

A SMALL GOAT, *CAPRA HIRCUS*, FROM A LATE IRON AGE SITE IN THE EASTERN ORANGE FREE STATE*

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ABSTRACT

The analysis of faunal remains from the QwaQwa Museum site has shown that a small form of domestic goat occurred in the Eastern Orange Free State during the Late Iron Age. These goat remains are illustrated, described and discussed in the context of the present state of our knowledge on domestic goat breeds in southern Africa before European colonisation. It appears that dwarf goats were associated with Iron Age people at least in the eastern parts of southern Africa.

INTRODUCTION

Archaeological faunal remains can provide a wealth of information on breeds of domesticated animals (Von den Driesch 1983; cf. Boessneck 1985). Of particular interest is the spread of various kinds of breeds from domestication centres into various parts of the world. It is well-known that most of the animals domesticated in the Middle- or Near East were present in southern Africa at the time of the European colonisation during the middle of the 17th century (Boessneck 1985; Deacon 1986). However, little is known of the nature of the breeds associated with indigenous Khoisan people, apart from descriptions and depictions by early travellers and missionaries. The same applies to domesticated breeds associated with Iron Age people in southern Africa. These domesticated animals were not introduced by Europeans and represent the results of breeding practices through time in southern Africa and further to the north.

In her work on the Mapungubwe faunal remains, Voigt (1983) demonstrated how archaeological faunas can provide detailed information on cattle breeds. In this paper we report on a small faunal assemblage from the QwaQwa Museum, a Late Iron Age site in the Eastern Orange Free State. These remains included a small form of domestic goat, which we illustrate and describe here (see also the report by Dreyer in this issue for further information on the site).

THE FAUNA

The results of the analysis are given in summary form in Table 1. A skeletal part analysis was not done on account of the small size of the sample. A noteworthy feature of the assemblage is the faunal diversity in locality M, which is also considered to be more recent than the

others (Dreyer 1992). The localities from the older phase show a generally more restricted pattern of utilization in which cattle was a persistent feature. The presence of a wide range of wild species is not uncommon for the Late Iron Age in the Orange Free State (Plug 1989) and also for the Iron Age in general (Voigt 1983; 1986).

Table 1. Faunal remains from the QwaQwa museum site, according to minimum number of individuals (MNI) and number of identified specimens (NISP)

	B	C	H	J	K	M	P
<i>cf</i> <i>Lepus capensis</i> (Cape hare)						1/5	
<i>Procavia capensis</i> (dassie)						4/30	
<i>Proteles cristatus</i> (aardwolf)						1/2	
<i>Bos taurus</i> (cattle)	1/2	1/1	1/5	1/1	1/1	2/2	1/3
<i>Capra hircus</i> (goat)				2/4			
<i>Ovis/Capra</i> (sheep/goat)		1/1	1/1	1/1		2/6	
<i>Sylvicapra grimmia</i> (grey duiker)			1/2				
Bovidae indet.							
Small				1/2	1/3		1/3
Small-Medium	1/1			1/4	1/3	1/2	
Large-Medium				1/4			
Large				1/4			

THE GOAT REMAINS

Anatomical elements that were positively identified as domestic goat include a proximal phalanx (Fig. 1) and

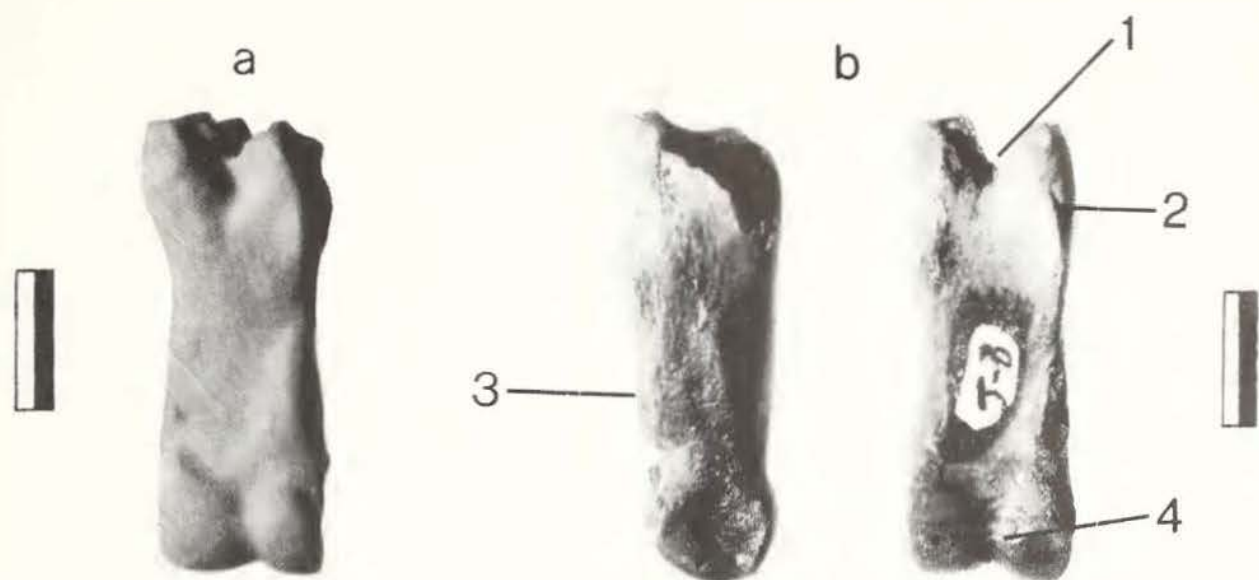


Fig. 1. Photographs of a posterior proximal phalanx of a female Cameroon dwarf goat in plantar view (a) and an axial and volar/plantar view of the proximal phalanx from the QwaQwa Museum site. The numbers correspond to the features listed in the text and scale bar equals 10 mm.

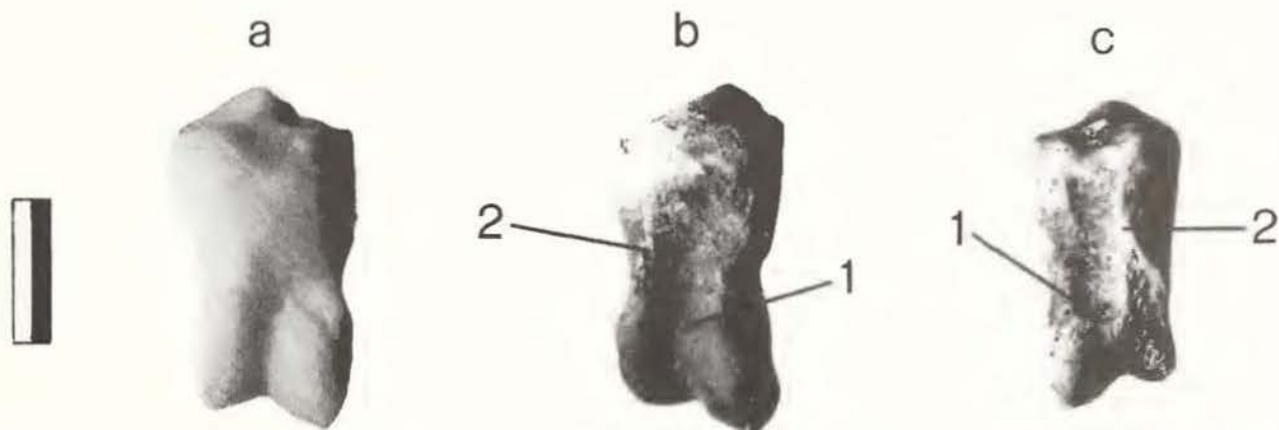


Fig. 2. Photographs of an medial phalanx in volar view of the same Cameroon dwarf goat as in Fig. 1 (a) and the volar/plantar view of two medial phalanges from the QwaQwa site (b and c). The numbers correspond to the features listed in the text and scale bar equals 10 mm.

two medial phalanges (Fig. 2). Distal metapodial fragments and other similarly fragmented material that tentatively can be identified as goat have not been included in the small goat category in Table 1, but are listed as sheep/goat.

Phalanx proximalis (Fig. 1)

The relative slenderness of the specimen suggests that it may belong to the hindlimb, as phalanges from the hindlimb are usually less robust than those from the forelimb. However, this is not certain as overlap in size can also occur due to variation between individuals and because the inner phalanges tend to be more robust than the outer (Boessneck *et al.* 1964; Boessneck 1969). The goat characteristics of this specimen can be summarized as follows:

1. On the proximal end, the leading groove for the distal metapodial is quite deep, giving the impression of a sharp incision when viewed from the volar/plantar side.
2. The tubercle for the axial ligament on the plantar/volar side near the proximal end is relatively prominent.
3. The points of attachment for ligaments on the volar/plantar side of the distal part of the shaft are prominent.
4. The proximal edge of the distal articulation on the volar/plantar side is sharply indented, forming an acute angle.

In addition the volar/plantar side of the shaft of the phalanx is slightly concave, which is suggestive of goat rather than sheep.

Phalanges mediae (Fig. 2)

It is particularly difficult to distinguish between the individual medial phalanges of front- and hindlimb in dwarf forms of sheep and goat (Boessneck *et al.* 1964). The specimen in Fig. 2b is somewhat more robust than the one in Fig. 2c, which may suggest that the former is anterior and the latter posterior. This is contradicted by the fact that in both specimens the dorsovolar/-plantar length of the proximal end is smaller than its mediolateral width (10.6:11.1 and 9.2:9.6 respectively), which is a feature typical of goat anterior phalanges (Boessneck *et al.* 1964). If the two specimens are both from the front limb, it can be assumed that the difference in size reflects sexual dimorphism in the living population. However, this is still uncertain and more material is needed before reliable statements can be made on sexual dimorphism in southern African dwarf goats. Normally dwarf forms of sheep and goat do not show marked sexual dimorphism (Boessneck *et al.* 1964).

The two phalanges show the following characteristics typical of domestic goats:

1. The proximal edge of the distal articulation on the volar/plantar side is sharply indented in both specimens.
2. On the volar/plantar side of both phalanges the distal articulation extends proximally to form a ridge on the peripheral part of the bone.
3. The axial part of the distal articulation is relatively small compared to the peripheral part.

DISCUSSION

The process of identifying a bone specimen to a given taxon rests on the consideration of a number of characteristic features as a whole. In closely related species such as sheep and goat it is usually necessary to use more than one of the known criteria for distinction (Boessneck *et al.* 1964). In the present case all diagnostic features point to the specimens being domestic goat.

Very little is known of the domestication history of goats associated with Iron Age communities. Voigt (1986) states that southern African Iron Age goats have primitive horncores resembling the hornshape of the ancestral bezoar goat of the Near East. Unfortunately no positively identified goat horncores were found in the QwaQwa assemblage. However, Voigt & Von den Driesch (1984) mention the presence of small domestic goat remains in the Early Iron Age assemblages from Ndongondwane, Natal. We could not compare our specimens with the Ndongondwane material, as no measurements were published in the preliminary report (Voigt & Von den Driesch 1984), but we were fortunate enough to obtain a female Cameroon dwarf goat from the Bloemfontein Zoological Gardens and the measurements of this specimen and the fossil specimens are provided in

Tables 2 & 3. It is clear from these measurements that the specimens from the QwaQwa Museum site are similar in proportions to the phalanges of the Cameroon dwarf goat.

Table 2. Comparison between the standard measurements of a proximal phalanx from the QwaQwa Museum site and the proximal phalanges of a female Cameroon dwarf goat

	QwaQwa specimen (Fig.1b)	Cameroon dwarf goat (front)	Cameroon dwarf goat (hind)
GLpe	(31,5)	29,1	30,2
Bp	11,8	12,7	11,8
SD	9,9	10,8	9,3
Bd	11,6	11,6	11,1

Table 3. Comparison between the standard measurements of medial phalanges from the QwaQwa Museum site and the medial phalanges of a female Cameroon dwarf goat

	QwaQwa specimen (Fig 2b)	QwaQwa specimen (Fig 2c)	Cameroon dwarf goat (front)	Cameroon dwarf goat (hind)
GL	20,5	-	19,9	20,5
Bp	11,2	9,5	11,6	11,2
SD	8,3	7,6	8,9	7,9
Bd	9,3	-	9,3	8,6

An important question is whether the small size of these dwarf goats from archaeological contexts in southern Africa are due to poor stockkeeping practices or to selective breeding. In the case of the Cameroon dwarf breed (Fig. 3), its small size is genetically fixed through



Fig. 3. A photograph of a male Cameroon dwarf goat in the Bloemfontein Zoological Gardens.

selective breeding, since feeding has had no effect on the size of the animals over several generations (S. van der Merwe pers. comm.). According to J. Spence of the Tygerberg Zoological Gardens (pers. com. 1992), some Cameroon dwarf goats were imported into South Africa

via Germany by the East London Zoo, from where the specimens found their way first to the Tygerberg Zoo and later also to the Bloemfontein Zoo. These animals are apparently prolific breeders and in some instances specimens even found their way into private hands. If the QwaQwa Museum site is indeed Late Iron Age (Dreyer 1992), this would mean that small goats were present throughout the Iron Age in southern Africa and that they occurred over a wide area, including Natal and the Eastern Orange Free State. This and the fact that they were kept with normal-sized sheep and goats throughout the Iron Age suggest that the size of these small goats were not due to poor keeping conditions, but rather that these small animals represent a specific dwarf breed.

It is possible that this breed may have occurred in areas further to the north and west of Natal and the Orange Free State in the Iron Age *sensu lato*, but unfortunately the archaeological record is not clear on this issue at present. A further question is whether there are living descendants of these small goats today in southern Africa. Voigt & Von den Driesch (1984) mention the presence of some dwarf goats in Ingwavuma, northern Zululand. However, according to Voigt (pers. com.) these animals tend to increase in size when feeding is improved. As such they probably do not represent the descendants of a local dwarf breed.

Dwarfism in domestic bovids is not an uncommon occurrence. It is known that Iron Age cattle in central Europe were markedly smaller than those of the Romans, who practiced better breeding methods than their Iron Age neighbours (Boessneck 1985; Von den Driesch 1983). It appears that size reduction was one of the first results of the domestication process due to conscious selection for smaller animals and/or poor keeping conditions (Boessneck 1985). If poor husbandry practices can be ruled out to explain the small size of the goats from Ndongondwane and QwaQwa, then the origin of the southern African Iron Age dwarf forms probably lies further to the north in Africa, as these animals were small from the time when they first appear in the archaeological record at Ndongondwane. Dwarf goats probably accompanied the first Iron Age immigrants into southern Africa.

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