	C		P	PL									
BZ.03.NE.3.8.A	14	C		P	M									
BZ.03.NE.3.8.A	14	C		P	M									Male
BZ.03.NE.3.8.A	14	C		P	OX									
BZ.03.NE.3.8.A	14	C		P	MT 2			C						
BZ.03.NE.3.8.A	14	C		P	MC 4			PSE		2	2	1		
BZ.03.NE.3.8.A	14	C		WP	HMR	RIGHT			DS		1	2		
BZ.03.NE.3.8.A	14	C		P	SK									
BZ.03.NE.3.8.A	14	C		P	M									
BZ.03.NE.3.8.A	14	C		P	TB	RIGHT		DSE				2	2	
BZ.03.NE.3.8.A	14	C		S/G	M									
BZ.03.NE.3.8.A	14	C		S/G	HMR	RIGHT		DSE				2	2	
BZ.03.NE.3.8.A	14	C		S/G	MOL									

	LEVEL	AGE		SPECIES	ELEMENT	LEFT/RIGHT	FUSION		PART OF BONE				EXPLANATION & COMMENT		
		C & H					FUSED	UNFUSED	PE	PS	MS	DS		DE	TRACES
TRENCH															
BZ.03.NE.3.8.A	14	C		S/G	RB										
BZ.03.NE.3.8.A	14	C		S/G	RB										
BZ.03.NE.3.8.A	14	C		S/G	RB										
BZ.03.NE.3.8.A	14	C		S/G	MT	LEFT	DSE				2	2	2	2	BCM
BZ.03.NE.3.8.A	14	C		S/G	MT	RIGHT	DSE				2	2	2	2	Chewing Mark
BZ.03.NE.3.8.A	14	C		G	TB	RIGHT	DSE				2	2	2	2	
BZ.03.NE.3.8.A	14	C		G	MC	LEFT	DSE				1	2	2	2	Chewing Mark
BZ.03.NE.3.8.A	14	C		WG	R	RIGHT	DSE				1	2	2	2	
BZ.03.NE.3.8.A	14	C		D	MT										Worked Bone
BZ.03.NE.3.8.A	14	C		D	TB	LEFT	DSE				2	2	2	2	
BZ.03.NE.3.8.A	14	C		FD	CLC	RIGHT									
BZ.03.NE.3.8.A	14	C		FD	CLC	RIGHT	C								
BZ.03.NE.3.8.A	14	C		RD	CLC	LEFT	C								
BZ.03.NE.3.8.A	14	C		RD	TMT										
BZ.03.NE.3.8.A	14	C		DOG	HMR										
Bones From House II															
BZ.03.NE.4.8.A	5A	L	C	P	PL										
BZ.03.NE.4.8.A	5A	L	C	P	SCP										
BZ.03.NE.4.8.A	5A	L	C	S/G	TB						2				BCM
BZ.03.NE.4.8.A	5A	L	C	S/G	MOL										
BZ.03.NE.4.8.A	5A	L	C	G	TB	LEFT	DSE				1	2	2	2	

	AGE		SPECIES	ELEMENT	LEFT/RIGHT	FUSION		PART OF BONE				EXPLANATION & COMMENT					
	LEVEL	C & H				O/C	RD	S/G	RD	S/G	PE		PS	MS	DS	DE	TRACES
TRENCH																	
BZ.03.NE.4.8.A	5A	LC	O/C	TB	LEFT						2						
BZ.03.NE.4.8.A	5A	LC	RD	HR													
BZ.03.NE.3.8.A	5B	H	S/G	M													
BZ.03.NE.3.8.A	5B	H	RD	TB	RIGHT		DSE			1	2	2					
BZ.03.NE.3.8.A	5B	H	S/G	HMR			DSE				1	1					
BZ.03.NE.3.8.A	5B	H	D	TB													
BZ.03.NE.3.8.A	5B	H	G	M													
BZ.03.NE.3.8.A	7	LC	O/C	PH 1	RIGHT		C		1	1	2	2					
BZ.03.NE.3.8.A	7	LC	FS														
BZ.03.NE.3.8.A	7	LC	FS	HMR													
BZ.03.NE.3.8.A	10	LC	S/G	HR													Complete
Bones From House III																	
BZ.02.NE.3.6.B	7	LC	O/C	RB													
BZ.02.NE.3.6.B	8	LC	O/C	PRM													
Bones From House IV																	
BZ.02.NE.4.5.D	4	LC	O/C	AST													
BZ.02.NE.4.5.D	4	LC	FS														
Peristasis																	
BZ.96.NE.4.7.D	6	C	O/C	TMT													
BZ.96.NE.4.7.D	6	C	O/C	TMT													
BZ.96.NE.4.7.D	6	C	O/C	SCP													

	LEVEL	AGE		SPECIES	ELEMENT	LEFT/RIGHT	FUSION		PART OF BONE				EXPLANATION & COMMENT	
		C & H					FUSED	UNFUSED	PE	PS	MS	DS		DE
TRENCH														
BZ.96.NE.4.7.D	6	C	C	S/G	HMR	RIGHT	DSE				2	1	1	
BZ.96.NE.4.7.D	6	C	C	S/G	T									
BZ.96.NE.4.7.D	6	C	C	S/G	R		PSE		1	1	1			
BZ.96.NE.4.7.D	6	C	C	S/G	SK								BURNT	5 Skull Pieces
BZ.96.NE.4.7.D	6	C	C	G	M									
BZ.96.NE.4.7.D	6	C	C	G	TB					1	2			
BZ.96.NE.4.7.D	6	C	C	P	MOL									
BZ.96.NE.4.7.D	6	C	C	P	M									
BZ.96.NE.4.7.D	6	C	C	P	T									
BZ.96.NE.4.7.D	7	C	C	O/C	MT	LEFT	DSE				2	2	2	
BZ.96.NE.4.7.D	7	C	C	O/C	TMT									
BZ.96.NE.4.7.D	7	C	C	O/C	RB									
BZ.96.NE.4.7.D	7	C	C	O/C	R		PSE			1	1			
BZ.96.NE.4.7.D	7	C	C	O/C	TB						1			
BZ.96.NE.4.7.D	7	C	C	S/G	SCP									
BZ.96.NE.4.7.D	7	C	C	S/G	MT						2			
BZ.96.NE.4.7.D	7	C	C	S/G	MC		PSE			1	1			
BZ.96.NE.4.7.D	7	C	C	S/G	RB									
BZ.96.NE.4.7.D	7	C	C	P	HMR	LEFT	DSE				1	2	1	
BZ.96.NE.4.7.D	7	C	C	SH										
BZ.96.NE.4.7.D	8	C	C	P	T									

	LEVEL	AGE		ELEMENT	LEFT/RIGHT	FUSION		PART OF BONE				EXPLANATION & COMMENT	
		C & H	SPECIES			FUSED	UNFUSED	PE	PS	MS	DS		DE
TRENCH													
BZ.96.NE.4.7.D	8	C	S/G	M									Female
BZ.96.NE.4.7.D	8	C	S/G	TB							1		
BZ.96.NE.4.7.A	11	C	S/G	MC			PSE			1	1		
The Lower Sector													
BZ.03.SE.6.4.B.	2	H	O/C	MT	RIGHT						2	1	
BZ.03.SE.6.4.B.	4A	H	O/C	MT	RIGHT		PSE DSE			2	2	1	
BZ.03.SE.6.4.B.	4	H	O/C	MT	LEFT					1	1	2	
BZ.03.SE.6.4.B.	4	H	S/G	PH 1	LEFT		C						
BZ.03.SE.6.4.B.	5	H	S/G	M									
BZ.03.SE.6.4.B.	7	H	S/G	T									
BZ.03.SE.6.4.B.	12	H	S/G	PL									
BZ.03.SE.6.4.C	12	L C	RD	MT	LEFT		PSE			2	2		
BZ.03.SE.6.4.C	12	L C	O/C	MC	LEFT		DSE				1	2	
BZ.03.SE.6.4.C	12	L C	O/C	MT	LEFT			DSE			2		
BZ.03.SE.6.4.C	12	L C	S/G	R	RIGHT						2		BURNT
BZ.03.SE.6.4.C	12	L C	S/G	MT			PSE			1	1		
BZ.03.SE.6.4.C	12	L C	S/G	HMR									
BZ.03.SE.6.4.C	12	L C	?	TB							1		
BZ.03.SE.6.4.C	12	L C	S/G	TB									
BZ.03.SE.6.4.A	4	H	P	MC 3	LEFT		PSE				2	2	
BZ.03.SE.6.4.A	4	H	SH										

	AGE		SPECIES	ELEMENT	LEFT/RIGHT	FUSION		PART OF BONE			EXPLANATION & COMMENT	
	LEVEL	C & H				FUSED	UNFUSED	PE	PS	MS		DS
TRENCH												
BZ.03.SE.6.4.A	14	LC	S/G	M								
BZ.03.SE.6.4.A	14	LC	P	TB	LEFT				2			
BZ.03.SE.5.4.D	4	H	H	PH 1	LEFT							
BZ.03.SE.5.4.D	9	H	S/G	PH 1	LEFT							
BZ.03.SE.5.4.D	9	H	SH									
BZ.03.SE.5.4.D	9	H	H	SCP								
BZ.03.SE.5.4.B	4	LC	P	CLC	RIGHT							
BZ.03.SE.5.4.B	5	LC	O/C	T								
BZ.03.SE.5.4.B	9	LC	S/G	CLC	LEFT	C						
BZ.03.SE.5.4.A	5	LC	S/G	RB								
BZ.03.SE.5.4.A	5	LC	S/G	RB								
Filling levels of the Lower Sector Road												
BZ.03.SE.5.4.D	13	H	?	U								
BZ.03.SE.5.4.A	7	H	S/G	MC	RIGHT	PSE		2	2			
BZ.03.SE.6.4.A	6	H	ROE. D.	TB	LEFT	DSE			1	2	2	
BZ.03.SE.6.4.A	6	H	P	MT 3								
BZ.03.SE.6.4.A	6	H	P	F					1	2		
BZ.03.SE.6.4.A	11	H	O/C	MC	LEFT				2	2		BURNT
BZ.03.SE.6.4.C	13	H	O/C	M								
BZ.03.SE.6.4.C	13	H	P	MT	RIGHT	DSE				2	2	2
Under floor Levels of the Lower Sector												

	LEVEL	AGE		ELEMENT	LEFT/RIGHT	FUSION		PART OF BONE			EXPLANATION & COMMENT	
		C & H	SPECIES			FUSED	UNFUSED	PE	PS	MS		DS
TRENCH												
BZ.02.SE.3.8.D	4	H	O/C	RB								
BZ.02.SE.3.8.D	5	LC	O/C	RB								
BZ.02.SE.3.8.D	5	LC	O/C	SCP								
BZ.02.SE.3.8.D	6A	LC	SH									
BZ.02.SE.3.8.D	7	LC	S/G	PL							Lamb	
BZ.02.SE.3.8.D	7	LC	S/G	HMR								
BZ.02.SE.3.8.D	7	LC	S/G	RB								
BZ.02.SE.3.8.D	7	LC	S/G	MT					1			
BZ.02.SE.3.8.D	7	LC	S/G	RB								
BZ.02.SE.3.8.D	7	LC	P	PH 1	RIGHT							
BZ.02.SE.3.8.D	7	LC	P	PL								
BZ.02.SE.3.8.D	7	LC	BIRD	?								
BZ.02.SE.3.8.D	7	LC	BIRD	?								
BZ.02.SE.3.8.D	8	LC	?	U								
BZ.03.SE.2.7.C	13	LC	S/G	PH 1	LEFT	C						
BZ.03.SE.2.7.C	12	LC	P	MT 3	LEFT	PSE	DSE					
BZ.03.SE.2.7.C	11	LC	S/G	MT					1			
BZ.03.SE.2.7.C	9	LC	O/C	MT	RIGHT		DSE		2	2	2	
BZ.03.SE.2.7.C	9A	LC	SH									
BZ.03.SE.2.7.C	9B	LC	S/G	RB								
BZ.03.SE.2.7.C	9B	LC	P	MT 3	LEFT	DSE						

	LEVEL	AGE		ELEMENT	LEFT/RIGHT	FUSION		PART OF BONE				EXPLANATION & COMMENT		
		C & H	SPECIES			FUSED	UNFUSED	PE	PS	MS	DS		DE	TRACES
TRENCH														
BZ.03.SE.2.7.C	8	LC	S/G	MOL										
BZ.03.SE.2.7.C	8	LC	SH									Big		
BZ.03.SE.2.7.C	8	LC	SH									Small		
BZ.03.SE.2.7.C	8B	LC	SH											
BZ.03.SE.2.7.C	8B	LC	P	TB			DSE				1	2		
BZ.03.SE.2.7.C	8B	LC	BIRD	?										
BZ.03.SE.2.7.C	7B	H	SH										3 Sea Shell	
BZ.03.SE.2.7.C	6B	H	SH											
BZ.03.SE.3.7.C	3	H	S/G	T										
BZ.03.SE.3.7.C	5	H	O/C	MT	LEFT		C				2	2	2	
BZ.03.SE.3.7.C	5	H	O/C	MT							2			Worked Bone
BZ.03.SE.3.7.C	5	H	S/G	AST										Eaten by acid
BZ.03.SE.3.7.D	2	H	S/G	T										
BZ.03.SE.3.7.D	3	H	O/C	PH 2	LEFT		C							
BZ.03.SE.3.7.D	3	H	SH											
BZ.03.SE.3.7.D	4	H	O/C	MC	RIGHT		PSE				2	2		BCM
BZ.03.SE.3.7.D	4	H	P	U										
BZ.03.SE.3.7.D	4	H	S/G	SCP										
BZ.03.SE.3.7.D	4	H	S/G	PH 1										
BZ.03.SE.3.7.D	5	H	S/G	INS										
BZ.03.SE.3.7.D	5	H	S/G	HMR	RIGHT		DSE				2	2	2	

	LEVEL	AGE		SPECIES	ELEMENT	LEFT/RIGHT	FUSION		PART OF BONE				EXPLANATION & COMMENT	
		C & H	S/G				FUSED	UNFUSED	PE	PS	MS	DS		DE
TRENCH														
BZ.03.SE.3.7.D	5	H	S/G	HMR	RIGHT		DSE							
BZ.03.SE.3.7.D	5	H	SH											
BZ.03.SE.3.7.D	6	H	WP	F			DSE							
BZ.03.SE.3.7.D	6	H	P	SCP										
BZ.03.SE.3.7.D	6	H	P	SK										
BZ.03.SE.3.7.D	6	H	O/C	PH 1			C							
BZ.03.SE.3.7.D	6	H	SH											
BZ.03.SE.3.7.D	7	H	P	TB	RIGHT		DSE			2	2	2		
BZ.03.SE.3.7.D	7	H	G	AST										Female
BZ.03.SE.3.7.D	10	C	P	TB										
BZ.03.SE.3.7.D	10	C	P	CAN										Male
BZ.03.SE.3.7.D	10	C	S/G	T										
BZ.03.SE.3.7.D	10	C	S/G	T										
BZ.03.SE.3.7.D	10	C	FD	T										Very young
BZ.03.SE.3.7.B	11	LC	O/C	F						2				
BZ.03.SE.3.7.B	11	LC	S/G	R						2				
BZ.03.SE.3.7.B	8	LC	S/G	MT	LEFT		DSE			2	2	2		
BZ.03.SE.3.7.B	8	LC	WG	R	LEFT		PSE			2	2	1		
BZ.03.SE.3.7.B	8B	LC	S/G	MC	LEFT		DSE			1	2	2		
BZ.03.SE.3.7.B	8B	LC	S/G	TB	RIGHT					1				
BZ.03.SE.3.7.B	5	H	S/G	MT	RIGHT		PSE							

	LEVEL	AGE		ELEMENT	LEFT/RIGHT	FUSION		PART OF BONE				EXPLANATION & COMMENT	
		C & H	SPECIES			FUSED	UNFUSED	PE	PS	MS	DS		DE
TRENCH													
BZ.03.SE.3.7.B	5	H	O/C	M									
BZ.03.SE.3.8.C	15A	LC	G	M									
BZ.03.SE.3.8.C	15C	LC	S/G	PH 1			C						
BZ.03.SE.3.8.C	15C	LC	S/G	MC	LEFT		DSE			1	2	2	
BZ.03.SE.3.8.C	13	LC	S/G	M									
BZ.03.SE.3.8.C	11	LC	P	MC	LEFT		DSE			2	2	2	
BZ.03.SE.3.8.C	11	LC	P	CAN									Female
BZ.03.SE.3.8.C	11	LC	O/C	M									
BZ.03.SE.3.8.C	11	LC	S/G	MOL									
BZ.03.SE.3.8.C	9	LC	S/G	PH 2			C						
BZ.03.SE.3.8.C	9B	LC	O/C	RB									
BZ.03.SE.3.8.C	9B	LC	O/C	LV									
BZ.03.SE.3.8.C	7	H	S/G	T									
BZ.03.SE.3.8.C	7C	H	WP	U									
BZ.03.SE.3.8.C	7C	H	O/C	SCP									
BZ.03.SE.3.8.C	6	H	O/C	MT	RIGHT								
BZ.03.SE.3.8.C	6	H	S/G	T									Wild
BZ.03.SE.3.8.C	6	H	RD	HMR			DSE						
BZ.03.SE.3.8.C	4	H	BAD	PL									
BZ.03.SE.3.8.C	4	H	?	CLC									
Under floor Levels of Workshop													

TRENCH	LEVEL	AGE		SPECIES	ELEMENT	LEFT/RIGHT	FUSION		PART OF BONE					EXPLANATION & COMMENT	
		C & H					FUSED	UNFUSED	PE	PS	MS	DS	DE		TRACES
BZ.02.SE.2.7.B	8	LC	P		MC 3	RIGHT	PSE	DSE	2	2	2	2			
BZ.02.SE.2.7.B	8	LC	P		MTP										

Table 15: Measurement of Bones

Trenches	Level	Age	Species	Element	GL	GLPe	BP	BT	BFp	DP	SD	BD	BFd	Explanation
BZ.03.NE.4.8.A	8	Classical	O/C	PH	548		325		298	338	286	311	268	
BZ.03.NE.4.8.A	8	Classical	O/C	PH	561		262		238	297	218	242	224	
BZ.03.NE.4.8.A	8	Classical	O/C	PH	558		299		278	314	238	316	232	
BZ.03.NE.4.8.A	8	Classical	O/C	PH							219	238	222	
BZ.03.NE.4.8.A	8	Classical	O/C	PH			231		207	285				
BZ.03.NE.4.8.A	8	Classical	H	MC								315		
BZ.03.NE.4.8.A	8	Classical	RD	MT			343				211			
BZ.03.NE.4.8.A	8	Classical	RD	MT			333							
BZ.03.NE.4.8.A	8	Classical	O/C	MT			427							
BZ.03.NE.4.8.A	8	Classical	WG	TB							200	277		
BZ.03.NE.4.8.A	6	Classical	O/C	MT			423							
BZ.03.NE.4.8.A	6	Classical	S/G	HMR				283			142			RIGHT
BZ.03.NE.4.8.A	6	Classical	G	MT			228				143			
BZ.03.NE.4.8.A	6	Classical	G	MC			262							
BZ.03.NE.4.8.A	6	Classical	RD	MT			300							LEFT
BZ.03.NE.4.8.A	7	Classical	S/G	MC							171	260	259	
BZ.03.NE.4.8.A	7	Classical	RD	MT								412		
BZ.03.NE.4.8.A	7	Classical	O/C	PH	571							279		
BZ.03.NE.4.8.A	10	Classical	O/C	MC								630		
BZ.03.NE.4.8.A	11	Classical	G	TB			237				138			
BZ.03.NE.3.8.A	5B	Hellenistic	RD	TB							162	249		
BZ.03.NE.3.8.A	12	Classical	S/G	AST	269							179		
BZ.03.NE.3.8.A	14	Classical	O/C	MT			427							PSE

Trenches	Level	Age	Species	Element	GL	GLPe	BP	BT	BFp	DP	SD	BD	BFd	Explanation
BZ.03.NE.3.8.A	14	Classical	O/C	MT			418							
BZ.03.NE.3.8.A	14	Classical	O/C	MT								468		
BZ.03.NE.3.8.A	14	Classical	O/C	MT								462		
BZ.03.NE.3.8.A	14	Classical	O/C	PH 1		584					262			
BZ.03.NE.3.8.A	14	Classical	O/C	PH 2	345						256			
BZ.03.NE.3.8.A	14	Classical	O/C	TB								600		LEFT
BZ.96.NE.3.7.D	6B	Late Classical	O/C	PH 2		360				209	219			
BZ.96.NE.3.7.D	6B	Late Classical	O/C	PH 1		624					289			
BZ.96.NE.3.7.D	6B	Late Classical	P	AST	390							223		
BZ.96.NE.3.7.B	10	Late Classical	S/G	PH 1		387					119			
BZ.03.SE.6.4.B.	4A	Hellenistic	O/C	MT			491				270			
BZ.03.SE.6.4.B.	4	Hellenistic	S/G	PH 1		377								
BZ.03.SE.6.4.A	6	Hellenistic	ROE. D.	TB								261		
BZ.03.SE.6.4.C	12	Late Classical	O/C	MC								533		
BZ.03.SE.6.4.C	12	Late Classical	RD	MT							285			
BZ.03.SE.2.7.C	13	Late Classical	S/G	PH 1		405								
BZ.02.SE.3.7.C	5	Hellenistic	O/C	MT			492				247	467		
BZ.03.SE.3.7.D	4	Hellenistic	O/C	MC								556		
BZ.03.SE.3.7.D	3	Hellenistic	O/C	PH 2		584								

Table 16: Detailed Spatial Distribution of Late Classical Period Bones.

SPECIES	S/G	%	G	%	O/C	%	P	%	WG	%	RD	%	Bird	%	FS	%	SH	%
AREA																		
House 1	9	39	1	4	7	17	6	26	0		0		0		2	8	0	
House 2	3	33	1	11	2	22	2	22	0		1	11	0		0		0	
House 3	0		0		2	100	0		0		0		0		0		0	
House 4	0		0		1	50	0		0		0		0		1	50	0	
Under Floor	3	27	1	9	3	27	3	27	0		0		1	9	0		0	
Workshop	19	43	1	2	7	15	8	18	1	2	0		3	6	0		5	11
Lower sector	8	61	0		3	23	2	15	0		1	7	0		0		0	
Total	42		4		25		21		1		2		4		3		5	

Table 17: Detailed Spatial Distribution of Hellenistic Age bones

SPECIES	S/G	S	G	O/C	P	D	H	Dog	WP	RD	Roe D	Bad	SH
AREA													
House 2	2	0	1	0	0	1	0	0	0	1	0	0	0
Road Filling	1	0	0	2	3	0	0	0	0	0	1	0	0
Workshop	15	2	3	10	8	0	1	1	2	1	0	1	6
Lower sector	5	0	0	3	1	0	2	0	0	0	0	0	2
Total	23	2	4	15	12	1	3	1	2	2	1	1	7

APPENDIX B

FIGURES

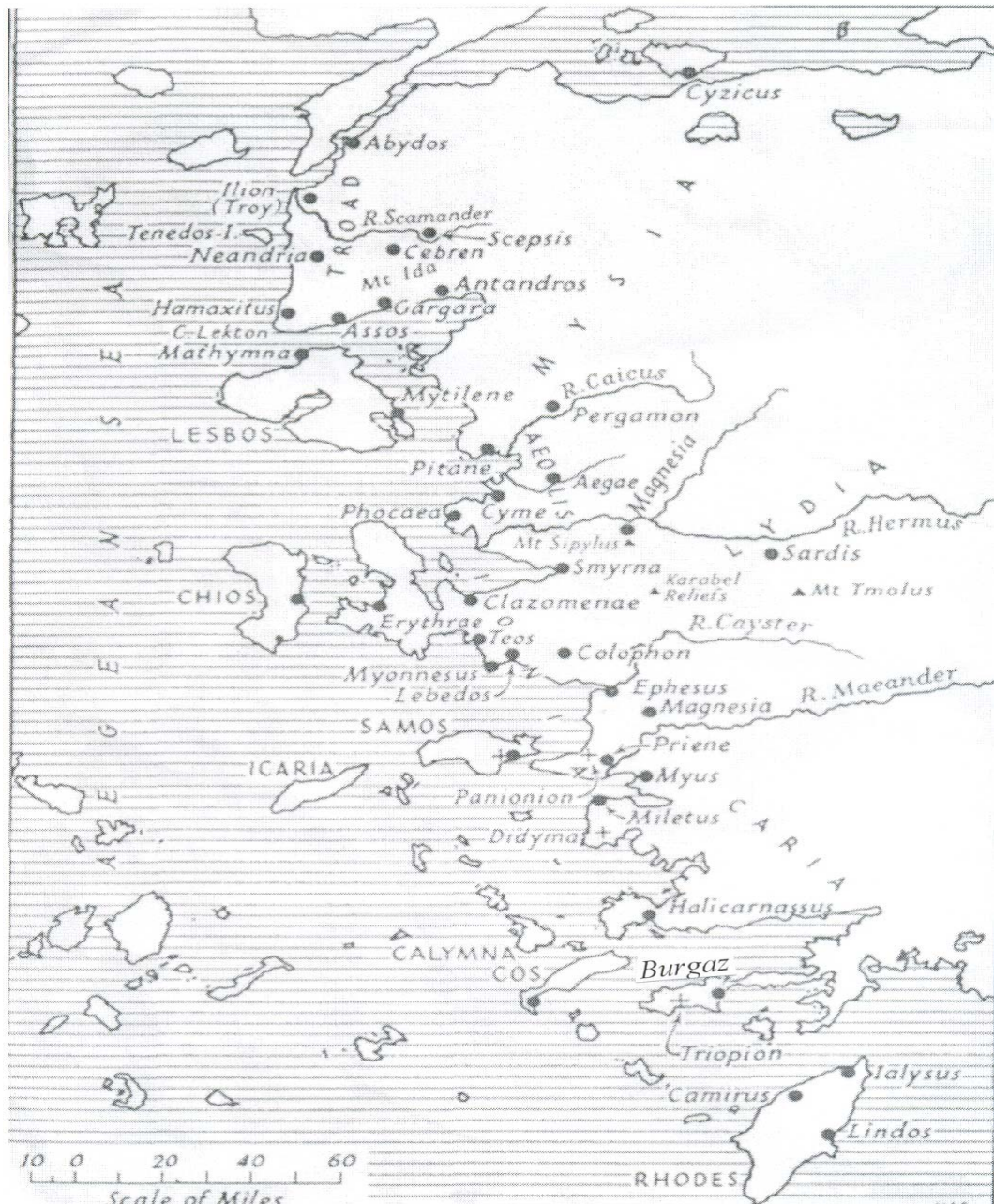


Figure 1 : Map of the West Coast of Turkey (Cook 1962)

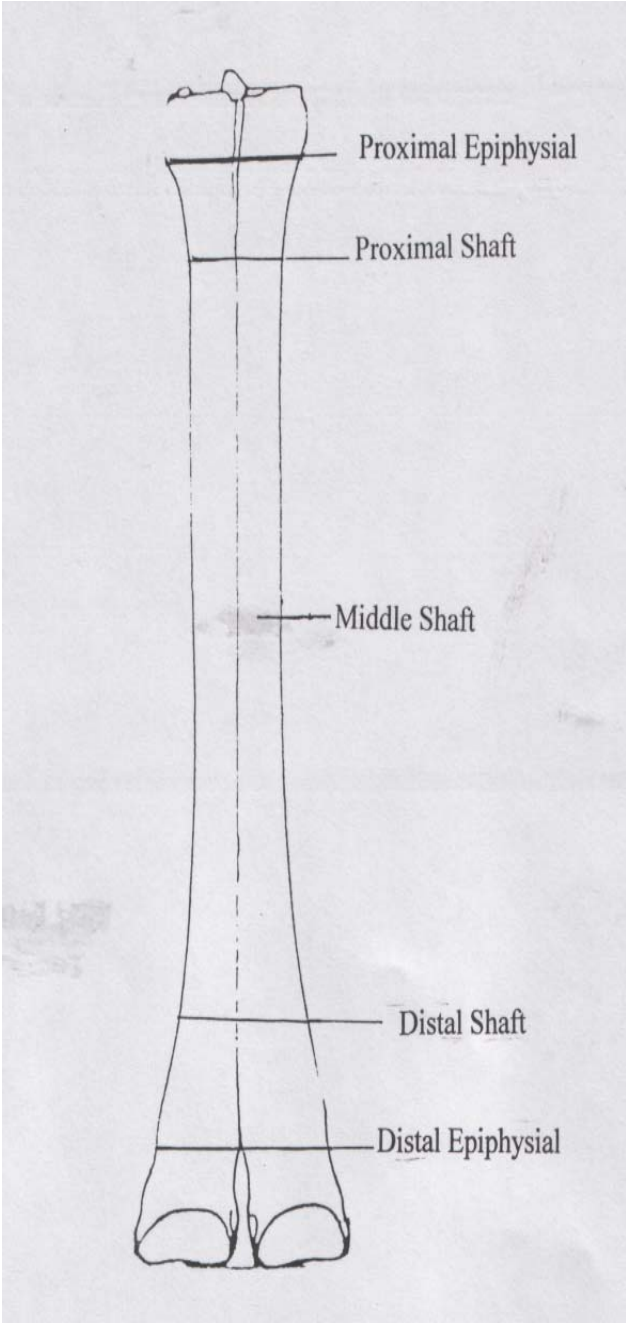


Figure 2 : Parts of the Bone

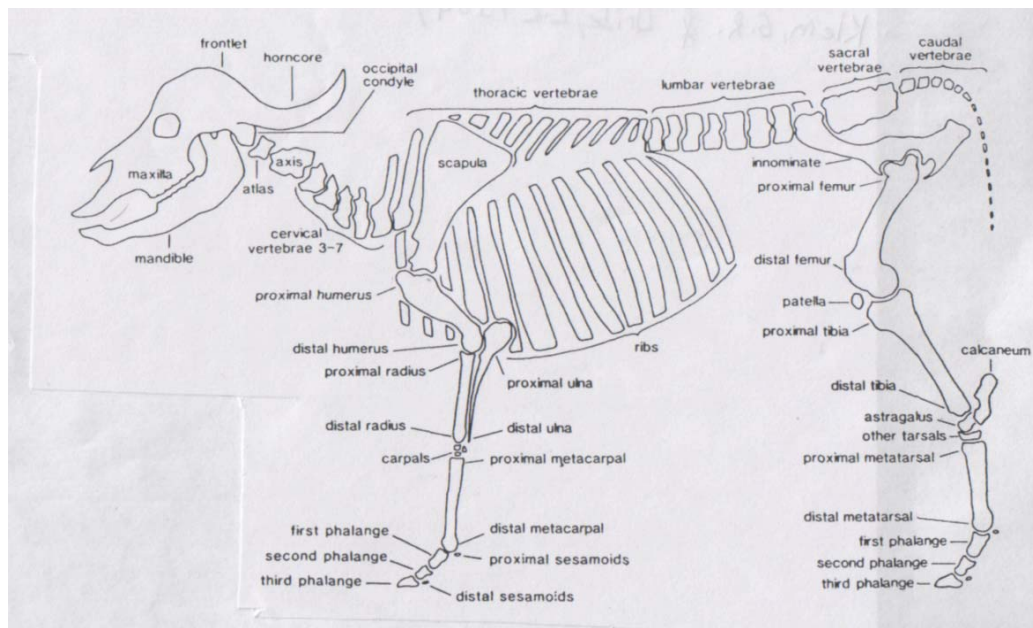


Figure 3: The Principal Bones of the Skeleton, illustrated for the Cape Buffalo (Schmid 1972).

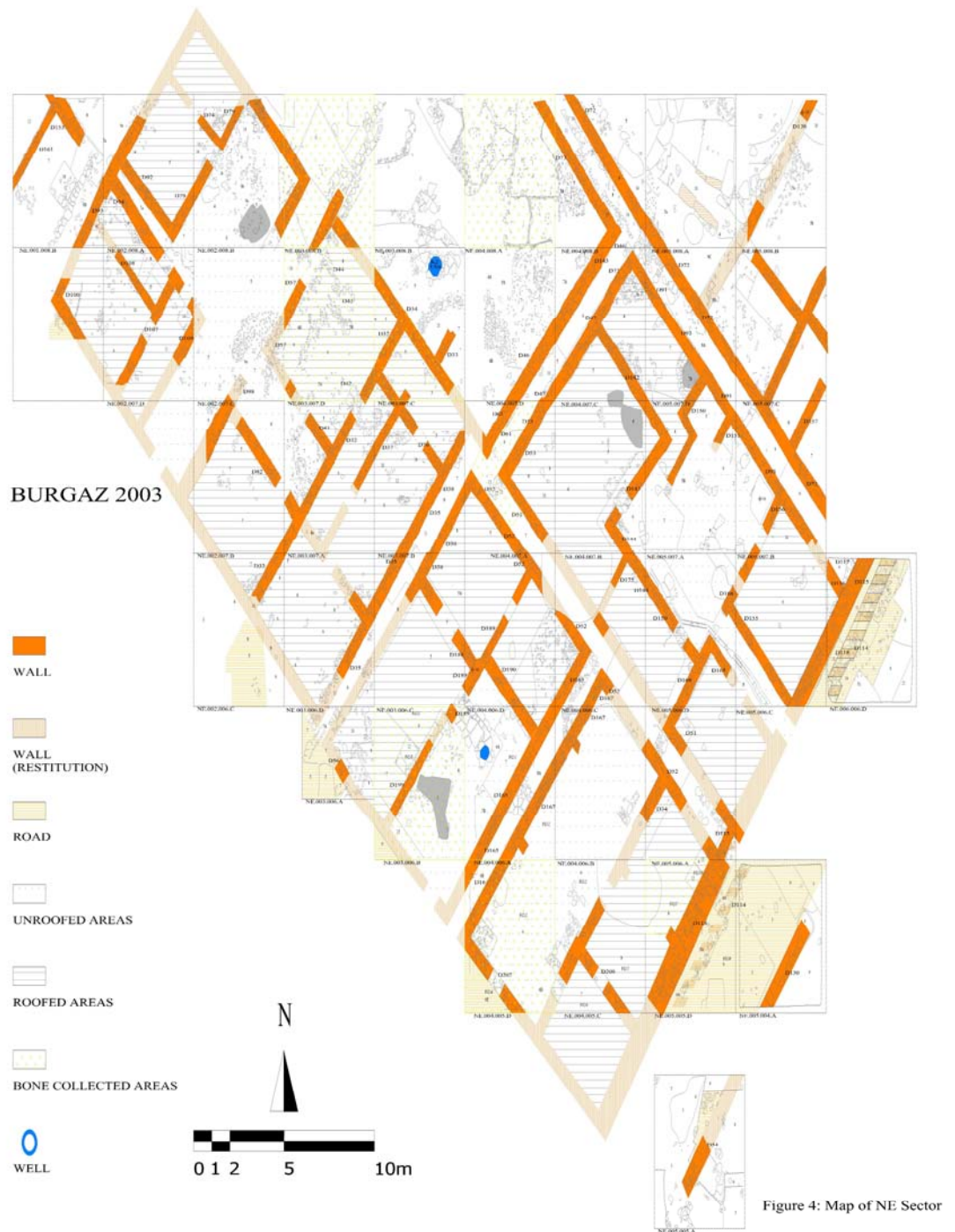
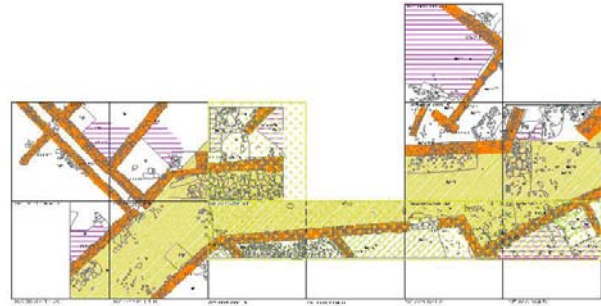
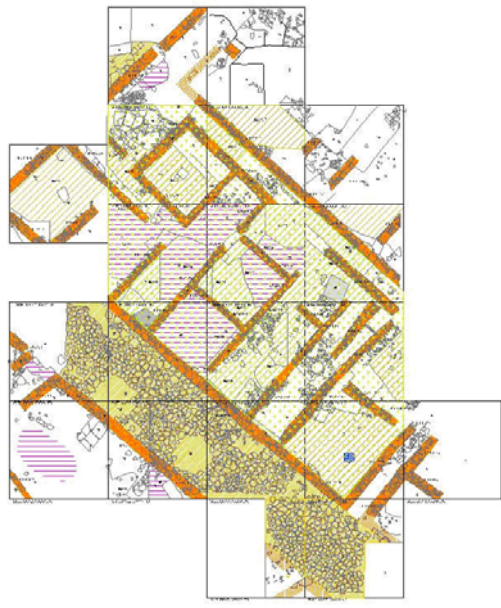
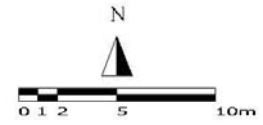


Figure 4: Map of NE Sector of Burgaz (METU - TAÇDAM Burgaz Excavations)
 (It can not be used without permission from METU –TAÇDAM)



SE SECTOR - 2003



- | | |
|---|---|
|  |  |
| WALL | CLAY FLOOR |
|  |  |
| WALL (Excavation) | HORACANE FLOOR |
|  |  |
| PRESSED SOIL / GRAVELS | BONE COLLECTED AREAS |
| |  |
| | ROAD |

Figure 5: Map of SE Sector of Burgaz Burgaz (METU - TAÇDAM Burgaz Excavations)
 (It can not be used without permission from METU –TAÇDAM)

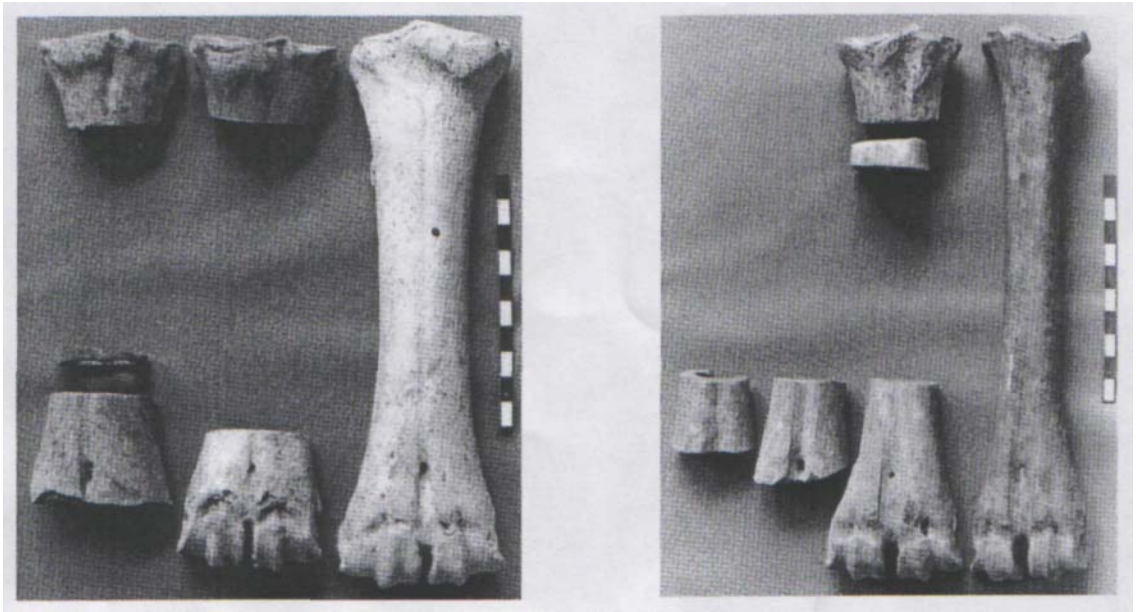


Figure 6 : Worked Bones from Sagalassos



Figure 7: Worked bones from Under Floor Levels, Burgaz, The upper four bones belong to cattle metatarsals, Below at left belongs to red deer metatarsal right belong to donkey metatarsal.



Figure 8: Complete Cattle Metatarsal from Burgaz



Figure 9: Astragalus of Goat from the Workshop at Burgaz



Figure 10: Unfused Cattle Metatarsal from the Workshop at Burgaz



Figure 11: Map of Sagalassos site (www.archaeology.org/sagalassos)