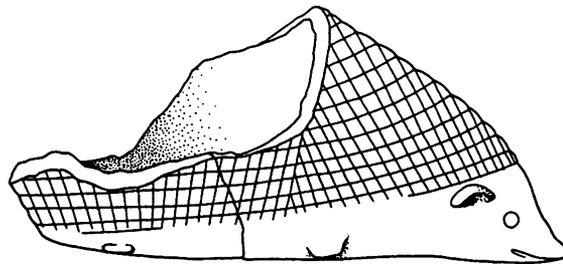


ARCHAEOZOOLOGY OF THE NEAR EAST

Proceedings of the first international symposium on the
archaeozoology of southwestern Asia and adjacent areas

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ARCHAIC MILET: DAILY LIFE AND RELIGIOUS CUSTOMS FROM AN ARCHAEOZOOLOGICAL PERSPECTIVE

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Abstract

Animal remains from two sites near Milet in Turkey dating from the Archaic Period have been analysed. In particular the differences between settlement refuse and refuse from a sanctuary have been investigated, and are compared with results from other sanctuaries.

Introduction

On-going archaeological excavations by the university of Bochum (Dir. Prof. V. von Graeve) at Kalabak Tepe and Zeytin Tepe near Milet (fig. 1) produced large samples of animal remains and pottery dating to the archaic period, i.e. 7th to 5th century B.C. (Von Graeve et al, 1990). Among the animal remains, mollusc shells and bones of domestic mammals are particularly frequent (table 1.), yet the faunas of the two localities exhibit a number of distinct characteristics due to the fact that they accumulated under different cultural conditions. At Kalabak Tepe the remains represent settlement refuse, whereas the nearby Zeytin Tepe served as a sanctuary, where priests made offerings to the goddess Aphrodite on behalf of the inhabitants of Kalabak Tepe. In the following, differences in species composition, age-profiles, slaughtering methods and intraskeletal distribution are discussed, also with reference to customs in antiquity as handed down in literature.

The settlement refuse of Kalabak Tepe

Considering the number of identified specimens (NISP, table 1, fig. 2), it can be seen that small livestock and cattle played a major role in the economy of the site. Although the low frequency of pig remains in the samples indicates that this animal was not an important source of meat compared with livestock, its occurrence suggests the presence of areas with deciduous woodland in the vicinity of the archaic town of Milet, a type of vegetation that has almost completely vanished in the region today. On the basis of the fragment counts, the ratio comparison between small livestock, cattle and pig can be estimated at 6:2:1 (fig. 2). However, if bone weights are taken into account, cattle equals small livestock as a source of animal proteins, whereas pigs provided about 10% of the meat. Cutmarks furthermore indicate that horses and dogs were also eaten. Game and fish occasionally contributed to the diet of the inhabitants of Kalabak Tepe. The significance of molluscs as a source of animal proteins

remains unclear. From table 2 it can be seen that people collected them in large quantities, but we noted that many specimens are simply too small to be suited for consumption, whereas a number of shells show traces of rolling and were therefore not gathered in fresh condition. Since we know that mollusc shells were commonly used as building-material, for example as an additive for clay bricks and mud walls, a lot of them may have been meant for that purpose.

To reconstruct the age profiles of livestock and pigs, mandibles and mandibular teeth were analysed with respect to tooth eruption and tooth wear. As can be seen in fig. 3, small livestock and cattle were mainly killed after reaching sexual maturity, aged individuals constitute a major component of the bovid populations. Given such an age-profile, secondary products rather than meat production must have characterized stock-raising practices near Milet. For sheep and goats, the kill-off pattern at Milet resembles, for instance, the one observed by Payne (1973) at the Hellenistic/Late Roman site of Asvan Kale, where a relatively high proportion of the animals had been killed between 2 and 6 years of age. Since in most terms it makes least sense to kill prime age individuals, Payne suggested that such an age-profile might be seen as indication of woolproduction, as the quality of wool falls off in older animals. Considering the fact that in Classical Greece Milet was a famous wool-manufacturing city, trading wool goods over the whole Mediterranean area, there is no reason to explain the observed kill-off patterns in a different way. Thus near Asvan Kale and in the vicinity of Milet, sheep were mainly kept for the production of high-grade wool. In addition, small livestock -as well as cattle - provided beside meat also skins, milk and manure. The age profiles of cattle (c. 45% were older than 5 years, cf. fig. 3) furthermore implies that the animals were used for traction power. As to pigs, most animals were killed before reaching the age of two years, indicating that their economic value was limited to meat production.

The animal offerings at Zeytin Tepe

In ancient Greece sacrificing animals to the gods formed part of the religion. This custom was also practised by the inhabitants of Kalabak Tepe. For this purpose, they chose a site on a hill which lies to the west of Kalabak Tepe. Today called Zeytin Tepe, this hill offered its visitors a panoramic view of the hinterlands and across the Gulf of Milet. Archaeological evidence suggests, that between the 7th and 5th century B.C., Zeytin Tepe served as an open field sanctuary, devoted to the goddess Aphrodite (Von Graeve et al., in press).

In the course of two excavation seasons, a number of votive offerings and a considerable amount of animal bones from many species (tables 1 and 2) were collected at the sanctuary. The fauna differs in several aspects from the settlement refuse of Kalabak Tepe. For example, at Zeytin Tepe small livestock - mainly sheep - were offered in fairly large numbers compared to cattle (fig. 2), probably in a ratio of 9 to 1. If bone weights are taken into account, it is estimated that the visitors of the Aphrodite-sanctuary consumed three times as much meat from sheep and goats as from cattle (fig. 2). The fact that at Zeytin Tepe sheep were most frequently offered can be related back to the role of the animal in the cult of Aphrodite (e.g. Richter, 1979). However, by choosing mainly sheep, profane interests cannot be entirely ruled out, considering the economic value of the animal for Archaic Milet.

Selecting the animals according to species and/or sex for ceremonial purposes has also been observed at two other archaic sanctuaries nearby, namely the Artemision at Ephesos (7th to 4th century B.C.) and the Heraion at Samos (7th century B.C.) (fig. 1, 4). For the Artemision, Wolff (1978) (fig. 4) noted that goats are most abundant in the samples, followed by cattle,

sheep and pigs. This fits well with the information handed down in classical literature (Stengel, 1890: 84). At Samos, cattle clearly dominates the fauna from the Heraion, cows outnumbering oxen by far (Boessneck and Von den Driesch, 1988:6). This observation is in accordance with the written sources, as cows were the customary offering to the goddess Hera (Sauer, 1979).

Another characteristic of the Zeytin Tepe fauna is the nearly complete absence of pig bones in the samples, a fact which can be most conveniently explained by quoting Pausanias's "Description of Greece" (II, 10,4), in which he states that pigs usually do not belong to the set of animals to be sacrificed to Aphrodite.

If one compares the age-profiles from Zeytin Tepe with those recorded from Kalabak Tepe (fig. 3), it becomes obvious that the animals given to the priests were on average younger than the ones brought to the settlement for daily consumption. As to small livestock we note a higher percentage of animals between 1 and 2 years at the disadvantage of individuals that are older than 4 years. In cattle the kill-off pattern at Zeytin Tepe is inversed compared with the one from Kalabak Tepe, since 50% of the animals killed were between 6 months and 2½ years.

Butchering processes and cooking practices

The killing of the sacrificial animals should be quick and painless (Meuli, 1946: 227). The animal has to proceed voluntarily to the altar and has to show its agreement by nodding, the latter being achieved by deceiving the animal (Burkert, 1977: 102). Presumably the animals were killed by cutting the throat, as can be inferred from transverse cutmarks on the ventral side of atlas and axis. After the animal had died, the skin was removed and brought out of the sanctuary to be sold, securing the priests a part of their income (Meuli, 1946: 220). Looking at intraskeletal distribution this must also have been the case at Milet, because skull roofs, horn cores and terminal phalanges are underrepresented in the samples. No doubt, these skeletal elements were left *in situ* during skinning and only removed afterwards outside the sanctuary.

The study of chop- and cutmarks on bones and the resulting breakage patterns provides insight into the way the priests (or their representatives) prepared the animal for consumption. After separating the head from the body, the lower jaw was cut off near its articular processes, the tongue removed and the skull divided in smaller parts. The processing of the axial skeleton involved several steps, such as the removal of the tail including the sacrum, the separation of the ribs from the thoracic vertebrae, the removal of the transverse processes of the lumbal vertebrae, the cleavage of the vertebral column into two halves and the portioning of these halves into smaller segments. After separating the fore-legs from the body, the priests dismembered the limbs and defleshed the long bones before smashing them. The hind legs were cut loose from the pelvis by opening the acetabulum. After dismembering the thigh carefully and putting it aside, the rest of the hind limb and pelvis were treated as described for the forelimb.

At Zeytin Tepe, the meat seems to be prepared by cooking or steaming and served as some kind of ragout. This contradicts the opinion in literature, that the usual preparation method for religious events was the roasting of meat cuts on spits (e.g. Bruns, 1970: 47).

Whereas the first excavation season at the sanctuary only produced unburnt bone flakes of c. 2 to 7 cm from the neck, the thorax, the abdomen, the pelvis, the fore leg and the lower hind

limb, the second season brought to light a concentration of burnt and charred fragments, almost exclusively derived from femora, patellae, sacra and caudal vertebrae. A sound explanation for this phenomenon can be found in Homer's *Ilias* (I, 459; II, 423) and *Odyssey* (III, 457) and elsewhere (e.g. Pausanias II,10,5): if an animal is offered, it was customary to wrap up its thighs with fat and to cremate these afterwards on the altar in order to satisfy the gods. According to Meuli (1946: 213-215), it is even likely that the divine part only consisted of the femora with no meat left at all! In ancient Greek religion, the tail was also reserved for the gods. Therefore it seems plausible - though not mentioned in literature - that exactly the tail provided the necessary fat to wrap up the femora with. This would explain the presence of burnt sacra and caudal vertebrae in the faunal sample from Zeytin Tepe (fig. 5).

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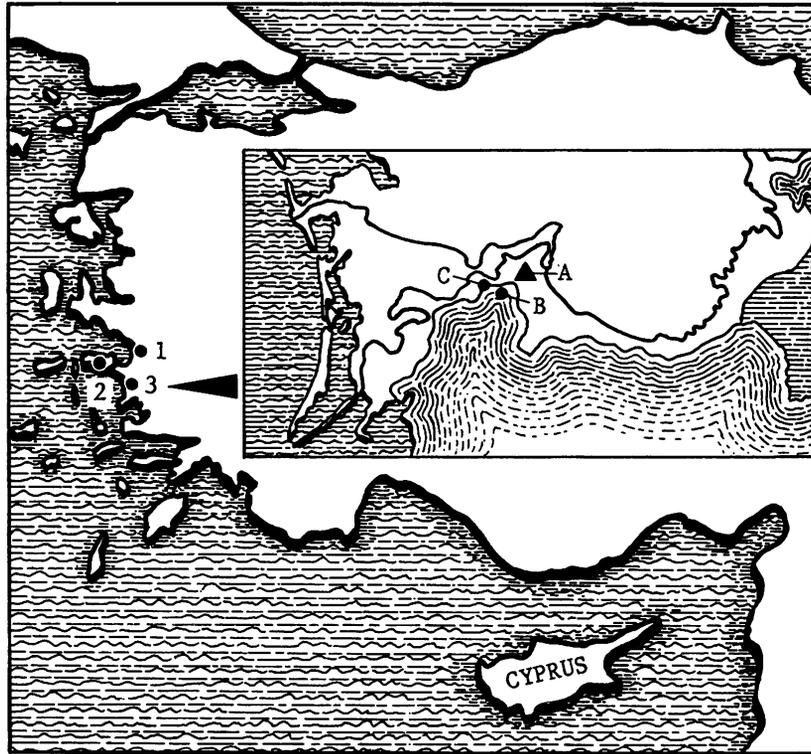


fig. 1. Map of western Turkey, showing the location of the sites of Ephesos (1), Samos (2) and Milet (3). Inset shows the present-day topography of the Milet study area and the position of the archaeological sites: A= hellenistic - roman town, B= Kalabak Tepe, C= Zeytin Tepe.

table 1. The vertebrate fauna of Kalabak Tepe and Zeytin Tepe (NISP).
 (1) the number of antler fragments is given in brackets.

	Kalabak Tepe	Zeytin Tepe	Total
MAMMALS:			
Horse	7	-	7
Donkey	12	1	13
Equid	10	2	12
Cattle	816	525	1341
Sheep	314	500	814
Sheep/Goat	1883	4355	6238
Goat	84	120	204
Pig	387	7	394
Dromedary	2	-	2
Dog	23	2	25
TOTAL DOMESTIC MAMMALS	3538	5512	9050
Hare (<u>Lepus capensis</u>)	4	4	8
Red deer (<u>Cervus elaphus</u>)	-	1	1
Fallow deer (<u>Dama dama</u>) (1)	2+(3)	8	13
Gazelle (<u>Gazella sp.</u>)	1	-	1
TOTAL WILD MAMMALS	10	13	23
UNIDENTIFIED MAMMALS	200	503	703
TOTAL MAMMALS	3748	6028	9776
BIRDS:			
Dove (<u>Columba sp.</u>)	-	1	1
REPTILES:			
Spur-thighed mediterranean land tortoise (<u>Testudo graeca</u>)	14	-	14
FISH:			
Unidentified shark	-	1	1
Bass (<u>Morone labrax</u>)	1	-	1
Gilt-head bream (<u>Sparus auratus</u>)	2	-	2
Unidentified bream	-	1	1
Total vertebrates	3765	6031	9796

table 2. The molluscs from Kalabak Tepe and Zeytin Tepe.

	Kalabak Tepe	Zeytin Tepe	Total
LAND SNAILS:			
<u>Pleurodiscus balmei</u>	2	4	6
<u>Rumina decollata</u>	1	2	3
<u>Xeropicta krynickii</u>	1	4	5
<u>Cerneuella virgata</u>	2	-	2
<u>Helix aspersa</u>	4	1	5
Total land snails	10	11	21
MARINE GASTROPODS:			
<u>Patella sp.</u>	2	-	2
<u>Gibbula divaricata</u>	-	1	1
<u>Monodonta turbinata</u>	1	3	4
<u>Cerithium vulgatum</u>	14	5	19
<u>Luria lurida</u>	3	-	3
<u>Cypraea sp.</u>	-	1	1
<u>Phalium granulatum</u>	-	1	1
<u>Tonna galea</u>	3	1	4
<u>Charonia lampas</u>	1	-	1
<u>Trunculariopsis trunculus</u>	39	27	66
<u>Murex brandaris</u>	43	71	114
<u>Ceratostoma erinaceum</u>	1	-	1
<u>Buccinulum corneum</u>	6	6	12
<u>Fasciolaria lignaria</u>	1	-	1
<u>Nassarius gibbosula</u>	1	2	3
<u>Hinia reticulata</u>	2	-	2
<u>Cyclope neritea</u>	1	-	1
<u>Conus mediterraneus</u>	3	2	5
Total marine gastropods	121	120	241
MARINE BIVALVES:			
<u>Arca noae</u>	12	4	16
<u>Glycymeris sp.</u>	-	1	1
<u>Mytilus galloprovincialis</u>	4	2	6
<u>Pinna nobilis</u>	7	-	7
<u>Pecten jacobeus</u>	-	3	3
<u>Chlamys varia</u>	-	1	1
<u>Spondylus gaederopus</u>	42	6	48
<u>Ostrea edulis</u>	1190	12	1202
<u>Cerastoderma edule</u>	2774	121	2895
<u>Rudicardium tuberculatum</u>	1	4	5
<u>Cardiidae indet.</u>	1	1	2
<u>Venerupis decussata</u>	3	1	4
<u>Chamelea gallina</u>	-	1	1
<u>Venus verrucosa</u>	1	3	4
<u>Venus nux</u>	5	8	13
<u>Veneridae indet.</u>	1	48	49
<u>Donax trunculus</u>	4	-	4
<u>Mactra corallina</u>	5	-	5
Total marine bivalves	4050	216	4266
Total molluscs	4181	347	4528

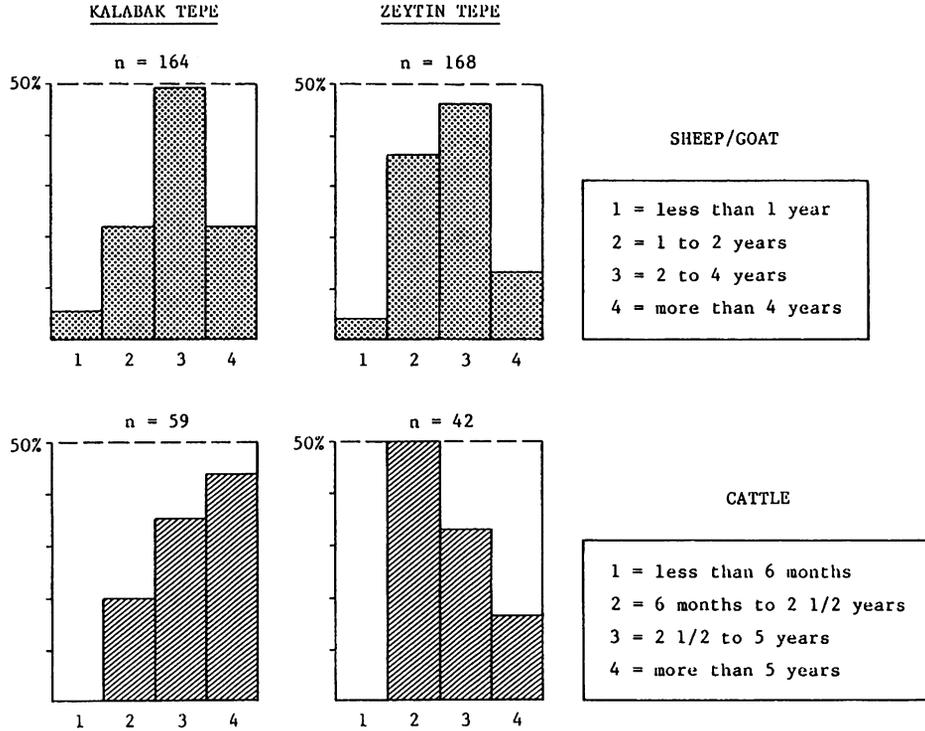


fig. 2. Relative frequency of livestock and pig on the basis of number of identified specimens (NISP) and bone weight (W).

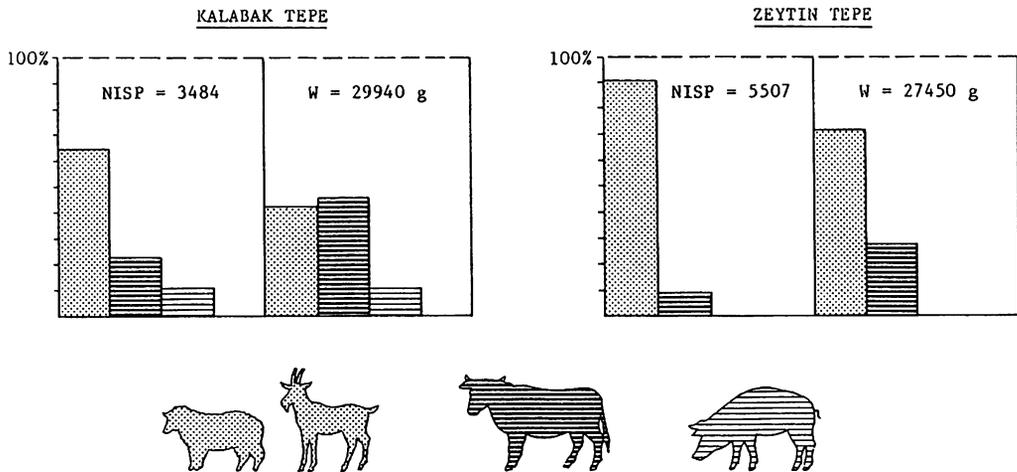


fig. 3. Comparison between kill-off patterns of small livestock and cattle from Kalabak Tepe and Zeytin Tepe.

ZEY TIN TEPE

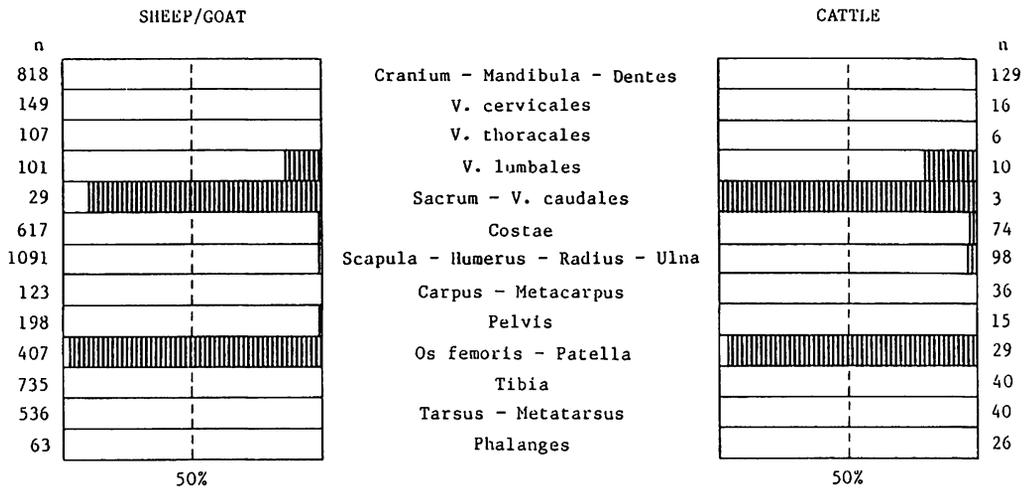


fig. 4. Relative frequency of livestock and pig in the faunas from the archaic sanctuaries at Ephesos, Samos and Milet. For each sample the ratio to goat has been calculated (without considering the horncore fragments).

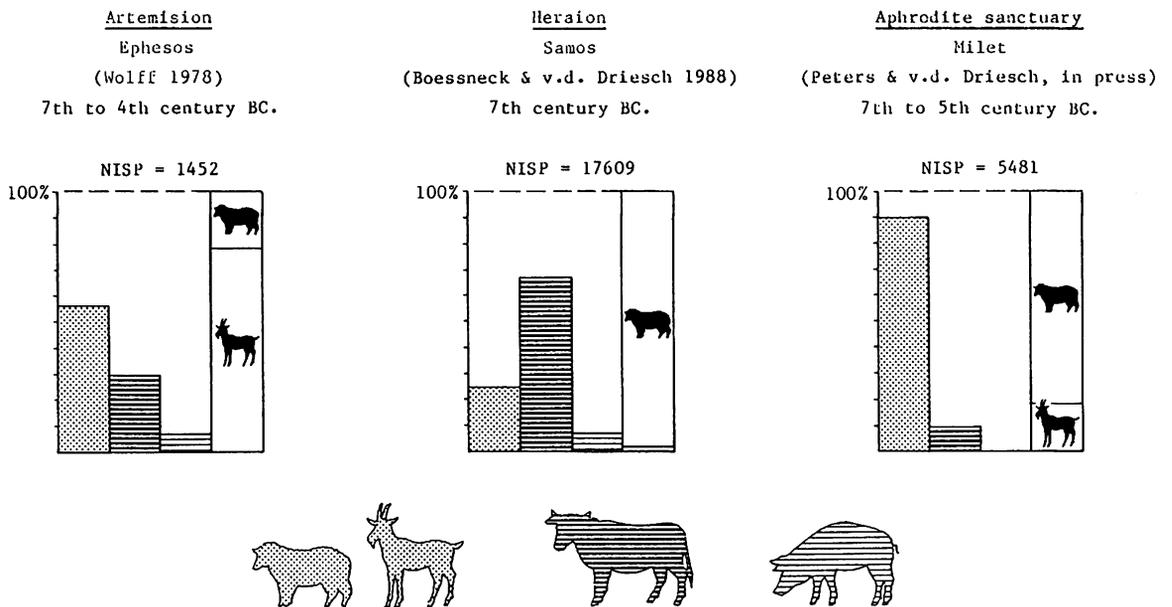


fig. 5. Ratio between burnt (shaded) and unburnt (NISP) in small livestock and cattle from Zeytin Tepe, as calculated for thirteen anatomical groupings.