

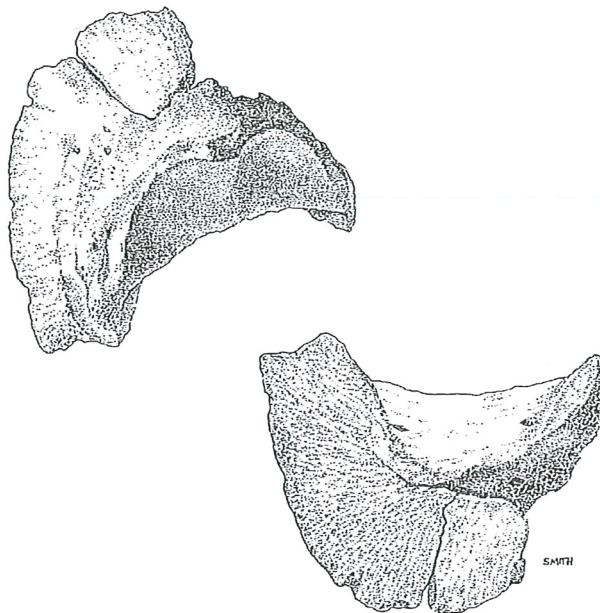


ARCHAEOZOOLOGY OF THE NEAR EAST III

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

edited by

H. Buitenhuis, L. Bartosiewicz and A.M. Choyke



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Cover illustration: Dorsal and palmar aspects of a
Bronze Age horse phalanx from Arslantepe, Turkey,
identified by Sándor Bökönyi.
Courtesy by the artist, Patricia Smith (Reduction: 64%).

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Preface

This publication is the result of the third international symposium on archaeozoology of southwestern Asia and adjacent areas, held in Budapest, Hungary from 2 - 5 September 1996. The editors would like to thank all colleagues of the Working Group who helped with the translation of abstracts. Financial support for the publication was given by the Acker Stratingh Stichting, Groningen, The Netherlands.



Participants of the 3rd ASWA Conference, Budapest 1996
(Photo: Péter Komjáthy, Aquincum Museum)

Standing, left to right: B. De Cupere (Belgium), G. Bar Oz (Israel), H. Buitenhuis (The Netherlands), R. Rabinovich (Israel), L. Leblanc (New Zealand), N. Benecke (Germany), H. Hongo (Japan), N. Russell (USA), J. Speth (USA), A. Patel (India), E. Stephan (Germany), C. Cavallo (The Netherlands), W. Van Neer (Belgium), A.T. Clason (The Netherlands), T. Dayan (Israel), L. Van Es (The Netherlands), C. Becker (Germany), R. Meadow (USA), M. Mashkour (France), F. Poplin (France), E. Vila (France), Mrs. Poplin (France), L. Bartosiewicz (Hungary), E. Pellé (France), P. Ducos (France).

In front, left to right: E. Tchernov (Israel), L. Martin (Great Britain), A. Choyke (Hungary), I. Zohar (Israel).

Participants not shown in picture: D. Carruthers (Great Britain), D. MacHugh (Ireland), S. Whitcher (Great Britain).

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MODERN AND ANCIENT OVICAPRINE HERDING IN THE SAGALASSOS AREA (BURDUR PROVINCE, TURKEY)

Bea De Cupere¹, Wim Van Neer¹ and Marc Waelkens²

Resumé

Une analyse détaillée de restes dentaires provenant du site classique de Sagalassos a t'entamé afin de mieux comprendre la gestion des troupeaux d'ovicaprinés dans la région. Du matériel récent a collecté afin de pouvoir étudier les traces d'usure dentaire et les marques de croissance dans le cémet dentaire.

Introduction

Faunal remains have been studied since the beginning of the excavations at the classical site of Sagalassos in 1990 (Van Neer and De Cupere, 1993a, b; De Cupere *et al.*, 1993, 1995; Degeest *et al.*, 1993; De Cupere, 1995; Van Neer *et al.*, in press). About 160,000 remains have thus far been studied, the detailed analysis of which will be presented in a doctoral thesis (De Cupere, in preparation). The majority of the excavated contexts are dated between the first and sixth centuries AD and show that food provisioning was mainly based on domestic animals. The contribution of hunting and fishing to the diet was minimal throughout the considered period. Diachronic changes in the contributions of the main domestic animals (cattle, ovicaprines, and pig) could be observed. Whereas the numbers of pigs remain fairly constant, the ovicaprines and the cattle ratios show some trends through time (De Cupere and Waelkens, this volume). The decrease in the number of cattle bones and the simultaneous increase in ovicaprines observed towards the end of the occupation are believed to reflect economic and political instability. The slaughtering ages of the domestic species have been reconstructed using the method developed by Grant (1982). Age distributions show that pigs were slaughtered at a relatively young age. Depending on the context, two or three peaks are seen in the age distribution which probably correspond to consecutive seasons of winter slaughtering. The majority of the ovicaprines and cattle were relatively old when killed, showing that they were not only meat providers but that they were also kept for their secondary products (De Cupere and Waelkens, this volume). It was impossible, however, to establish the absolute ages or the season of slaughtering of these animals using the diagrams obtained through Grant's system (1982). Additional laboratory analyses such as growth increment and microwear studies on teeth will be done in an attempt to reconstruct in more detail livestock management in Roman times. For practical reasons these studies will first concentrate on the ovicaprines.

Fieldwork

During fieldwork in June 1996 one herd of sheep and one of goats was followed for several days in the Pecenek valley (37°32'N; 30°31'E) near Çeltikçi. Observations were made on the daily movements of the herds and on the kinds of plants on which they were feeding. The goat herd that we followed comprised almost 250 individuals (about 120 females, 5 males and 120 juveniles) belonging to a breed locally called 'Kilkeçi', meaning hairy goat. This native Turkish breed, normally designated as the Anatolian Black goat (Mason, 1969) is very variable, both in body shape and colouring. The goats from Pecenek are herded in the valley during the months of June and July, whereas they are

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kept in more elevated areas nearby during the remainder of the year. Interviews revealed that conception takes place between the end of September and the end of October. The young are born about 5 months later, in February and March. The lambs are left with their mother but are prevented from taking all the milk. While following the herd, the food intake of animals was observed and samples were taken of the plants on which they fed. Juvenile and adult goats were not very selective during feeding. They nevertheless showed a preference at this time of the year for the kermes oak (*Quercus coccifera*) which has small and smooth leaves with spiny-tipped lobes. During our survey different pasture areas were used in the morning for the adult and juvenile part of the herd although the quality of the grazing areas was similar. The herd was split to prevent the kid from suckling, thereby ensuring that the milk yield for human consumption remained sufficient. Other secondary products of the goats are used as well. The excrement produced in the corral in which the animals were kept during the night were brushed together daily and stored for future sale to farmers. Once a year, during the month of August, the fleeces of the animals are cut. This material is used for the production of kilims and tent-cloth.

The sheep herd that was followed comprised about 150 females and 6 males, the lambs having already been sold during the month of May. The herder recognised four different types of sheep in his flock which, taking into account the possible variations in colour and shape, can be attributed to the two well established breeds in this part of Turkey (cf. Mason, 1966; Ryder, 1983). The fat-tailed types designated by the local herder as 'Karagöz', 'Mandak' and 'Çapar' probably should be considered as variations of the Akkaraman or White Karaman breed, while the 'Tirp', with its less developed fat tail, represents the Daglıç breed. The lambs are usually born in October but occasionally two lambings a year are said to occur. Sheep searched for their food among the small herbs in the grazing areas at lower altitudes but during the daily movements to more elevated areas they were also seen browsing on the kermes oak. As with the goats, samples of the major food plants were taken for identification and for the extraction of phytoliths. The sheep herds are said to stay in the Pecenek area throughout the whole year, except for the months of July and August when they are brought to Çeltikçi to the southwest of Pecenek. In that area the animals graze on stubble-fields and other harvested fields. The sheep are shorn in the month of June.

Ten sheep and ten goat heads from the studied herds were sampled as well as some stomach content and excrement from each slaughtered individual. The age and sex of each ovicaprine was noted. Additional samples will be taken during other seasons of the year when the type of food is reputed to be different from what was observed in June. The information obtained through interviews on the flock management will on that occasion also be verified.

The crania and mandibles that were sampled were macerated in Turkey and sent to Belgium for further analysis. It is our intention to undertake microwear studies in an attempt to relate wear patterns to the type of fodder and the season of death (cf. Mainland, 1995a and b). Cementum line studies will be started to make inferences about the season of slaughtering (cf. Lieberman, 1994) and to analyse correlations between the observed macroscopic wear stage and the absolute age. Preliminary observations have already shown that tooth wear in modern sheep of known age is very rapid, no doubt as a result of the poor quality of the grazing areas and the resulting abrasive effect of ingested soil particles (Healy and Ludwig, 1965). The modern data on microwear, ageing and seasonality will be used to try and reconstruct the former ovicaprine herding strategies in more detail.

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