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Short Fieldwork Report: Phokaia (Turkey), season 2007

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Phokaia, or Phocaea (Greek Φώκαια, modern Foça) was an ancient Ionian city on the eastern coast of the Aegean Sea near the modern city of Izmir. The city of Phokaia (38°40'09"N, 26°45'30"E) was settled during the 1st millennium BCE, probably by the Aeolians and followed by the Ionians. Excavations at the site have revealed that there was also an earlier occupation dating to the Middle Bronze Age and it continued to be occupied throughout antiquity until the present (Özyiğit 2006). Excavations at Phokaia were conducted by Felix Sartiaux between 1913 and 1920 and later by Ekrem Akurgal between 1951 and 1955. The site is currently being excavated by Ömer Özyiğit (Ege University, Izmir, Turkey).

During the 2007 season, a number of burials were unearthed from a Byzantine cemetery built near the Roman period Athena temple. It is likely that the temple was used as a church during the 8th century CE and its surroundings served as a cemetery (Özyiğit 2009). The cemetery consists of two levels. The earliest level of the cemetery dates to the 8th century and latest level is dated from the mid-10th century to the first half of the 11th century CE (Özyiğit 2009). A total of 28 burials were excavated. 26 burials were found in the most recent level of the cemetery while only 2 burials were found in the earlier level. An earthquake occurring in 1040 CE appears to have led to the destruction of the nearby Athena temple, and may have brought to an end the use of the Byzantine cemetery (Özyiğit 2009). All burials in the cemetery were inhumated and bordered by stones. One infant was found in an amphora. 10 burials were oriented northwest-southeast and faced northeast. Of these burials there were two infants, two children, four females, and two males. Other burials, including six males, six females and two children, were oriented southwest-northeast and faced west. Two burials dated to the 8th century include the remains of a fetus (Nr. 25) and a poorly preserved skeleton (Nr. 28). It was not possible to examine this skeleton as well as another poorly preserved skeleton that was found in the later level (Nr. 27).

All skeletons (except Nr. 27 and Nr. 28), were cleaned, sorted, and examined during the 2008 season in the excavation house located in modern Eski Foça. Age and sex assessments were made by using standard osteological techniques recommended by the Workshop of European Anthropologists (1980) and Buikstra & Ubelaker (1994). Pathological bone changes and dental disease were recorded following the criteria described by Buikstra & Ubelaker (1994).

The preservation and completeness of the skeletons are presented in **Table 1**. Preservation of the skeletons is mostly good (38%) or average (27%). However, 31% of the skeletons were poorly preserved. The completeness of the skeletons is average in general.

Table 1. General description of the skeletons from Phokaia (CO: cribra orbitalia, PH: porotic hyperostosis, Per: periosteal activity on tibiae, OA: osteoarthritis).

Burial Nr.	Preservation	Completeness	Sex	Age	CO	PH	Per	OA
1	Poor	Incomplete	F??	Young Adult	-	-	No	-
2	Average	Fairly complete	F?	Middle Adult	-	No	No	Yes
3	Average	Fairly complete	F	Young Adult	No	Yes	No	No
4	Poor	Skull & limbs	M	Young Adult	No	Yes	No	Yes
5	Good	Fairly complete	?	Infant	-	Yes	Yes	-
6	Good	Fairly complete	F	Young Adult	Yes	No	No	No
7	Good	Fairly complete	?	Early Childhood	Yes	No	Yes	-
8	Good	Average	M	Young Adult	Yes	Yes	No	Yes
9	Poor	Average	?	Late Childhood	-	No	Yes	-
10	Average	Skull, upper limb, pectoral girdle	F?	Young Adult	-	-	-	No
11	Good	Fairly complete	?	Early Childhood	Yes	No	No	-
12	Good	Average	?	Late Childhood	No	No	No	-
13	Average	Fairly complete	M	Young Adult	-	No	No	No
14	Good	Skull, limbs, pectoral girdle	F	Young Adult	-	No	No	No
15	Average	Average	M?	Young Adult	-	Yes	No	No
16	Average	Average	M	Young Adult	-	-	No	Yes
17	Poor	Average	F	Middle Adult	No	Yes	No	Yes
18	Poor	Average	F	Middle Adult	No	No	No	No
19	Poor	Skull, limbs, pectoral girdle	M	Old Adult	No	No	No	Yes
20	Average	Fairly complete	F??	Adolescent	-	No	No	-
21	Good	Fairly complete	M	Old Adult	No	No	No	Yes
22	Poor	Lower limbs, pelvic girdle	F??	Adolescent	-	-	No	-
23	Poor	Lower limbs	F??	Adult	-	-	-	Yes
24	Good	Average	M	Old Adult	Yes	No	No	No
25	Good	Fairly complete	?	Fetal	-	-	-	-
26	Good	Incomplete	?	Infant	No	No	-	-
27	Poor	Incomplete	?	?	-	-	-	-
28	Poor	Incomplete	?	?	-	-	-	-

Sex and age distributions are presented in **Figure 1**. There are 17 adults (65% of all individuals) and 9 subadults (35% of all individuals). The percentage of subadults is quite low, especially in the infant and children categories. Males and females are equally represented in

the sample. Most of the adults are young individuals, both males and females. It is difficult to explain this unexpected age pattern due to a lack of historical information for the site.

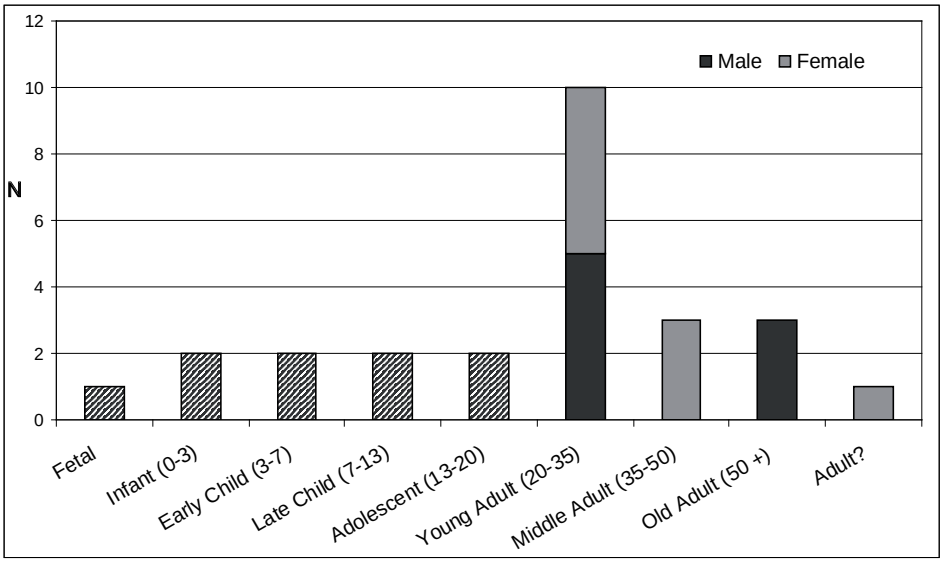

Figure 1. Sex and age distribution in the sample group from Phokaia

The frequency of some pathological changes is presented in **Table 2**. Stress-related pathological changes such as cribra orbitalia and porotic hyperostosis were observed in more than 30% of individuals. In all cases at least one orbit and ⅓ of the cranial vault was available for examination. Periosteal activity on the tibiae was not common in individuals where at least one tibia was available for examination. 50% of adults were affected by vertebral osteoarthritis (at least 10 vertebrae present). Appendicular osteoarthritis was observed in 40% of adults who had at least ⅓ of the joints present. Linear enamel hypoplasia was observed in most individuals with permanent teeth. Dental calculus and periodontal disease were also quite commonly observed. The frequency of dental diseases is presented in **Table 3**.

Table 2. The frequency of cribra orbitalia, porotic hyperostosis, periosteal activity on the tibiae, vertebral and appendicular osteoarthritis, and maxillary sinusitis (affected/observed individuals).

	Male	Female	?	Total
Cribra orbitalia	2/5	1/4	2/4	5/13
Porotic hyperostosis	3/7	2/7	1/6	6/20
Periosteal activity on tibiae	0/8	0/9	3/3	3/20
Vertebral osteoarthritis	3/6	3/6		6/12
Appendicular osteoarthritis	4/8	3/9		7/17
Maxillary sinusitis	0/5	3/6	1/3	4/14

Table 3. The frequency of dental pathology in permanent dentition by the number of individuals affected (*individuals having at least one tooth affected, **individuals which had at least 10 teeth to examine).

Dental Pathology	Affected*/observed** number of individuals
Antemortem tooth loss	8/15
Caries	12/17
Linear enamel hypoplasia	16/17
Dental calculus	15/17
Periodontal disease	11/14
Abscess	3/16

The most interesting finding is the remarkably high frequency of maxillary sinusitis. In 14 individuals, where maxillary sinuses were present for examination, 4 cases of sinusitis were observed (see **Figure 2**). The cold, humid, and windy weather during Phokaia winters might be responsible for this condition.

Figure 2. New bone formation as a sign of sinusitis in the right maxillary sinus of Nr. 14.

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Kültepe/Kanesh (Turkey), season 2007

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Kültepe, the capital city of the Kanesh Kingdom, lies just 21 km northeast of modern Kayseri (ancient Caesarea), the capital of the Kingdom of Cappadocia, and is located at the crossroad between the natural and ancient main east-west and south-north highways (38º51'00"N, 35º38'04"E). The city's strategic location improved its importance in ancient world trade and politics especially at the end of the 3rd millennium and the first quarter of the 2nd millennium BCE (Özgüç 2003). Its ancient name was Kanesh or Nesha and it was one of the few Assyrian trading colonies in Anatolia.

Kültepe has been recognized since 1871 when the "Cappadocian tablets" were first revealed in world museums and in illegal markets. Research on the ancient history of Anatolia began with the discovery of these tablets during excavations at the ancient site of Kültepe. In 1948 the first scientific excavations were conducted by Prof. Dr. Tahsin Özgüç under the Turkish Historical Association. Following his death in 2005, Karum and Tepe continue to be excavated by Prof. Dr. Fikri Kulakoğlu of Ankara University, Turkey.

The city-mound of Kültepe is 21m higher than the surrounding plain and measures 550m north-south and 500m east-west. The mound is nearly circular in appearance and is one of the largest central Anatolian mounds. It is badly damaged because of random excavations and soil has been removed by the local peasants to fertilize their fields. At the lower city of Kültepe, Kanesh-Karum encircles the city-mound. It is approximately 2-2.5m higher than the plain level and its diameter extends 2 km. Karum of Kanesh existed for 250 years at the most. It was established much later than the mound site, and was abandoned much earlier. The dimensions of the mound and the Karum make Kültepe one of the most extensive sites in Anatolia.

The city-mound has a long history and is made up of a series of habitation levels. Excavations on the mound have extended down to the final phase of the Early Bronze Age I; a total of 18 building levels have been distinguished. The final phases of the mound consist of two