

ANIMAL REMAINS FROM A LATE BRONZE AGE SANCTUARY ON CYPRUS, AND THE PROBLEM OF THE DOMESTICATION OF FALLOW DEER

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ABSTRACT.—The paper gives an account of the vertebrate fauna of a late Bronze Age sanctuary (13th Century B. C.) at Pigadhes, Myrtou, Cyprus.

INTRODUCTION

DURING her excavation of a late Bronze Age Sanctuary (13th century B. C.) at Pigadhes, Myrtou, Cyprus, Miss Joan du Plat Taylor



(in Megaw, 1951; Taylor, 1957) encountered an accumulation of antlers and caprine horns on the floor of a courtyard, close to an altar. The bones were in a poor state of preservation; they were embedded in a layer of dark earth, and impregnation with gypsum had taken place after destruction of the court building. Many of them were so brittle that they could not be recovered. The remainder, however, is of sufficient interest, extending well beyond the confines of Cyprus, to merit a brief discussion.

The majority of specimens consist of basal portions of deer antlers and portions of skulls. There were also a few remains of reasonably complete antlers coming from the base of the heap. In addition, a few horn cores of goat were found and at least one specimen of a frontlet with horn cores of a sheep. These remains are of anthropological interest in several respects.

1. PERSIAN FALLOW DEER

(*Dama mesopotamica* Brooke)

The fragments of deer antlers and skulls comprise two pairs of frontals with pedicles of antlers, 76 single pedicles mostly including the burr (25 left, 33 right, 18 not assignable), numerous fragmentary tines and points, the occipital region of three skulls, and some other skull fragments, and finally, the fragments of an almost complete pair of antlers which could not be lifted entire, but of which Miss du Plat Taylor made a photograph *in situ* which has played an important part in the identification of the species. That these remains do not belong to the Red Deer is evident from the photograph which shows an antler with a large trez tine, the base of which is flattened, a comparatively straight beam much flattened in the distal portion and equipped with one backward tine and a summit very slightly flattened and terminating in two snags. The presence of a small brow tine was established when the remains of the specimen were studied in the laboratory. It is evident from the numerous pedicles that these were relatively high and that the brow tine had a basal position. These characters are found combined in one species of deer only, namely, the so-called Persian or Mesopotamian Fallow Deer.

Fragments of antlers of *Dama mesopotamica* have also been reported from Khirokitia and

from Erimi (King, 1953). Much more complete material has since been obtained by Dr. Dikaios from Sotira. It will be described in another publication.

These identifications raise an interesting problem. How did the Persian Fallow Deer get to Cyprus? Two alternatives present themselves.

It may have been the indigenous wild form of Fallow Deer. This would be supported by the finds made by Miss Garrod in the Palaeolithic caves of Mount Carmel, where it was the commonest species of deer and the only Fallow Deer present, and with its presence in the Neolithic of Khirokitia and Erimi on Cyprus. It is possible, therefore, that this deer reached Cyprus from Syria, where it appears to have existed as late as in Roman times, according to Miss Bate's interpretation of an animal mosaic from Antioch-on-the-Orontes (1939). Miss Bate's analysis of the rich material from the Mt. Carmel caves (1937) leaves one in no doubt that the Cypriot deer could be a direct descendant of the Palestine-Syrian race. It appears, for instance, that there were plenty of specimens with relatively large brow tines present in Palaeolithic Palestine. In the Cypriot deer from Myrtou, though the brow tine is reduced almost to a knob in some specimens, it appears to have had a length of up to 3 inches in others. This feature, i. e. a great variability in the size of the brow tine, with a strong tendency to reduction, is characteristic of the Palestinian Fallow Deer. It should also be borne in mind that the Persian race has occasionally brow tines about 3 inches long.

Altogether there is great variation in the antlers of Persian Fallow Deer, but there are two characteristics that distinguish it better than others from the ordinary Fallow Deer. These are the tendency to become flattened in the lower part of the antler and the absence of the characteristic distal palmation so well known from the Common Fallow Deer.

This discussion of these characters would hardly have been necessary, were not the part of Asia closest to Cyprus, i. e. the coast of south Asia Minor, the domain of the Common Fallow Deer. One wonders why it was not the common species that reached Cyprus from Asia Minor.

This raises the question of the original distribution of the two races of Fallow Deer. That Syria and Palestine were the domain of the Persian Fallow Deer in Upper Pleistocene times has been pointed out already. The same species is shown on the Antioch-on-the-Orontes mosaic and on another from Tyre (preserved in the Louvre), proving its presence there in Roman times. According to Bodenheimer it may still be present in northern parts of Jordan, though recent enquiries I have made render this doubtful. In Palestine, its existence in the Natufian, in early Postglacial times, was established by Miss Bate, so that the Roman representations need not be regarded as importations. The remainder of its area extended across Mesopotamia into Persia, where it survived until recently in provinces of Luristan and Khuzistan.

The Common Fallow Deer's domain, on the other hand, comprises in the wild state the south-west end of the Sea of Marmara and the whole south coast of Asia Minor as far as Adana, and inclusive of the Taurus Range. This present day distribution can be supplemented by Hittite localities. One of the Hittite gods is frequently shown standing on a deer which, with the distal palmation of its antlers, is undoubtedly the Common Fallow Deer. Important Hittite localities are Zendjirli and Carchemish, and this extends its area to the Euphrates. Thence, it appears to have extended to Nimrud, where, according to Joleaud, this species is shown on a relief representing a winged human figure holding a Fallow Deer in his arms. South of a line represented by the localities of Adana, Carchemish, and Nimrud lies the area of the Persian Fallow Deer which, incidentally, is depicted also on many of the finds from Ur.

It is, therefore, a curious fact that, although the strip of shallow water linking Cyprus with the continent points in the direction of Adana where the Common Fallow Deer occurs, the Neolithic-Bronze Age species of Cyprus is the Persian one. Miss du Plat Taylor informs me that the cult at the Myrtou site may be related to that of the Hittite and Hurrian areas where, however, the Common Fallow Deer appears to have been used. For this reason, it is slightly more probable that the Cypriot Fallow

Deer in question was an indigenous form. Perhaps at some time in the past the area of the Syrian race of Persian Fallow Deer extended slightly further north, enabling the species to reach the island via the coast of southern Asia Minor.

The alternative view, that the Persian Fallow Deer reached Cyprus from Syria-Palestine under the control of man, first in Neolithic times, and perhaps on other occasions later in the Bronze Age, is equally tenable. It would imply not only cultural relations, but a certain amount of "domestication" of this deer, either for religious purposes only or for meat supply also. This is by no means impossible, for the surviving Common Fallow Deer has been herded or kept in a semi-domesticated state for a long time and still is so today. It now occurs wild in restricted areas of Asia Minor only. It is believed that fallow deer, which throughout the classical period were regarded as Asiatic animals, represented with their white spots the starlit sky, and that for this reason they became the attribute of the goddess of the moon. I am not competent to say whether this is borne out by archaeological evidence from Neolithic or Bronze Age sites. By the time Diana of Ephesus had become a fashionable deity, the fallow deer was sacred to her, and it is shown on many coins.

One would thus be tempted to assume that the Persian fallow deer was "domesticated" in Cyprus in a religious context especially as its remains are abundant in the Myrtou sanctuary. It was, however, present on the island in Neolithic times already, though whether as an import or wild remains to be established.

2. CYPRIOT MOUFLON

(*Ovis orientalis orientalis* Brandt and Ratzeburg)

This species is represented by a broken frontlet with portions of the left horn preserved, and by several fragments. The well-preserved specimen was found lying on top of the heap of bones. It has been compared with recent specimens of various races of mouflon and with other sheep. With its divergent horn cores, it differs in no way from the wild sheep still living in the Troodos

Mountains of Cyprus. It appears to have been a male and there are no features suggesting that it was domesticated.

3. SCREW-HORNED GOAT

(*Capra hircus*, domesticated, cf. *dorcas* Reichenow)

One fragmentary frontlet, two fragments, one of the left horn, one of the right horn core, and one well-preserved left core were found. These specimens belong to a goat with long and upright, though slightly divergent, horns twisted round a longitudinal axis in such a way that the anterior edge of the left horn is turned inwards. It is a well-known type of goat not met with in the wild state. Superficially it resembles the Markhor (*Capra falconeri* Wagner) which is found from Bokhara through Afghanistan to the Western Himalayas, but in this species the horns are twisted in the opposite direction. Van Buren mistakenly regards the Markhor as ancestral to this type of domestic goat. Since, however, breeding experiments have shown that the horn form of the Markhor is dominant, one cannot see how the domestic screw-horned goat could be descended from the Markhor or be the result of crossing the markhor with goats of the scimitar-horned Bezoar stock (*Capra aegagrus s. str.*).

The screw-horned goat was kept in ancient Mesopotamia where it is represented by the so-called "ram in a thicket" from Ur. It occurs in the Bronze Age of Jericho (Zeuner, 1955). The ancient Egyptians also possessed it, though in their breeds the horns appear to have been more divergent. Screw-horned goats have survived to the present day in many places, including Asia Minor, where they are shown on some of the recent postage stamps of Turkey. As a published example *Capra hircus girgentana* Amschler may be mentioned, figured by Amschler in *Antiquity* not so long ago. Very similar domesticated goats were observed by Crawford between Pasarelle and Kalkovó, south of Sofia in Bulgaria. On the island of Joura (north Sporades, not the Joura of the Cyclades), a screw-horned goat occurs or has occurred until recently in the wild state. This animal aroused many controversies, for some authors regarded it as the true wild ancestor of the domesticated screw-horned breeds. Von

Lorenz-Liburnau (1899), however, showed that these goats were probably descendants of domesticated specimens allowed to run wild.

In other islands between Greece and Asia Minor a truly wild goat occurs. This is *Capra hircus cretensis* which belongs to the scimitar-horned *aegagrus-group*. It is indeed very unlikely that in an area where the scimitar-horned wild goats are known to occur there should be a truly wild screw-horned form on one of the islands. For these reasons the screw-horned goat from Myrtou must be regarded as domesticated.

This conclusion is confirmed by Miss King's identification of the Neolithic bones from Khirokitia and Erimi. At both sites goat remains were found that were indistinguishable from the wild goat of Crete. Furthermore, at the Neolithic site of Sotira, excavated by Dr. Dikaios, the scimitar-horned goat is found again, to the exclusion of other forms. Scimitar-horned goats, therefore, existed on Cyprus in the Neolithic. By Bronze Age times the screw-horned goat had been introduced.

It is interesting to note that the Bronze Age goats from Myrtou appear to be derived from straight-horned forms bred in the Neolithic of Jericho in the Jordan (Zeuner, 1955). They were not the descendants of the Neolithic goats of Cyprus. This points once more to a westward migration of cultural elements from Syria-Palestine to Cyprus.

Further mammalian remains come from the store rooms 16, 17 and 20. They were found in small groups of two or three, and the bones appear to have been more complete when found, but too fragile to lift. The fragments are now too numerous to make an estimate of the number of individual bones concerned. Only two species are represented, viz. ox and sheep.

Shoulder blades figure prominently in this material, they have been tentatively regarded as shovels. Long bones also are present, however, and an astragalus of sheep was flattened artificially on both sides, suggesting some special function. The numerous crosswise incisions on some of the bones were cut deeply into a smoothed

surface with an instrument like a stone blade about 1 mm. thick at the cutting edge. The incisions are over 1 mm. deep, follow each other at intervals of about 5 mm. and are separated, curiously enough, by interspaces of bone that are pronouncedly convex. There is only one explanation, namely, that the incisions were made first, and the smoothing or polishing of the surface afterwards, by brushing across, not along the bone. There is certainly no evidence that the incisions were used for making stone tools by pressure flaking after the manner described by Zeuner (1952) from Gujarat, where a rhinoceros shoulder-blade with superficially similar incisions was found at the microlithic site of Langhnaj.

4. CATTLE (*Bos taurus* L.)

A fragment (M. 51, RM. 20 A No. 2), c. 20 cm. long, with 25 incisions across its rounded edge, which appear to be tally marks. This specimen, at first regarded as a portion of a long bone, appears to be the underside of the posterior border of the right scapula of a rather large breed of cattle.

There are fragments of other scapulae, indicating a breed of cattle larger than the Celtic, two fragments of ribs (one with incisions), and other indeterminate fragments. A metacarpal also comes from an adult specimen of cattle, but it suggests that the animal was smaller than that evidenced by the incised fragment of shoulder-blade.

5. SHEEP (INDET.)

From the store rooms 16, 17 and 20, some fragments, but fewer than of *Bos*, including a cannon bone and a radius. In addition, the astragalus already mentioned, which is ground flat on both sides.

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