

THE MACROFAUNAL AND MOLLUSCAN REMAINS FROM TLOUTLE, A LATER STONE AGE SITE IN LESOTHO*

INA PLUG

Department of Archaeozoology
Transvaal Museum, P.O. Box 413,
Pretoria, 0001

*Accepted for publication February 1993

ABSTRACT

The macrofaunal and molluscan samples from Tloutle in Lesotho have been examined. The molluscan fauna shows that these animals may be held responsible for some bioturbation resulting from their burrowing habits. The macrofaunal remains provide evidence for possible low primary production during the late Pleistocene/early Holocene period. The presence of a roan or blue antelope supports previous findings that these animals originally had a wider distribution than was originally thought. Isolated human finger digits seem to indicate some form of ritual or healing behaviour amongst the hunter-gatherer population.

INTRODUCTION

Tloutle Rock Shelter is situated in western Lesotho and was excavated by P. Mitchell during 1988-1989 (Mitchell 1990). Two areas within the dripline were excavated and are referred to as the interior and exterior excavations due to their relationship to the back wall. The exterior excavation was the larger of the two and provided most of the material. The stratigraphy is complex and some disturbance, the result of recent Basuto occupation, occurs in the interior excavation.

The faunal remains have been analysed per excavated unit, but for the purpose of this paper units have been combined as suggested by the excavator. The following layers, from the surface downwards, are recognised in the exterior excavation: SS, BGL, WC, CCL, CSL-UP, CSL-LR, GS, BS and BC. The units of the interior excavation appear to represent a single period of occupation.

Dates available for the exterior excavation (Mitchell 1990) are:

- 6140 \pm 100 BP (Pta-5158) at base of CCL
- 6910 \pm 80 BP (Pta-5162) at base of CSL-UP
- 7230 \pm 80 BP (Pta-5171) at base of CSL-LR
- 8680 \pm 80 BP (Pta-5172) in middle of GS

The artefact assemblages from CCL and CSL-UP are Classic Wilton, CSL-LR Early Wilton and GS Late Oakhurst. The undated lowest units BS and BC contain an industry that shows similarities with that of the Robberg and probably relate to the late Pleistocene and/or early Holocene period (Mitchell 1990).

The interior excavation appears to be much younger

than the exterior excavation (Mitchell personal communication). It has not been dated, but may be younger than 2000 BP.

RESULTS

The macrofaunal samples consist of 175 042 fragments from the exterior excavation and only 3 164 fragments from the interior excavation (Table 1). The samples are very fragmentary and only 3% of all fragments were identifiable to species or animal size class. The species identified from both excavations are listed in Tables 2 and 3.

Notes on some species represented

Isolated human remains were found in the exterior excavation. They consist of a 2nd and 3rd digit of the 5th finger of an adult (CCL E8/030 and 077) and a 3rd digit of the 3rd finger of an adult (CSL-UP E7/114).

Remains of domestic animals, cattle, goat and sheep or goat, occur in both excavations. They occur as deep as the Wilton layers (CCL and CSL-UP) in the exterior excavation and are also found deep into the interior excavation. The remains from these layers are relatively fresh and the fragments are also larger compared to most of the other faunal remains from those layers, suggesting that they are intrusive.

Hippotragus equinus/leucophaeus, roan or bluebuck, is represented by one incomplete lower M3 from GS. Due to its condition identification to species was not possible.

Hyrax remains were common in all the samples from both the exterior and interior excavations. Although many relate to the layers in which they were found, judged on

Table 1. Tloutle Shelter: total faunal sample.

Skeletal parts	Exterior excavation									Interior excavation	
	SS	BGL	WC	CCL	CSL-UP	CSL-LR	GS	BS	BC	EXT.TOT	INT.TOT
Bovid remain	43	98	13	59	430	169	227	11	2	1586	206
Other remains	37	583	114	1261	487	710	322	46	3	3563	41
TOTAL IDENTIFIABLE	80	681	127	1854	917	879	549	57	5	5149	247
TOTAL UNIDENTIFIABLE	5713	7423	606	67502	30346	20792	35112	2001	398	169893	2917
TOTAL SAMPLE	5793	8104	733	69356	31263	21671	35661	2058	403	175042	3164
Mass identifiable g	80,3	265,6	60,2	934,1	1507,6	730,8	649,9	22,7	64,1	4315,3	1627,0
Mass unidentifiable g	548,7	2058,7	172,2	12678,9	7337,0	12091,6	4680,8	253,5	95,1	39916,5	3731,0
TOTAL MASS	629,0	2324,3	232,4	13613,0	8844,6	12822,4	5330,7	276,2	159,2	44231,8	5358,0
% burnt	15,3	53,1	41,4	85,1	75,0	38,7	33,2	6,1	7,7	62,0	22,4
% identifiable	0,1	8,4	17,3	2,7	2,9	4,1	1,5	2,8	1,2	2,9	7,8

fragmentation and appearance, many of the dassie remains from the exterior excavation are relatively fresh. All the ground squirrel remains are also from the exterior excavation and all are relatively fresh.

Ostrich eggshell fragments are present in most southern African Holocene deposits and were also present in the Tloutle samples (Mitchell 1990). Although, ostrich skeletal remains are seldom found, the Tloutle sample yielded two phalanges, one each from CSL-UP and CSL-LR.

Frog/toad remains occur in five layers, mostly in CCL. The size of the fragments suggests that they were part of owl pellets and do not relate to the archaeological deposits. Most of the small fish, lizard and small rodent remains also appear to come from owl pellets.

Fragments of shells of the terrestrial gastropod *Achatina* sp. occur in all layers of the exterior excavation with the exception of BC. *Achatina* shells lose their colour markings and sheen relatively soon after the death of the animal. Of the Tloutle sample, 33% of the *Achatina* fragments seem to relate to the layers they were found, but 67% of the fragments still display sheen and colour markings, indicating that they are of recent origin, notwithstanding the fact that such specimens occur through the deposit including the Oakhurst units. Similar observations have also been made at other sites (Plug 1990a).

Other terrestrial molluscs all appear to have been self-introduced. The freshwater mussels were brought into the shelter.

Ages of animals at time of death

Tooth eruption, tooth wear and epihyseal fusion were used to determine age classes of the mammalian fauna using the categories discussed in Plug (1988). There were no foetal remains and only one fragment of a neonate large bovid individual. There were nine juvenile individuals represented, seven sub-adults, 85 adults, 15 mature and ten aged.

Sex determination

Few bones were complete enough to allow sex determination. A male and female baboon were identified

on the canine teeth. Pelvic fragments represent a small bovid male, a male and female bovid of medium size and a large bovid male. A male francolin was identified by its tarso-metatarsus with spur.

Skeletal parts representation

The faunal samples from most of the different layers are too small to establish patterns in skeletal parts representation. Table 4 represents the skeletal parts of CCL, the layer with the largest number of identifiable bone fragments. Skull fragments, which include teeth, are the most numerous, followed by lower limb bone fragments. This pattern reflects bone density and the resistance of denser bone to attrition, rather than human selection. The representation of vertebrate skeletal elements at Tloutle follows a similar pattern to that of sites such as Sk 4, Pr 34 (Plug 1988) and Mhlwazini (Plug 1990).

Taphonomy of the samples

The Tloutle samples are heavily fragmented. Fragmentation of bone is common in almost all archaeological faunal samples and is often related to human action during butchering and meat processing. In cave sites marrow extraction, trampling, and pressure caused by the weight of overlying deposits usually cause most of the fragmentation (Plug 1988; Brink 1987). Where much of the sample is burnt fragmentation also increases as burnt bone is more fragile (Plug 1990b, Plug and Roodt 1990). Burnt bone occurs in both the interior and exterior excavation and constitutes 34,6% and 22,4% respectively of the faunal samples. However, the faunal samples from Tloutle are more fragmented than those of other cave deposits that I have examined such as Rose Cottage, Bushman Rock Shelter (where over 70% of all fragments were burnt), Sk 4 and Pr 34. It does appear as if Tloutle was very intensively used.

The low percentage of identifiable fragments can be attributed to the fragmentary nature of the samples. The 17,3% in WC appears high, but most of the specimens are intrusive (terrestrial snails).

Carnivore gnawing is visible on seven bone fragments and an additional 20 fragments appear to have been

Table 2. Tloutle Shelter: species present in exterior excavation, NISP/MNI.

Species	PROVENANCE								
	SS	BGL	WC	CCL	CSL-UP	CSL-LR	GS	BS	BC
Insectivora gen. et sp. indet.			1/1				2/1		
<u>Homo sapiens sapiens</u>				2/1	1/1				
<u>Papio ursinus</u>		1/1		13/2	10/2	4/1	7/2		
<u>Canis mesomelas</u>	1/1			2/1					
<u>Canis sp.</u>	1/*			1/*	2/2		3/1		
cf. <u>Atilax paludinosus</u>							2/1		
Viverridae gen. et sp. indet.	2/1	2/1		3/1	4/1	2/1	3/1	1/1	
<u>Panthera pardus</u>				2/1					
Felidae sp. indet.							1/1		
Carnivora gen. et sp. indet.		1/1		1/*	1/*		1/*		
<u>Equus burchelli</u>		4/2			2/1	1/1		1/1	2/1
<u>Procavia capensis</u>	4/1	8/2	17/2	110/12	63/5	131/10	98/10	24/3	
<u>Phacochoerus aethiopicus</u>		4/1		5/1	2/1		2/1		
Suidae gen. et sp. indet.		2/*		3/*	1/1				
<u>Bos primigenius</u> f. "taurus" Bojanus	1/1	14/4		1/1	1/1				
<u>Ovis/Capra</u>	6/2	6/2		2/1					
<u>Connochaetes gnou</u>		1/1		3/1	1/1	2/1			
<u>Alcelaphus buselaphus</u>				2/1	6/1		1/1		
<u>Connochaetes/Alcelaphus</u>	5/2	1/1	1/1	4/*	19/1	2/1			
<u>Damaliscus dorcas</u>	1/1			2/1	42/5				1/1
<u>Sylvicapra grimmia</u>					2/2				
<u>Sylvicapra/Ourebia</u>							1/1		
<u>Antidorcas marsupialis</u>	1/1			10/1	10/3	3/1	3/1		
<u>Oreotragus oreotragus</u>	4/1	6/1	3/1	66/5	15/3	17/2	31/2		1/1
<u>Raphicerus campestris</u>	2/1	3/1		7/2	11/2		4/1		
<u>Raphicerus sp.</u>				1/*	6/*	1/1	3/1		
<u>Oreotragus/Raphicerus</u>		2/1		3/1					
<u>Pelea capreolus</u>		3/1		8/2	1/1		1/1		
<u>Hippotragus equinus/leucophaeus</u>							1/1		
<u>Taurotragus oryx</u>	3/2	3/1	1/1	20/2	8/2	1/1	27/3		
<u>Redunca cf. arundinum</u>				3/1	2/1				
<u>Redunca fulvorufula</u>		1/1		3/1	3/1		1/1	1/1	
<u>Pelea/Redunca</u>				2/*	1/*		1/*		
Bovidae small (Bov. I)	4/*	22/1	6/1	208/2	61/1	51/2	72/*	3/1	
Bovidae medium (Bov. II)	8/1	30/1	2/1	179/5	141/1	50/2	65/2	5/1	1/1
Bovidae medium large (Bov. III)	8/*	6/*		67/1	99/1	42/1	25/4	2/1	
Bovidae large (Bov. IV)				2/*	1/*				
<u>Xerus inauris</u>	1/1				1/1	1/1			
<u>Pedetes capensis</u>					1/1				
<u>Hystrix africaeaustralis</u>	4/1			1/1	1/1	2/1	4/1	1/1	
<u>Otomys cf. irroratus</u>				6/2	5/1	2/1	3/1		
<u>Otomys sp.</u>	1/1	2/1		2/*	3/1	1/*	2/1	1/1	
Rodentia gen. et sp. indet.		3/*		17/4	5/1	7/1	12/1	4/1	
<u>Lepus sp.</u>				1/1					
<u>Lepus/Pronolagus</u>	1/1			17/2	12/2	8/1	10/1	1/1	
<u>Struthio camelus</u>	1/1			1/1	2/1	12/1			
cf. <u>Sagittarius serpentarius</u>						1/1			
<u>Coturnix sp.</u>				1/1		1/1			
<u>Francolinus sp.</u>				5/2					
<u>Numida meleagris</u>				75/1	1/1				
Aves gen. et sp. indet.				2/1					
<u>Varanus sp.</u>					1/1				
Reptilia: lizard	1/1				1/1	1/1	1/1	3/1	
Reptilia: tortoise				2/1			1/1		
<u>Pyxicephalus adspersus</u>				1/1					
Amphibia: frog/toad			1/1	16/5	1/1	9/2	4/1	7/2	
Pisces gen. et sp. indet.				17/3	3/2				
<u>Trachycystis sp.</u>	2/2	13/13	22/18	9/8				1/1	
<u>Achatina sp.</u>	24/5	509/23	71/3	905/24	136/24	178/6	149/3	2/1	
Gastropoda: terrestrial		1/1	1/1			2/2	3/1		
<u>Unio caffer</u>		1/1		1/1	167/7	283/12	5/1		
Unionidae	1/1	25/3	1/1	40/3	63/2	51/2	7/1		
Gastropoda: fresh water						1/1			
<u>Succinea cf. striata</u>						2/2	2/2		
TOTAL	80/25	681/70	127/32	1854/109	917/69	879/60	549/53	57/18	5/4

Table 3. Tloutle Shelter: species present in the interior excavation, NISP/MNI.

Species	
<i>Papio ursinus</i>	3/1
<i>Canis mesomelas</i>	2/1
Viverridae gen. et sp. indet.	1/1
<i>Panthera pardus</i>	1/1
<i>Felis lybica/catus</i>	1/1
Carnivora gen. et sp. indet.	1/*
<i>Equus burchelli</i>	5/1
<i>Procavia capensis</i>	24/3
<i>Bos primigenius</i> f. "taurus" Bojanus	27/3
<i>Capra hircus</i>	1/1
<i>Ovis/Capra</i>	6/2
<i>Connochaetes gnou</i>	1/1
<i>Alcelaphus buselaphus</i>	1/1
<i>Connochaetes/Alcelaphus</i>	13/2
<i>Damaliscus dorcas</i>	1/1
<i>Sylvicapra grimmia</i>	2/1
<i>Antidorcas marsupialis</i>	3/2
<i>Oreotragus oreotragus</i>	1/1
<i>Raphicerus campestris</i>	3/1
<i>Raphicerus/Oreotragus</i>	1/*
<i>Taurotragus oryx</i>	38/3
<i>Redunca arundinum</i>	2/1
<i>Redunca fulvorufula</i>	2/1
<i>Redunca</i> sp.	2/1
Bovidae small (Bov. I)	8/1
Bovidae medium (Bov. II indet.)	18/1
Bovidae medium (Bov. II non domestic)	18/1
Bovidae large (Bov. III indet.)	20/*
Bovidae large (Bov. III non domestic)	38/3
<i>Hystrix africaeaustralis</i>	2/1
<i>Lepus/Pronolagus</i>	1/1
TOTAL	247/39

corroded due to carnivore stomach acids. Only one bone fragment, an os malleolare has pathological damage in the form of exostosis, probably the result of trauma.

Damage caused by human action is scarce. One humerus shaft fragment has percussion damage. Such damage would occur if bones are split to obtain marrow. An upper canine of a jackal (unit E9-051) has a hole drilled through the root and could have been used as a pendant. The broken end of a bovid metatarsus has been polished to a smooth point. An almost complete ground or polished bone point was found in BGL, five ground point fragments and one ground point/linkshaft fragment in the interior excavation and two ground point or linkshaft fragments in unit C9-134 CSL-UP. All these objects have circular sections. A worked bone fragment was also present in BGL.

DISCUSSION

There is evidence that there was some bioturbation in the deposits. This was particularly true for the interior excavation where recent human activities appear to have been largely responsible. Intrusive material in the exterior excavation includes the remains of cattle, sheep and goat, hyrax, ground squirrel and molluscs. Both ground squirrels and landsnails are burrowers and it is

Table 4. Tloutle Shelter: mammal skeletal parts preservation in CCL. (P: primate, C: carnivore, H: hyrax, S: suid, B: bovid, RH: rodent and hare).

Skeletal part	P	C	H	S	B	RH	TOTAL	%
Cranial	6	3	41		83	22	155	20.0
Vertebra					3		3	0.4
Scapula	1		2		3		6	0.8
Humerus		1	20		18	1	40	5.1
Radius	1	1	11	1	22	1	37	4.6
Ulna			5		8	1	14	1.8
Pelvis			1		8	4	13	1.7
Femur			7		16	3	26	3.3
Tibia/Fibula			5		14	3	22	2.8
Metacarpus			2		12		14	1.8
Metatarsus			3		36		39	5.0
Metapodium		1	1		48	4	54	6.9
Patella					1	1	2	0.2
Ossa capri	3		1		25		30	3.9
Ossa tarsi			7		34	2	43	5.5
Os malleolare					2		2	0.2
Sesamoid					45		45	5.9
Phalanx 1		2		3	119	1	125	16.1
Phalanx 2	2		1	2	74		79	10.2
Phalanx 3	1	1	1		21		24	3.1
Phalanx indet.	1		2	1		1	5	0.6
TOTAL	15	9	110	8	592	44	778	

likely that some of the intrusive material was introduced through the activity of these animals. There is no evidence that humans were the cause of the bioturbation in the exterior excavation. It appears that these disturbances had little influence on the integrity of the artefact assemblages, nor did they compromise the stratigraphic consistency of the C14 dates.

The faunal samples indicate that the area was well stocked with game during the Holocene. The wide variety of species represented, suggests that the occupants made extensive use of the resources available. Historical records show that most of the species identified occurred in the area and that species such as springbok, eland, wildebeest and hartebeest, were fairly common in the western parts of Lesotho (Arbousset and Doumas 1968).

The *Hippotragus equinus/leucophaeus* remains are of interest. Until recently it was assumed that *Hippotragus* spp. did not occur in the eastern Orange Free State and Lesotho areas (Du Plessis 1969, Smithers 1983). Cumming (1850) observed these antelopes as far south as Griqualand West. Remains of the extinct bluebuck and of a possible roan have been identified from Rose Cottage Cave in the Oakhurst/Robberg and Wilton layers respectively (Plug and Engela 1992). The Tloutle specimen dates to the early Holocene ca 8600 BP, and is therefore roughly contemporaneous with the Rose Cottage specimens, substantiating the suggestion that these animals had a wider distribution in the past than was originally thought. Their representation in the rock art of the eastern Orange Free State (Loubser *et al.* 1990) and descriptions in the journal of Lieut. W.J. St. John (Colahan 1990) further suggest that they could have persisted in the area until recent times.

The people who used the shelter were skilled hunters, specialising in the hunting of many different animal species. Although they hunted antelope of all sizes, the remains of small and medium antelopes are particularly

common in the samples. The disparity between the number of skeletal remains of small and medium bovids on the one hand and large antelopes on the other is not necessarily due to human selection or butchering practices, but may also reflect relative availability of animals in the area. Most of the animals were adult, indicative of selective hunting (Plug 1988).

There is a remarkable reduction in faunal remains in the undated layers BS and BC. This may be the result of poor preservation, but could also indicate less favourable conditions. If these layers predate 14 000 years BP, it would reflect the colder conditions that are associated with the last glacial period, which reached its peak at ca 18 000 years BP. Colder, less amenable conditions may have resulted in low primary production and less frequent human occupation. Similar trends were observed at Rose Cottage Cave (Plug and Engela 1990).

The bone samples show that carnivores also used the shelter from time to time. Carnivores such as leopard could have been responsible for some of the hyrax remains.

Most of the carnivore remains appear to relate to the archaeological deposits. Although they could have been hunted for their skins or food, they could also have had ritual importance. The drilled jackal tooth could have had shamanistic and/or *hxaro* gift value as could some of the mongoose remains (Bleek 1935, 1936; Korsman 1990).

The isolated human digits are interesting as no traces of a grave were found. Finger amputations have been recorded amongst the southern Bushmen and Khoi (Bleek and Lloyd 1911, Schapera 1930). Isolated finger remains have also been recorded from the Honingklip Holocene deposits (Korsman 1990). It is possible that the finger digits of Tloutle were amputated. There are no cut marks visible on the bones, but as the surfaces of the bones are weathered and abraded, such traces could have been obliterated.

ACKNOWLEDGEMENTS

I am grateful to the Foundation for Research Development for their support. I wish to thank P. Mitchell for providing the research samples, and D. Meyer zu Bargholz, S. Holt and D. van der Walt for their help in sorting and listing some of the unidentifiable fragments.

REFERENCES

- Arbousset, T. and Dumas, F. 1968. Narrative of an exploratory tour to the north-west of the Cape of Good Hope. Cape Town: Struik.
- Bleek, D.F. 1935. Beliefs and customs of the /Xam Bushman. Part VII: Sorcerers. Bantu Studies 9:1-47.
- Bleek, D.F. 1936. Beliefs and customs of the /Xam Bushman Part VIII: More about sorcerers and charms. Bantu Studies 10:131-62.
- Bleek, W.H.I. and Lloyd, L.C. 1911. Specimens of Bushman folklore. London: Allen.
- Brink, J.S. 1987. The archaeozoology of Florisbad, O.F.S. Memoirs vna die Nasionale Museum 24.
- Colahan, B.D. 1990. Did the last blue antelope *Hippotragus leucophaeus* die in the eastern Orange Free State, South Africa? South African Journal of Science. 86:477-478.
- Cumming, R.G. 1850. Five years of a hunter's life in the far interior of South Africa. (2 volumes). London: J. Murray.
- Du Plessis, S.F. 1969. The past and present geographical distribution of the perissodactyla and artiodactyla in southern Africa. Unpublished M.Sc. dissertation: University of Pretoria.
- Korsman, S.A. 1990. A reconstruction of the Later Stone Age on the farm Honingklip in the eastern Transvaal. Unpublished M.A. dissertation: University of Pretoria.
- Loubser, J., Brink, J. and Laurens, G. 1990. Paintings of the extinct blue antelope, *Hippotragus leucophaeus*, in the eastern Orange Free State. South African Archaeological Bulletin 45:106-111.
- Mitchell, P. 1990. Preliminary report on the Later Stone Age sequence from Tloutle Rock Shelter, western Lesotho. South African Archaeological Bulletin 45:100-105.
- Plug, I. 1978. Die Latere Steentydperk van die Boesmanrotsskuiling in Oos-Transvaal. Unpublished M.A. dissertation: University of Pretoria.
- Plug, I. 1988. Hunters and Herders: an archaeozoological study of some prehistoric communities in the Kruger National Park. Unpublished D.Phil. dissertation: University of Pretoria.
- Plug, I. 1990a. Terrestrial molluscs and archaeological stratigraphy: a cautionary tale. South African Journal of Science 86:204-205.
- Plug, I. 1990b. The macrofaunal remains from Mhlwazini Cave, a Holocene site in the Natal Drakensberg. Natal Museum Journal of Humanities 2:135-142.
- Plug, I. and Engela, R. 1992. The macrofaunal remains from recent excavations at Rose Cottage Cave, Orange Free State. South African Archaeological Bulletin 47:16-25.
- Plug, I. and Roodt, F. 1990. The faunal remains from recent excavations of uMgungundlovu. South African Archaeological Bulletin 45:47-52.
- Schapera, I. 1930. The Khoisan peoples of South Africa. London: Routledge and Kegan Paul.
- Smithers, R.H.N. 1983. The mammals of the Southern African Subregion. University of Pretoria.