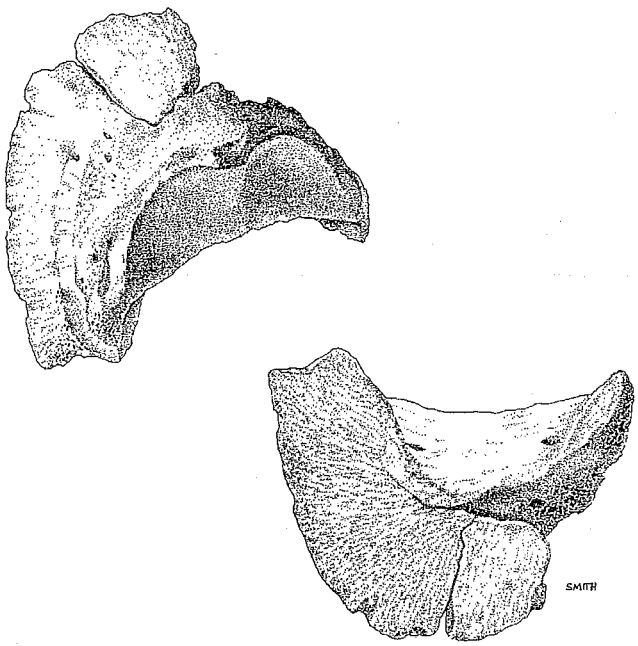
ARCHAEOZOOLOGY OF THE NEAR EAST III

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).

Contents

NEW DATA ON THE DISTRIBUTION OF FALLOW DEER IN EUROPE DURING THE LATE PLEISTOCENE AND HOLOCENE[1]

Cornelia Becker[2]

Résumé

Dans cet article les informations archéozoologiques actuelles sur l'existence de *Dama/Cervus dama* en Europe pendant les époques pleistocènes et holocènes sont recueillis. La distribution des restes osseux du daim, fouillis dans plus de trente sites préhistoriques, suggère que le daim ne soit pas extinct mais ait survit la glaciaire maximume dans des réfuges au sud-est de l'Europe, près des côtes de l'Egée et de l'Adria dans un climat plus modéré que dans le ouest de la Méditerranée. Bien que cette espèce ait passer une histoire naturelle changeante avec une diminution successives des populations autochthones au cours du l'Age de Bronze et l'Age de Fer, plusieurs troupes bien stabile continuaient d'exister au nord de la Grèce et dans des régions voisines. L'exportation des animaux de leur habitat originel vers l'autre lieux en Europe Central, Nord et Ouest par les Romains a enrichi la faune européenne considerablement dès les premiers siècles après J.-C. jusqu'au nos jours.

Introduction

The present-day widespread distribution of fallow deer (*Dama/Cervus dama*) in Europe would suggest that the history of this species is well-known (Heidemann, 1986). However, apart from a few regions to be outlined subsequently, Europe in the last millennium BC was almost empty of any fallow deer in the wild. The modern-day distribution of fallow deer in Europe has been largely influenced by humans who successfully kept and still keep these attractive and elegant animals in parks and nature reserves. Fallow deer which were able to escape from parks, have helped to populate the adjoining countryside. As we know from numerous written records and the presence of skeletal remains from prehistoric and historic sites, the introduction of fallow deer is attributed most often to the Romans (Chapman and Chapman, 1975). The establishment of important trade routes throughout Europe largely encouraged the spread of fallow deer into many parts of the Roman Empire. The Romans used fallow deer in their games, for sporting purposes and as subjects of worship in various cult activities. In the ancient world the spotted coat of *Dama* symbolised the star-sprinkled sky and the sacrifice of the deer stood for the victory of light over darkness. It is suggested that in Roman times, many of these animals were tamed and successfully bred in captivity. If permanent keeping in compounds and breeding under human control was practised on a larger scale, several questions then arise, of which only two will be touched upon here:

1. From which native stock did the Romans take these animals? From generally little-known herds still roaming in Southeast Europe during the first millennium BC or from populations in Asia Minor where fallow deer lived in its natural surroundings in large numbers and where their main home range was said to be located?
2. Obviously the climatic and vegetational conditions in Asia Minor and Europe (especially in the north) differ greatly. One may presume that fallow deer either possess a wide adaptability to various biotopes or that this ancient adaptation went hand in hand with a change in the complex biology of fallow deer, being enhanced by taming and living under human control for many generations. This might even be considered semi-domestication, indicated for example by the

[1] This paper is a brief and slightly modified excerpt from a more detailed report, which is published in German. Most of the references cited here can also be found in the report (Becker, 1997).

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wide colour range of fallow deer, varying from white to almost black, similar to those modifications typical in many domesticated animals. For many years biologists have investigated this phenomenon, trying to understand the original biological and physiological web of interacting factors, which determine the species' ethology. But many questions are still open and will never be answered satisfactorily. It seems as though the more we go back into the animals' history, the more difficult it becomes to understand all these interlocking aspects properly. One step towards a better understanding is the reconstruction of former home ranges, a task which demands a considerable number of excavated sites, occupied over longer timespans and providing rich bone material from stratified layers. We also have to take into account the chronological aspect, the development of habitats, herd densities and migratory movements through time.

Chronology

The history of modern fallow deer began in the Late Pleistocene or even earlier. We already know from various scientific investigations that climate and vegetation in the Mediterranean area changed dramatically, as did the mammalian fauna during the Last Ice Age. Furthermore marine shore-lines were displaced by the retreat of sea-levels (Lang, 1994). Although fallow deer was widespread throughout Europe in Interglacial times, the species was apparently unable to survive under the arctic-like climatic and vegetational conditions during the maximal glaciation, with the exception of some warmer but small refuges. In the western Mediterranean area nearly no remains have been found except some questionable teeth from a cave near Valencia (Spain). Only a few fallow deer remains on the Ligurian coast (northern Italy) are known from cave sediments from the Early Würm-Glacial periods. Numerous by contrast are Late Pleistocene fallow deer bones from southern Italy, where they came to light at six prehistoric sites. The existence of fallow deer is also evidenced by some portrayals, painted on the walls of Sicilian caves. The eastern Mediterranean provides an even larger number of sites (caves, rock shelters and seasonal open-air camps), supporting the assumption that these cervids still lived in considerable numbers in northern, western and southern Greece as well as in Thessaly (see fig. 4 in Becker, 1997). This west-east oriented shift seems to be caused by different climatic conditions which were predominant during the Last Ice Age in the Mediterranean area. A tectonic underwater barrier between Sicily and Tunesia divides the Mediterranean into two basins. During the Last Glaciation extremely cold water from the polar region flooded through the Straits of Gibraltar, cooling down the water temperatures in the western sub-basin dramatically. As could be detected from the oxygen-isotope ratios measured in fossil foraminifera, the water temperature was approximately 7 to 10 degrees lower than in the eastern sub-basin (Thiele, 1980). The glaciation of the Pyrenees and the Alps possibly enhanced colder conditions as well. On the other hand, the eastern Mediterranean area was beyond the direct influences of glaciation and in all probability the climate was considerably milder. In addition, through sea-level regression, the coastal lowlands broadened to vast plains, covered with rich vegetation, altogether a most favourable habitat for fallow deer, a species generally characterised as warm temperature-oriented.

Turning to the Postglacial development it is worth mentioning again that until the 1970's it was generally believed that the fallow deer had become extinct in Europe. Hence, it is not surprising, that the prehistory of the fallow deer has never been the subject of extensive research. However, 25 years ago the late Sándor Bökönyi, our greatly respected colleague, touched upon the problem and discovered that fallow deer indeed had not disappeared from the European fauna but had survived, as evidenced for example in Saliagos and Sitagroi/Greece (Bökönyi, 1971). His sporadic results in this pioneering phase of research can now be elaborated upon with greater precision: faunal material containing various quantities of fallow deer remains from more than thirty sites and different epochs from the Early Neolithic to Byzantine periods has been unearthed and analysed (Tab. 1 in Becker, 1997). Concerning the amount of material, two of the most outstanding sites are Kirklareli (Benecke, in press) and Kastanas (Becker, 1986), which provided thousands of skeletal elements from this

species.

Beside these direct clues, archaeological evidence such as zoomorphic figures, frescoes and seals depicting fallow deer, contribute valuable information that this species was well known in prehistoric times in some European regions from the Neolithic onwards. One of the most outstanding examples is the coloured wall-painting from Akrotiri showing a lively scene of a lion chasing some fallow deer (Doumas, 1992: 71). Obviously this design was based on direct observation of nature, and the scene need not be sought in Asia Minor, but in Europe. The co-existence of hunter and prey on the Greek mainland and in southeastern Europe in prehistoric times is indicated by skeletal material of fallow deer and lion found in Kirklareli, Kastanas, Drama, Goljamo Delçevo, Karanovo and Tiryns.

Classifying the evidence according to periods, it becomes obvious that fallow deer remains are found mostly in the consumption refuse of Chalcolithic and Neolithic settlements, for example in Çeamurlia, Ezero, Drama, Ovcarovo, Kirklareli, HoçaCesme, Toptepe, Yarimburgaz Sitagroi, Paradeisos, Achilleion and Pevkakia Magoula. The location of these sites indicates an earlier distribution comparable to that sketched for the Late Pleistocene, covering a vast area from southern Italy to the Black Sea, including parts of southern and eastern Bulgaria, Thrace, Macedonia, Thessaly and Euboeia (Fig. 1). Obviously the distribution of fallow deer did not extend much into the mountainous hinterland, but was rather restricted to those regions located near the sea or along river valleys as well as to some Aegean islands.

During the Bronze Age the picture changes somewhat (Fig. 2). Although fallow deer flourished in Macedonia and Thrace, the number of remains in the southern and central parts of Greece as well as in Bulgaria diminishes dramatically, while in Italy *Dama* seems to disappear completely. Although the direct relationship between hunting activity, the extent of evidence for venison in a settlements' bone refuse and the local population-density of a wild species is highly problematic, the decrease in the fallow deer remains demands an explanation. As the amount of wild mammal bones demonstrates, this development does not concur with a general reduction in hunting activity, but should be seen in relation to a successively decreased number of fallow deer in its natural habitat. The latter was probably caused by overhunting and/or migration of herds. In this context, climatic or vegetational changes appear to have been negligible.

Truly enigmatic is the total absence of fallow deer in Thessaly during the Bronze Age and later, an often stated fact which invites speculation. Remains from red deer are quite numerous in the refuse of various settlements in this area (von den Driesch, 1987; Becker, 1991a), thus the missing fallow deer is not due to a lack of research activities. Further to the north, in Macedonia, fallow and red deer existed in the same countryside for centuries without any competitive replacement. Why then should red deer dislocate the fallow deer in Thessaly? Or were biological conditions in the long run not in favour for fallow deer? What kinds of factors could have limited their survival? Thessaly is a closed basin, surrounded by mountains blocking winds from the sea, which would balance temperature and humidity. Thus Thessaly has very high temperatures in summer (the highest temperatures measured in Greece at all) and very low ones in winter. These were probably combined with other unsuitable conditions for deer in general, as can be concluded from the remarkably small size of red deer in prehistoric times in this region. Fallow deer might have suffered even more under those conditions than red deer. Due to this significant absence, herds of fallow deer in southern Greece were isolated from the large, stable population in the north. For this reason the reaction of these small local groups towards hunting might have been more sensitive, even to the point of gradual extinction in later periods, as can be seen on the following map.

All the more surprising is the appearance of fallow deer bones in a few sites located in the Central Balkans, far from the presumed distribution area of these animals. Feudvar, a Bronze and Iron Age settlement near the Tisza river in former Yugoslavia, is one of these (Fig. 2, star). During five excavation campaigns a huge amount of bone material was excavated and among the thousands of mammal remains from a variety of domesticated and wild species (Becker, 1991b; in press b), some antler and limb bones of fallow deer came to light in the deposits of an Early Bronze Age house. In the same stratigraphic context another small object of particular interest was found: a disc-shaped antler

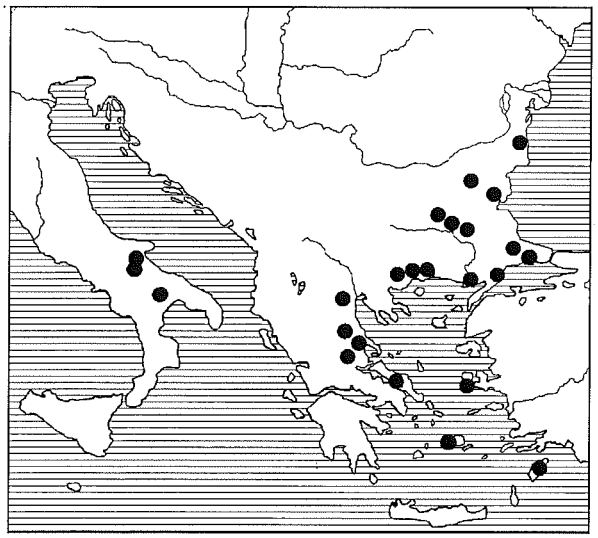

Figure 1. Neolithic and Chalcolithic sites.

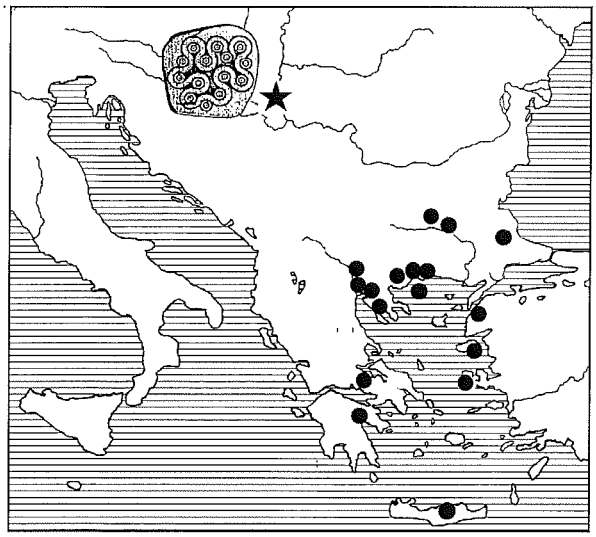

Figure 2. Bronze Age sites (star = Feudvar).

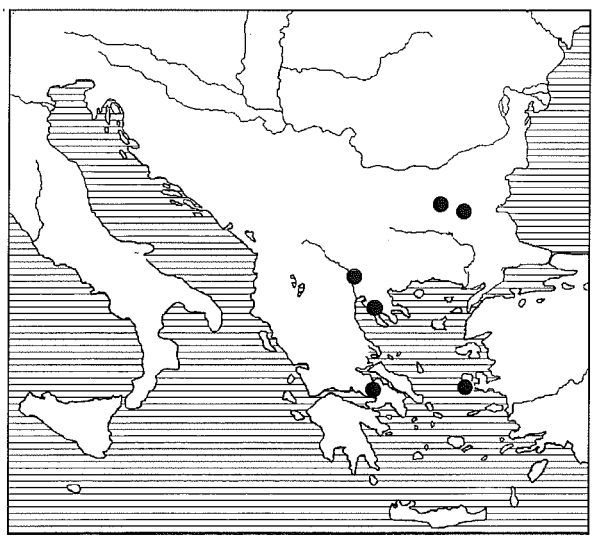

Figure 3. Iron Age, Byzantine and Medieval sites.

Figures 1-3. Map of southeastern Europe showing the evidence for *Dama* in different periods.

artefact. The surface on one side is decorated with a spiral motive, well known within the Mycenaean repertoire (Hänsel, 1991: 68) and thus builds a bridge between the Tisza region and the Aegean. The significance of this find is affirmed by the skeletal remains. All the more intriguing is the further consideration that the bones could possibly be those of a tamed deer which had been brought from the southeast. Indeed, trade in live fallow deer has a long and profitable tradition in the Mediterranean region. It dates back to Neolithic periods when fallow deer was said to have been introduced to Cyprus from the Levantine coast (Davis, 1984).

From the Bronze to the Iron Age the distribution of fallow deer seems to decline, leaving only a few refuges in northern Greece (Kastanas). Some remains found at Late Bronze Age sites in the south (Tiryns, Kalapodi) only there point to a remnant population. Fallow deer bones from later periods are rare and include those from Ayios Mamas, Djadovo, Kabile and Thebes (Fig. 3). As the Thebean remains demonstrate, bones of cervids do not always indicate a population native to that particular region: eleven bones out of fourteen were astragali, partly worked and most probably connected with some cult activities in the Thebean sanctuary (Boessneck, 1973). This gradual decline of fallow deer populations until local extinction during the first millennium B.C. abated when the Romans took measures to revive the existence of fallow deer in Europe. As I view the situation, the lowlands and riverine forests near the north Aegean coast could very well have been the area where the Romans found fallow deer in adequate numbers for such an ambitious undertaking.

Conclusions

In summary, the evidence available at present strongly suggests that fallow deer did survive the harsh conditions of the Ice Age in remote parts of Europe into the Postglacial epoch. The numbers and fortunes of wild fallow deer in Europe have fluctuated over the Early and Late Holocene, but it seems most probable that this species has always been indigenous to parts of southeast Europe, in particular to the north Aegean lowlands and river valleys as well as adjacent areas.

Acknowledgements

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