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AN ARCHAEOZOOLOGY OF THE NDZUNDZA NDEBELE IN THE STEELPOORT RIVER VALLEY, MPUMALANGA, SOUTH AFRICA, *c.* 1700 AD – 1883 AD

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This paper presents an analysis of the faunal remains from three farmer or Late Iron Age sites in the Steelpoort River Valley, occupied *c.* AD 1700–1900 by Ndzundza Ndebele. The Ndzundza were forced, successively, to relocate from KwaMaza and Esikhunjini to KoNomtjarhelo as a result of continual fighting among themselves, other farmer communities, and with the British and the Boers. I examine their subsistence behaviour during this period through an archaeozoological analysis, identifying what species, sex and age of animals were utilized by the Ndzundza. This examination of daily life through animal procurement, during a violent and unstable political period in South African history has produced a 200 year trajectory that shows people trying to perpetuate cultural norms in ever more abnormal conditions until they broke with tradition and followed necessity by abandoning cattle, hunting wild game on a larger scale, and exclusively tending small herds of small stock.

THE NDZUNDZA NDEBELE

The Ndzundza form part of three kin groups of the Southern Transvaal Ndebele: the Ndzundza, the Manala and the Hwaduba (Jonas 1989: 5). Moving into Koni country in the 1630s, the Ndzundza settled at KwaSimkulu, located at the source of the Steelpoort River (Fourie 1999: 39; Fig. 1). Living in relative harmony with the Koni, their occupation spanned about 50 years from *c.* AD 1631–1681 (Coertze 1983: 33; Van Jaarsveld 1985: 20). However, the arrival of the Pedi in the 1650s set in motion a period of near-continuous conflict (Fourie 1999: 35). Around 1681 the Ndzundza moved to KwaMaza, located in the Stoffberg district (Fourie 1999: 40). At this time the Ndzundza's neighbours were the Kopa to the west (settled at the foot of Thabant ho – Black Mountain – known as Maleoskop [Boshoff & Steyn 2008]) the Koni and Venda to the northeast, the Ndwandwe to the southeast, and the Phuting to the southwest (Fourie 1999: 30; Schoeman 1997: 45).

As a result of droughts, famine and attacks by Mzilikazi (*c.* 1825 AD) during the *mfecane,* the Ndzundza moved from KwaMaza to settle at Esikhunjini in the early 1820s (Fourie 1999: 40; Schoeman 1997: 47–50). The defensive location of Esikhunjin, however, did not prevent further attacks by Mzilikazi and the remnant Ndzundza moved KoNomtjarhelo, which was well established by the time the Boers arrived in the 1840s (Massie 1905: 9; Fourie 1999: 40). Under the leadership of Andries Hendrik Potgieter the Boers settled in Ohrigstad, east of the Steelpoort River, in 1845 (Smith 1969: 237). But the bushveld harboured diseases that made the area ill suited for year-round stock keeping and forced the Boers to seek other subsistence resources. This led to increased hostilities between the Boers and the Ndzundza. The situation deteriorated further with the introduction of migrant labour from the 1840s onwards, in which the Ndzundza participated due to their desire to accumulate guns (Fourie 1999: 53; Van Jaarsveld 1985: 36).

The discovery of gold in the area of Pilgrim's Rest by 1871 and subsequent failure of the mining industry in 1875 led President Burgers of the Z.A.R. to conclude that the presence of the Pedi and Ndzundza were barriers to progress (Smith 1969: 241; Fourie 1999: 47). He declared war on the Pedi, and Sekhukhune, the paramount chief of the Pedi, surrendered on 2 December 1879 and was imprisoned in Pretoria (Smith 1969: 240; Fourie 1999: 50–52). All Sekhukhune's sons were killed and Mampuru (Sekhukhune's half brother) was acknowledged as new leader of the remaining Pedi (Van Jaarsveld, 1985: 147). In 1881 Sekhukhune was released by the Boer government and returned to the Pedi people where a year later he was killed on Mampuru's orders (Coertze 1983: 34; Fourie 1999: 52). Mampuru, now wanted by the Z.A.R., sought refuge amongst the Ndzundza. After several demands to hand over Mampuru, the Boers declared war against the Ndzundza in November 1882, which became know as the *Mapochsoorlog'* (Mapoch war: Coertze 1983: 34; Fourie 1999: 57).

The Ndzundza prepared for this siege by adding additional fortifications, storing food and relocating gardens to strategic areas (Massie 1905: 110; Fourie 1999: 57). The Boers could not displace the Ndzundza but on 8 July 1883, eight months after the war started, the Ndzundza surrendered as a result of starvation (Massie 1905: 110; Coertze 1983: 36; Fourie 1999: 56). According to Jonas (1989: 128), after the Ndzundza's surrender they dispersed and by 1935 were settled on white-owned farms in the then Transvaal. This is the latter history of the Ndzundza as recorded by anthropologist, ethnographers and historians.

THE ARCHAEOLOGICAL SITES

KwaMaza (*c.* 1675–1820) (Fig. 2), is located at the base of the Bothasberg on the western margin of the Steelpoort River valley. Schoeman (1997: 69) concluded that the site was occupied by a ruling elite and is dated by oral tradition to 1675. The end of occupation is dated to the *mfecane* period in the 1820s, signifying an occupation period of 150 years (Schoeman 1997: 77). Excavations at the site focused on two stone-walled and midden clusters; KwaMaza A and KwaMaza B, located 80 m apart (Schoeman 1997: 77). KwaMaza A, positioned at the highest point of the site, consists of three homesteads around a large central enclosure and is characterized by nine prominent middens and soil mounds (Schoeman 1997: 81). Finds include potsherds, a metal spear shaft, a clay spoon, grinding stones, stone flakes, iron wire, ostrich eggshell pieces, glass beads, copper bangles (Schoeman 1997: 84) and 680 bone fragments. KwaMaza B, located to the north of KwaMaza A, consists of two stone-walled enclosures, terrace walling and nine large clearly identifiable middens *(ibid.*: 85; 87). The finds included pot-

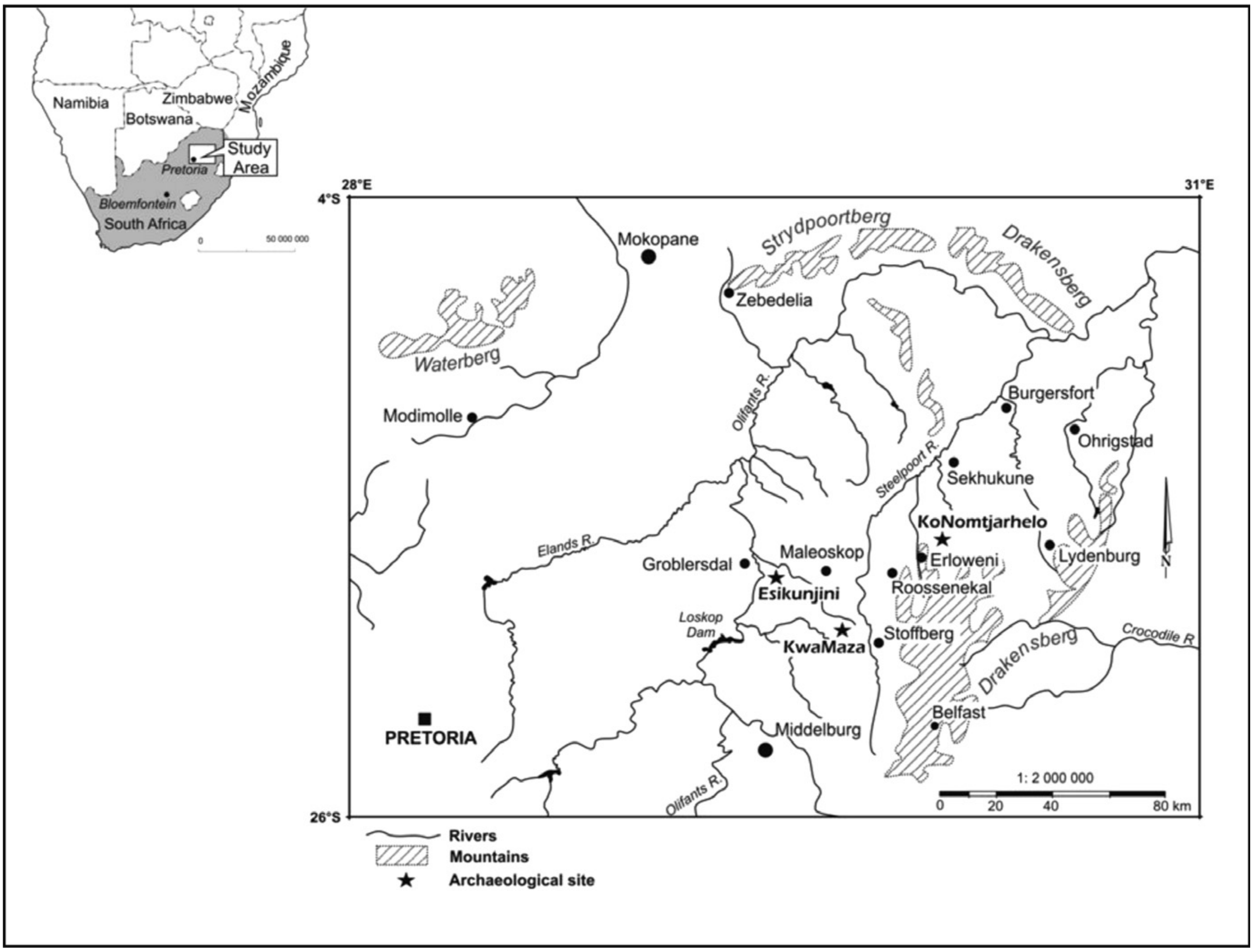

FIG. 1. *Locations of Ndzundza archaeological sites; KwaMaza, Esikhunjini and KoNomtjarhelo, in the Steelpoort River Valley, Mpumalanga.*

sherds, Middle Stone Age tools, slag, an ostrich eggshell bead, an upper grinding stone, worked clay pieces, a copper spiral, copper beads (*ibid*.: 87) and 2313 bone fragments.

Esikhunjini (*c.* 1819–1835) (Fig. 3) is located on the northern slopes of the Bothasberg, approximately 10 km from the Steelpoort River (Schoeman 1997: 64, 70). The three excavated middens were near the front entrances of homesteads and consisted of shallow deposits. Finds include ceramics, ostrich eggshell pieces, glass beads, copper spirals and bangles, an iron spearhead, grinding stones, a broken clay figurine (Schoeman 1997: 131) and 1535 bone fragments. Plant remains excavated include grass silica, millet, and carbonized sorghum and maize cobs (*ibid*.).

KoNomtjarhelo (1835–1883) also known as Spitskop and the Mapoch caves (Coertze 1983: 33), was the 19th century Ndzundza stronghold. KoNomtjarhelo's prominent features are huge granite boulders with overhangs and shelters (Schoeman 1997: 163). Schoeman also describes small and scattered enclosures on the gentler slopes below the hill but focused her research on the outlier UmKlaarmaak (Fig. 4).

FIG. 2. *KwaMaza archaeological site (image courtesy and copyright of M.A. Schoeman).*

FIG. 3. *Esikhunjini archaeological site (image courtesy and copyright of M.A. Schoeman).*

TABLE 1. *Species, size and family classes identified at KwaMaza A.*

Species, size and family classes	NISP	QSP	MNI	MASS (g)	Teeth			Skeletal Part				
					D	U	P	C	P-C	SCF	SAC	O
cf. *Caracal caracal* (caracal)	1	0.0094	1	1.33					1			
Felidae sp. indeterminate	2	0.0094	1	4.47					2			
Equus sp.	2	0.0197	1	111.71					1			
Ovis/Capra (sheep/goat)	3	0.0167	2	8.25			2		1			
Bos taurus (cattle)	20	0.1056	7	371.21	2		14		4			
Bov I	1	0.0056	1	1.04					1			
Bov II	4	0.0167	1	5.28			1		3			
Bov II non-domestic	1	0.0111	1	0.64					1			
Bov III	12	0.0333	2	149.5			1		11			
Bov III non-domestic	3	0.0111	1	51.06					3			
cf. *Aepyceros melampus* (impala)	2	0.0111	1	20.66					2			
Total	51	0.2497	19	734.15	2		18		31			

D = deciduous; U = unerupted; P = permanent; P-C = postcranial; SCF = shell/carapace fragments; O = other.

UmKlaarmaak is located on a steep hill 2 km southwest of Erloweni (Coertze 1983: 33), and was dated using oral tradition to 1835–1883, ending with the surrender by the Ndzundza to the Z.A.R. Ceramics, a gun visor, worked metal pieces, broken worked clay figures, a button, a glass bead, a metal pipe, grinding stones, a metal Consol bottle top, cannon ball shrapnel, a metal button and 305 bone fragments were recovered during the excavations (Schoeman 1997: 162). Plant remains recovered consist of peach pips and carbonized maize cobs (*ibid.*).

The excavated remains provide some tantalizing hints as to how the Ndzundza constantly used their environment and social resources to meet the ever-increasing set of challenges that beset them. I now focus specifically and quantitatively on each site's faunal assemblage before concluding with some thoughts on what these assemblages tell us of the Ndzundza's daily life in coping with an unstable world.

THE FAUNAL ASSEMBLAGES

KWAMAZA A

The faunal material recovered from KwaMaza A consists of 680 well-preserved bone fragments with a total mass of 1401.26 g, of which 7.5% were diagnostic. The taxa identified include: caracal, cattle, impala, felid, equid, sheep/goat, Bov I, Bov II and Bov III (Table 1). All these animals are considered to be part of 'normal' Iron Age faunal compositions (e.g. De Wet-Bronner 1994, 1995a,b; Pistorius & Plug 2001; Badenhorst & Plug: 2004/2005). Quantifying the faunal material using MNI (Minimum Number of Individuals), NISP (Number of Identified Specimens) and QSP (Quantifiable Skeletal Parts) indicates that the Ndzundza relied heavily on bovids, in particular domesticated cattle. Hunting was also practiced and verified by the presence of Bov I, Bov II non-domestic, Bov III non-domestic, caracal, felid, equid and impala remains. The Bov I specimen might have been snared or trapped whilst the caracal and felid specimens may have been led to a decoy carcass, killed and used for ritual purposes (I. Plug, pers. comm. 2007).

FIG. 4. *UmKlaarmaak excavation (image courtesy and copyright of M.A. Schoeman).*

The meat contribution of the assemblage (Table 2) suggests cattle provided the bulk of the meat supply (26.4 kg). The combined Bov III (3.7 kg), Equid (3.2 kg) and other non-domestic bovid (1.8 kg) samples (equalled to 8.7 kg) and show that the Ndzundza preferred wild game to the utilization of sheep/goat meat (0.3 kg). Caracals, contributed the least amount of meat (0.1 kg).

The cattle sample is represented by juvenile, subadult, adult and mature individuals whilst the sheep/goat sample is represented by juvenile and subadult individuals. The sample is, however, too small to make any definitive statements regarding the age profile of the domestic animals. The un-identified sample is dominated by miscellaneous (331) fragments followed by bone flake (221), rib (57), skull (19), enamel (8) and vertebra (3) fragments. The cut and chop marks noted on some of the skeletal specimens are solid evidence of skinning and butchering procedures. The bulk of the sample is, however, unmodified. Neither sex determination nor age profiling could be done due to the fragmented nature of the sample.

TABLE 2. *Calculated meat contribution of animals identified at KwaMaza A.*

Species, size and family classes	QSP	Meat mass contribution (kg)
cf. *Caracal caracal* (caracal)	0.0094	0.1
Equus sp.	0.0197	3.2
Ovis/Capra (sheep/goat)	0.0167	0.3
Bos taurus (cattle)	0.1056	26.4
Bov I	0.0056	0.1
Bov II	0.0167	0.3
Bov II non-domestic	0.0111	0.3
Bov III	0.0333	3.7
Bov III non-domestic	0.0111	1.1
cf. *Aepyceros melampus* (impala)	0.0111	0.3
Total	0.2497	35.8

TABLE 3. *Species, size and family classes identified at KwaMaza B.*

Species, size and family classes	NISP	QSP	MNI	MASS(g)	Teeth			Skeletal Part				
					D	U	P	C	P-C	SCF	SAC	O
Shrew indeterminate	1	0.0051	1	0.08				1				
Genetta genetta (small spotted genet)	1	0.0047	1	0.44					1			
Felidae sp. indeterminate	1	0.0047	1	0.98					1			
Mongoose	1	0.0102	1	0.44					1			
Carnivore indeterminate	1	0.004	1	1					1			
Equus sp.	1	0.0066	1	83.18					1			
Ovis aries (sheep)	20	0.1222	4	89.69	5		7	3	5			
Ovis/capra (sheep/goat)	22	0.1167	3	64.2	10		4	4	4			
Bos taurus (cattle)	121	0.5667	5	5550.37	1		20	25	75			
Bov II	20	0.667	2	83.18	1		2	2	15			
Bov II non-domestic	3	0.0333	1	5.74					3			
Bov III	40	0.0667	2	668.65	1		2	2	35			
Bov III non-domestic	5	0.0167	2	73.28					5			
Bov IV	1	0.0056	1	159.3					1			
cf. *Aepyceros melampus* (impala)	9	0.0444	2	65.78	3		3	1	2			
Syncerus caffer (African buffalo)	1	0.0056	1	14.11					1			
cf. *Tragelaphus oryx* (eland)	3	0.0111	1	382.46					3			
Small rodent	2	0.1078	1	1.07				1	1			
Lagomorph	1	0.0093	1	0.25					1			
Lizard	1	0.0054	1	0.06				1				
Achatina (giant African land snail)	1	1	1	0.04							1	
Unio caffer (freshwater mussel)	1	1	1	0.04							1	
Total	257	3.2188	35	7244.34	21		38	40	156		2	

D = deciduous; U = unerupted; P = permanent; P-C = postcranial; SCF = shell/carapace fragments; O = other.

KWAMAZA B

The faunal sample recovered from KwaMaza B was the largest sample of all the excavated sites with 2313 bone fragments, weighing 10 353.21 g, of which 11.2% could be identified. The taxa identified include: small spotted genet, sheep, cattle, impala, buffalo, eland, giant African land snail, freshwater mussel, shrews, felids, mongoose, carnivores, equids, sheep/goat, small rodents, lagomorphs, lizards, Bov II, Bov II Bov III, and Bov IV (Table 3). These animals, apart from the felids, mongoose, carnivores, small rodents, shrews, lizards and molluscs, are considered definite food contributors.

Although mongoose, carnivores, rodents, lizards and molluscs are possible food sources, especially as 'famine foods', the small number of identified fragments (Table 3) suggests that these specimens entered the deposit on their own, possibly to eat midden waste. Corroborating evidence of this are rodent gnaw marks. The freshwater mussel (*Unio caffer*) must, however, have been carried to the site by the Ndzundza. Determining significance on the basis of a single specimen is not possible other than indicating possible exploitation of riparian resources. No fish bones were recovered, perhaps because of the relatively large 3 and 5 mm mesh sizes used in the original excavation (Schoeman 1997: 87), which may also account for the low number of rodent remains. The felid, mongoose and carnivore specimens are more likely to have been used for their skins or medicinal purposes than for eating (I. Plug, pers. comm. 2007).

Butchering damage (cutting and chopping) is more prominent at KwaMaza B than any of the other sites, but as the largest faunal sample this may be expected. The cattle maxilla fragment with a displaced P4, indicates injury in early life, probably a blow to the jaw (Fig. 5). This might be due to cattle being crowded together in kraals, although this is speculative. The cattle M1 tooth with evidence of periodontal disease (Fig. 6), possibly due to a bacterial infection, does not point to malnutrition as no evidence of this is visible in the otherwise healthy

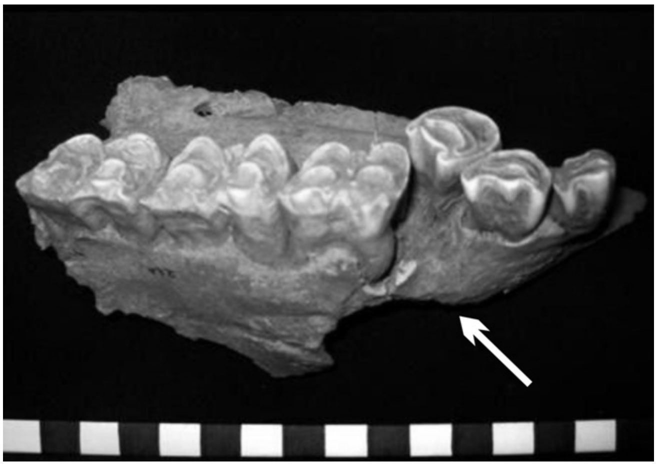

FIG. 5. *Cattle left maxilla fragment with P2, P3 and displaced P4, M1, M2 and M3 (scale in cm).*

FIG. 6. *Cattle lower left M1 tooth with deformed roots possibly due to periodontal disease (scale in cm).*

TABLE 4. *Calculated meat contribution at KwaMaza B.*

Species, size and family classes	QSP	Meat mass contribution (kg)
Shrew indeterminate	0.0051	0.0001
Genetta genetta (small spotted genet)	0.0047	0.01
Equus sp.	0.0066	1.1
Ovis aries (sheep)	0.1222	0.11
Ovis/capra (sheep/goat)	0.1167	1.9
Bos taurus (cattle)	0.5667	141.7
Bov II	0.667	10.7
Bov II non-domestic	0.0333	0.8
Bov III	0.0667	7.34
Bov III non-domestic	0.0167	1.7
Bov IV	0.0056	2.2
cf. *Aepyceros melampus* (impala)	0.0444	1.1
Syncerus caffer (African buffalo)	0.0056	2.2
cf. *Tragelaphus oryx* (eland)	0.0111	3.22
Small rodent	0.1078	0.0011
Achatina (giant African land snail)	1	0.02
Unio caffer (freshwater mussel)	1	0.02
Total	3.2188	174

tooth enamel. These two pathologies would not have been fatal, expect when periodontal disease lead to loss of dentition (Miles & Grigson 1990: 521–522).

MNI numbers (Table 3) indicate the dominance of domesticated bovids. Nevertheless the identification of Bov I, Bov II non-domestic and Bov III remains indicates more than incidental hunting. Due to the small sample size, MNI numbers overestimate the contribution of the genet, lagomorph, mongoose, equid, carnivore, rodent and lizard sample. They are each represented by a single individual, MNI therefore creates the methodological fiction that each animal contributed equally to the sample. NISP numbers (Table 3), however, show that their contribution was significantly less than the sheep, sheep/goat, cattle, Bov II and Bov III sample. QSP values excluding molluscs confirm the dominance of cattle, sheep and sheep/goat. Although the mollusc sample comprising two elements of a single individual is omitted in QSP quantification (see discussion in Nelson 2008: 86). It may have been an important food source (Gelfand *et al.* 1985: 311) and was perhaps deposited in an area not yet excavated.

The unidentified faunal sample indicates a similar pattern to the KwaMaza A unidentified sample, with miscellaneous (1317) fragments dominant, followed by bone flake (264), rib (262), skull (147), enamel (35) and vertebra (30) fragments. It must be noted, however, that both the KwaMaza A and B samples are small. When one considers the meat values (Table 4), cattle (141.7 kg) contributed most to subsistence at KwaMaza B. Other values are: Bov III (7.34 kg), Bov IV (2.2 kg) and large game such as buffalo (2.2 kg) and eland (3.22 kg). This is followed by smaller bovids such as sheep/goats (1.9 kg), sheep (0.11 kg), Bov II non-domestics (0.8 kg) and Equids (1.1 kg) with negligible meat contribution from the small rodents (0.0011 kg) and molluscs (0.04 kg). Sheep/goat contributed little to the diet, suggesting established cattle herds and well-established hunting cohorts or partners. The negligible meat contribution from the rodent and mollusc sample does not suggest an important food source, unless large-meshed sieving has diminished the sample.

The age profile for Bov II, Bov III and cattle indicate a possible preference for subadults, whilst the sheep/goat and impala sample is dominated by juveniles. At three large Iron Age sites in the Northwest Province, founded in the 17th century and associated with the Tswana, the identification of juveniles, in particular age class II, points to natural deaths since class II and younger individuals are not usually utilized as a food sources until they are more mature (Badenhorst & Plug 2006: 65). A large number of juveniles may thus indicate disease under young animals or resource-stressed situations where people were induced to kill young animals (I. Plug, pers. comm. 2007). The Ndzundza KwaMaza B sample, though small, does agree in general terms with the ethnographic information on the progressively unstable political and social period of the region (Nelson 2008: 22–29). I suggest, therefore, that the change in age profiles of the KwaMaza B sample indicates that circumstances were less than optimal ecologically and politically, forcing people to utilize younger animals rather than the usual off-take of older and sick animals.

ESIKHUNJINI

The faunal sample from Esikhunjini consists of 1535 faunal fragments weighing 2094.05 g of which 10% were identified. Though smaller than the KwaMasa samples, perhaps because Esikhunjini was occupied less than 20 years (as opposed to Kwamaza's 150-year occupation), there is more variety in the animals utilized at Esikhunjini. Located in a similar environment and soils to KwaMaza, the quantity and variety of faunal remains recovered cannot be explained by taphonomic and preservational factors. While sampling and recovery bias is always an issue, Schoeman's methodology and field technique was uniform at all three sites (Schoeman, pers. comm. 2008).

Taxa identified include human, antbear, sheep, cattle, wildebeest, steenbok, impala, kudu, eland, reedbuck, springhare, scrub hare, chicken, bullfrog, giant African land snail, primates, felids, equids, sheep/goat, rodents, lagomorphs, birds, Bov I, Bov II, Bov III and Bov IV fragments (Table 5). This species range indicates a mixture of herding and hunting. Although primates are a possible food source to Iron Age communities (Quin 1959: 124; Stayt 1968: 78), only one humerus fragment was identified and it is not possible to determine the use of the animal from an isolated find. However, in combination with the recovery of a human molar, antbear and bullfrog fragments, the primate specimen could possibly point to apotropaic ritual use to ward off malevolent physical and magical presences, such as the real and perceived enemies of the Ndzundza (see also Nelson 2008: 122–123).

The Esikhunjini sample shows the most varied taphonomy of all the sites, in particular the high number of burnt fragments. Other taphonomic indications include rodent gnawing (7), carnivore gnaw marks (5), weathered specimens (5), chop marks (3), cut marks (1) and pathological lesions (1). Cut and chop marks are the results of skinning and butchering practices, whilst the rodent gnawing suggests that rodents may have co-inhabited the site. The carnivore gnawing is most probably due to scavenging by wild animals or by domestic dogs seeking out scraps. Though no dog remains were identified, the Ndzundza may have owned domestic dogs like other farmer communities (Badenhorst & Plug 2004/2005; Badenhorst & Plug 2006: 65). Not finding remains of domestic dog in middens is expected – injured and dying animals seek out quiet and secluded spots to die; furthermore, dogs killed in the hunt would probably have been left in the veld (I. Plug, pers. comm. 2007).

The eland phalanx 1 fragment with evidence of extra bone growth (exostosis) caused by abscessed tissue may be due to ageing or possible trauma to the lower limb (Fig. 7). Similar finds of exotsosis were identified on buffalo phalanges by De Wet-Bronner (1995a: 26, 1995b: 115) at Tshitheme, Dzata and Tshirululuni and are not debilitating to the animal. The

TABLE 5. *Species, size and family classes identified at Esikhunjini.*

Species, size and family classes	NISP	QSP	MNI	MASS(g)	Teeth			Skeletal Part				
					D	U	P	C	P-C	SCF	SAC	O
Homo sapiens sapiens (human)	1	0.004	1	0.36				1				
Primate	1	0.0038	1	2.23					1			
cf. *Orycteropus afer* (antbear)	1	0.0046	1	3.27					1			
Felidae sp. indent	2	0.0047	1	8.09					2			
Equus sp.	3	0.0132	1	21.95			2		1			
Ovis aries (sheep)	9	0.0889	4	35.11			8	1				
Ovis/capra (sheep/goat)	34	0.1778	5	105.08	1		28	1	4			
Bos taurus (cattle)	5	0.0278	1	337.63	2		1		2			
Bov I	18	0.0611	3	38.52			4	1	13			
Bov II	42	0.1444	3	191.38			7	1	34			
Bov II non-domestic	3	0.0167	1	15.04					3			
Bov III	4	0.0167	1	48.61					4			
Bov IV	4	0.0222	1	66.73				1	3			
cf. *Connochaetes taurinus* (blue wildebeest)	1	0.0056	1	13.84					1			
Raphicerus campestris (steenbok)	1	0.0056	1	0.27			1					
cf. *Aepyceros melampus* (impala)	2	0.0111	1	36.01					2			
Tragelaphus strepsiceros (kudu)	1	0.0111	1	8.81					1			
cf. *Tragelaphus oryx* (eland)	2	0.0167	1	188.74					2			
cf. *Redunca arundinum* (reedbuck)	3	0.0167	1	60.83					3			
Rodent indeterminate	1	0.0049	1	0.64					1			
Small rodent	2	0.001	1	0.42				1	1			
Pedetes capensis (springhare)	1	0.0093	1	0.43					1			
Lepus saxatilis (scrub hare)	1	0.0139	1	0.48					1			
Lagomorph	2	0.0093	1	0.98					2			
Gallus domesticus (chicken)	2	0.0297	1	0.34					2			
Bird indeterminate	1	0.0198	1	0.44					1			
Pyxicephalus adspersus / edulis (bullfrog)	1	0.0082	1	0.08					1			
Achatina (giant African land snail)	1	1	1	0.47							1	
Total	149	1.7486	39	1187.14	3		51	7	87		1	

D = deciduous; U = unerupted; P = permanent; P-C = postcranial; SCF = shell/carapace fragments; O = other.

number of pathologies observed on the Ndzundza faunal remains is high given the total number of specimens identified. This might be an indicator of negative environmental conditions and/or the possibility that the Ndzundza were killing off sick animals.

MNI numbers (Table 5) indicate the dominance of bovids, in particular Bov I and Bov II, sheep and sheep/goats. This differs slightly from the KwaMaza sites where cattle dominated along with larger bovids such as buffalo and eland. NISP numbers (Table 5) indicate a similar pattern in the use of smaller bovids and animal species at Esikhunjini. According to QSP values (Table 5) sheep/goat and Bov II skeletal elements contributed most to the sample followed by sheep, Bov I, cattle and Bov IV remains. Next in order are the remaining non-domesticated bovids, small rodent and bird species. The calculated meat contribution (Table 6), however, indicates that Bov IV (8.7 kg) provided the bulk of the meat supply. This is followed by cattle (6.95 kg), eland (4.84 kg), sheep/goat (2.84 kg) and sheep (1.42 kg). This differs with the quantification results that indicate that the Ndzundza utilized sheep/goats more frequently. The small rodent specimens contributed very little, if any, meat (0.00001 kg) and were probably not utilized as a food source.

Overall, these Ndzundza seem to have retained a significant focus on domesticated bovids. However, the bulk of the meat supply was from wild bovids – their combined meat contribution was 16.98 kg as opposed to the 6.95 kg supplied by domestic animals. This demonstrates that although a particular species may contribute more skeletal elements to a sample, it does not necessarily mean that they provided the bulk of the meat. The age profile of the sample points to the possibility of a preference for mature Bov II and sheep/goats, whilst the cattle sample is represented by juveniles. The sample is, however, limited with regards to establishing definitive age profiles. All

FIG. 7. *Eland phalanx 1 with evidence extra bone growth (nodules) as a result of abscessed tissue (scale in cm).*

TABLE 6. *Calculated meat contribution at Esikhunjini.*

Species, size and family classes	QSP	Meat mass contribution (kg)
cf. *Orycteropus afer* (antbear)	0.0046	0.11
Equus sp.	0.0132	2.11
Ovis aries (sheep)	0.0889	1.42
Ovis/capra (sheep/goat)	0.1778	2.84
Bos taurus (cattle)	0.0278	6.95
Bov I	0.0611	0.61
Bov II	0.1444	2.31
Bov II non-domestic	0.0167	0.4
Bov III	0.0167	1.84
Bov IV	0.0222	8.7
cf. *Connochaetes taurinus* (blue) wildebeest	0.0056	0.6
Raphicerus campestris (steenbok)	0.0056	0.03
cf. *Aepyceros melampus* (impala)	0.0111	0.3
Tragelaphus strepsiceros (kudu)	0.0111	1.1
cf. *Tragelaphus oryx* (eland)	0.0167	4.84
cf. *Redunca arundinum* (reedbuck)	0.0167	0.4
Small rodent	0.001	0.00001
Pedetes capensis (springhare)	0.0093	0.014
Lepus saxatilis (scrub hare)	0.0139	0.1
Gallus domesticus (chicken)	0.0297	0.024
Pyxicephalus adspersus/edulis (bullfrog)	0.0082	0.003
Achatina (giant African land snail)	1	0.02
Total	1.7486	34.6

these factors may suggest a smaller, more mobile and stressed group of people who sought to use as great a variety of means as possible to ensure food security.

UMKLAARMAAK

The faunal sample excavated from UmKlaarmaak is the smallest sample of all the excavated sites and consists of 305 fragments weighing 276.92 kg of which only 11 fragments could be identified. The sample is extremely fragmented, weathered and poorly preserved. Of the identified material 27% of the fragments are burnt indicating a variety of possible scenarios such as a volatile period in which settlements might have been burned down (see also Boshoff & Steyn 2008); or people using cooking to extract the maximum nutritional value from animal remains, i.e. bone broths. The fragmented nature of the sample in addition to cut and chop marks also support the notion that the Ndzundza utilized every possible food source, including shattering bones to access marrow – a common farmer practice as marrow was a desirable and highly valued food source (I. Plug, pers. comm. 2008). It is, however, seldom that one finds such a fragmented bone sample.

The taxa identified (Table 7) include goats, sheep, the giant African land snail, Bov II, sheep/goats and *Lepus sp*. As no non-domestic bovid specimens were identified, it is suggested that the Bov II remains most likely belong to either sheep or goats (I. Plug, pers. comm. 2008). Considering that UmKlaarmaak was occupied for nearly 50 years as opposed to less than 20 years for Esikhunjini, one would expect to find a greater abundance of faunal remains at UmKlaarmaak, excavation bias notwithstanding. However, ethnographic and historic information (Nelson 2008: 22–30) indicates that the Ndzundza were surrounded by the Boers and Pedi and eventually surrendered due to starvation in the last stage of the war in 1883. Abundant middens thus would not be expected.

All the animals identified are regarded as food contributors. The single terrestrial gastropod (0.26 g) probably intruded into the deposit. MNI numbers (Table 7) indicate an equal contribution of all the identified animals; a clear example of the ineffectiveness of MNI quantification when analysing small samples. QSP quantification and meat contributions confirm the Ndzundza's reliance on sheep and goats (Table 8). The single *Lepus sp*. fragment does not provide enough evidence of actively pursuing these animals. The extreme fragmentation of the sample precluded age and sex profiles. There is no faunal evidence of ritual though the middens were carefully capped with ironstone (Schoeman 1997: 165). Although the skeletal part distribution pattern of the identified sample indicates the use of cranial, proximal metacarpal, pelvis and proximal femur fragments, the sample is too small to make any assumptions that might lend support to the sequence of growing stress. The unidentified sample is dominated by miscellaneous fragments (131), followed by bone flake (44), rib (83), skull (31), vertebra (3) and enamel (2) fragments.

The absence of non-domestic faunal remains could indicate these Ndzundza's inability to hunt while surrounded by enemy forces. One should also consider whether the use of firearms and sound of cannon fire and invading enemy troops scared animals away from the area. The small and fragmented sample may thus point to the possibility that the Ndzundza occupying UmKlaarmaak faced severe food shortages and corroborates ethnographic and historic accounts of drought, cattle raids and the destruction of agricultural fields by the Boers and Pedi.

NDZUNDZA ANIMAL UTILIZATION

I conclude that Ndzundza subsistence in the Steelpoort River Valley between about 1680–1880, though initially conforming to typical farmer patterns, increasingly adapted to a failing socio-political climate. One must, however, remember that livestock management is one part of agropastoralism. In addition to the plant species already mentioned, the region supported trees and shrubs with edible fruits, bulbs and roots (for a relevant list of edible plant food see Fox & Norwood 1982).

Despite the worsening socio-political situation, the Ndzundza faunal acquisition and utilization strategies seem to have worked adequately well until the wars in the mid to late 1800s led to their starvation and surrender. At the KwaMaza sites it seems that the Ndzundza relied on herding, supplemented to a significant degree by hunting, trapping or snaring wild game; a 'normal' Iron Age animal utilization pattern that is repeated, for example, at Tshitheme and Dzata, two Late Iron age Venda sites of the 15th to 18th centuries in the Soutpansberg (De Wet-Bronner 1995a). These findings are also supported by the spatial layout of KwaMaza A with its central cattle enclosures. There are slight differences between the KwaMaza A and KwaMaza B sites, with KwaMaza B showing a greater variety of utilized animal species. This is not uncommon amongst farmer sites. Loubser (1981), for example, identified cattle, sheep and goats at Iron Age Ndebele sites in the Pietersburg area, in addition to a considerable variety of non-domestic bovid and wild game species such as carnivores, mongoose, equids, lagomorphs, steenbok, blue wildebeest, impala and the giant African land snail (see also Grivetti 1976; Mönnig 1976; Voigt 1983; De Wet Bronner 1994; Beukes 2000; Hutten 2005; Plug & Pistorius 1999).

Archaeological evidence of midden placement and capping in addition to possible ritual use of carnivores for their skins or medicinal uses points to possible ritualistic behaviour and internal dynamics within the settlement including concerns over protecting household ash (for a discussion of appropriate ethnographic analogues, see Nelson 2008: 16; but

TABLE 7. *Species, size and family classes identified at UmKlaarmaak.*

Species, size and family classes	NISP	QSP	MNI	MASS(g)	Teeth			Skeletal Part				
					D	U	P	C	P-C	SCF	SAC	O
Capra hircus (goat)	1	0.0056	1	1.13					1			
Ovis aries (sheep)	1	0.0056	1	0.78					1			
Ovis/capra (sheep/goat)	2	0.0111	1	6.58				1	1			
Bov II	5	0.0278	1	21.38				3	2			
Lepus sp.	1	0.0046	1	2.91				1				
Terrestrial gastropod not *Achatina*	1	1	1	0.26							1	
Total	11	1.0546	6	33.04				5	5		1	

D = deciduous; U = unerupted; P = permanent; P-C = postcranial; SCF = shell/carapace fragments; O = other.

TABLE 8. *Calculated meat contribution at UmKlaarmaak.*

Species, size and family classes	QSP	Meat mass contribution (kg)
Capra hircus (goat)	0.0056	0.1
Ovis aries (sheep)	0.0056	0.1
Ovis/capra (sheep/goat)	0.0111	0.2
Bov II	0.0278	0.44
Total	1.0546	0.84

also Bryant 1929; Stayt 1968; Grivetti 1976; Mönnig 1976; Gelfand *et al*. 1985). These findings are in line with historical information of stressful conditions beginning to build in the Steelpoort River Valley during the Ndzundza occupation of KwaMaza.

Moving to Esikhunjini as a result of continual attacks and drought, the Ndzundza relied on a greater variety of animal species, and, unusually, the bulk of the meat now came from hunting non-domestic bovids. According to Badenhorst and Plug (2006: 66) cattle dominate almost all Later Iron Age societies in South Africa except where tsetse fly occurred, which could explain the under-representation of cattle at Esikhunjini. It is also possible that the relative dearth of cattle was due to the Ndzundza either hiding this valuable resource, or divesting themselves of it in order to become less attractive targets for marauders (cf. Massie 1905; Coertze 1983; Delius 1983; Jonas 1989; Fourie 1999; Nelson 2008: 22–30). The identification of possible ritual use (i.e. the recovery of a human molar, antbear, bullfrog and primate bones as described earlier), in addition to the number of burnt fragments and the increase in midden capping imply that the Ndzundza had concerns about their physical and spiritual defence from outside malevolence and physical attack.

The increase in utilization of sheep/goat and sheep, which are easier to herd, hide and distribute in smaller groups, also may have been a response to more stressful times. Hunting smaller game may have allowed the Ndzundza to organize into small, individual hunting groups that would make them less visible to enemies and rivals. Setting snares and traps might have been less labour intensive than full-scale hunts and intensive herd management, allowing the Ndzundza to spend more time on defending and protecting themselves, especially if they were under physical stress and in a weakened or less-than-optimal state.

Moving from Esikhunjini to UmKlaarmaak, the drop in faunal diversity may indicate that the Ndzundza now only relied on domestic bovids, in particular sheep and goats; a great contrast to the usual Iron Age signature of cattle remains. UmKlaarmaak's defensive but spatially and ecologically limited location would make keeping large stock very difficult. Substituting small stock for cattle gave the people more flexible options. The suggestion is that the Ndzundza opted for a more mobile, less desirable and more easily hidden stock. Boer and Pedi presence may have restricted mobility and the acquisition of wild animal and plant food. This, and the destruction of their agricultural fields may explain why the faunal material is so fragmented. The Ndzundza may have exploited marrow more intensively and may also have cooked the bones, hide, hooves (as indicated by the high percentage of burnt and fragmented bone) to extract all the available nutrition from their meager animal food stocks. This fragmentation leads to poor preservation and may have contributed to the small size of the sample.

The picture of Ndzundza life glimpsed from the fauna becomes progressively bleaker. Nevertheless, the Ndzundza did survive for nearly 50 years at UmKlaarmaak and must thus have had access to other food sources. These would include animal soft tissue such as intestines, stomachs, tongues and lips; products that cannot be measured from skeletal remains (Badenhorst & Plug 2006: 65). In addition, people would have used animal by-products such as milk, fat and blood that would not normally leave archaeological traces (Brothwell & Brothwell 1969: 19). This might have encouraged people to keep animals alive way beyond their culturally 'normal' slaughter time. Furthermore, the use of insects, small mammals and reptiles such as snakes and lizards might not have escaped archaeological documentation due to poor preservation. Plant foods would have provided a great deal if not the bulk of day-to-day food intake. Hints of this pattern are provided by the recovery of maize, sorghum and peach pips at the Esikhunjini and UmKlaarmaak sites (Schoeman 1997).

Finally, the research potential of the Ndzundza sites are not exhausted. With further research and excavations focussing on recovering faunal material from these and other Ndzundza sites, more questions relating to their animal food use can be answered. This should be combined with archaeobotanical studies and additional ethnographic and historical research on the Ndzundza people. It may then be compared with subsistence behaviours of communities such as the Venda and Pedi who occupied the surrounding areas at the same time to further investigate food use of communities trying to survive in periods of conflict.

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REFERENCES

Badenhorst, S. & Plug, I. 2004/2005. Boleu: Faunal analysis from a 19th century site in the Groblersdal area, Mpumalanga, South Africa. *Southern African Field Archaeology* 13/14: 13–18.

Badenhorst, S. & Plug, I. 2006. Notes on the fauna from three Late Iron Age mega-sites, Boitsemagano, Molokwane and Mabjanamatshwana, North West Province, South Africa. *South African Archaeological Bulletin* 61(183): 57–67.

Beukes, C.F. 2000. KwaGandaganda: an archaeozoological case study of the exploitation of animal resources during the Early Iran Age in KwaZulu-Natal. Unpublished MA dissertation. Pretoria: University of South Africa.

Boshoff, W.S. & Steyn, M. 2008. A war uncovered: human remains from Thabant ho (Maleoskop), South Africa. Unpublished report, University of Pretoria, Pretoria.

Brothwell, D. & Brothwell, P. 1969. *Food in Antiquity: a Survey of the Diet of Early Peoples*. London: Thames and Hudson.

Bryant, A.T. 1929. *Olden Times in Zululand and Natal*. London: Longmans, Green and Co.

Coertze, R.D. 1983. *The Ndzundza-Ndebele and the Mapoch caves. Die Ndzundza-Ndebele en die Mapochsgrotte. AmaNdebele-Ndzundza Namarholo Kamabhoki*. Pretoria: Cyro Print.

Delius, P. 1983. *The Land Belongs to us: the Pedi Polity, the Boers and the British in the Nineteenth-Century Transvaal*. Johannesburg: Ravan Press.

De Wet-Bronner, E. 1994. The faunal remains from four Later Iron Ages sites in the Soutpansberg region: Part I: Tavhatshena. *Southern African Field Archaeology* 3: 33–43.

De Wet-Bronner, E. 1995a. The faunal remains from four Later Iron Age sites in the Soutpansberg region: Part II: Tshitheme and Dzata. *Southern African Field Archaeology* 4: 18–29.

De Wet-Bronner, E. 1995b. The faunal remains from four Later Iron Age sites in the Soutpansberg region: Part III: Tshirululuni. *Southern African Field Archaeology* 4: 109–119.

Fourie, M. 1999. Memes in amaNdzundza architecture. Unpublished MA dissertation. Montreal: McGill University.

Fox, F.W. & Norwood, M.E. 1982. *Food from the Veld*. Johannesburg: Delta Books.

Gelfand, M., Mavi, S., Drummond, R.B. & Ndemera, B. 1985. *The Traditional Medical Practitioner in Zimbabwe*. Gweru: Mambo Press.

Grivetti, L.E. 1976. *Dietary Resources and Social Aspects of Food Use in a Tswana Tribe*. Ann Arbor, University Microfilms International.

Hutten, L. 2005. K2 Revisited: an archaeozoological study of an Iron Age Site in the Northern Province, South Africa. Unpublished MSc dissertation. Pretoria: University of Pretoria.

Jonas, P.J. 1989. Sibbeverband by die Ndzundza-Ndebele. Pretoria: Research Report for the University of South Africa.

Loubser, J.H.N. 1981. Ndebele archaeology of the Pietersburg area. Unpublished MA dissertation. Johannesburg: University of the Witwatersrand.

Massie, R.H. 1905. *The Native Tribes of the Transvaal*. London: Harrison and Sons.

Miles, A.E.W. & Grigson, C. 1990. *Colyer's Variations and Diseases of the Teeth of Animals*, revised edition. Cambridge: Cambridge University Press.

Mönnig, H.O. 1976. *The Pedi*. Pretoria: J.L van Schaik.

Nelson, C. 2008. An archaeozoological and ethnographic investigation into animal utilisation practices of the Ndzundza Ndebele of the Steelpoort River Valley, South Africa, 1700 AD – 1900 AD. Unpublished MA dissertation. Pretoria: University of Pretoria.

Pistorius, J.C.C & Plug, I. 2001. The faunal remains from Molokwane, capital of the Bakwena baModimosana, Northwest Province, South Africa. *South African Journal of Ethnology* 24(1): 25–39.

Plug, I. & Pistorius, J.C.C. 1999. Animal remains from Industrial Iron Age communities in Phalaborwa, South Africa. *African Archaeological Review* 16(3): 155–184.

Quin, P.J. 1959. *Food and Feeding Habits of the Pedi*. Johannesburg: Witwatersrand University Press.

Schoeman, M.H. 1997. The Ndzundza archaeology of the Steelpoort River Valley. Unpublished MA. dissertation. Johanesburg: University of the Witwatersrand.

Smith, K.W. 1969. The fall of the Bapedi of the North-Eastern Transvaal. *Journal of African History* 10(2): 237–252.

Stayt, H.A. 1968. *The Bavenda*. London: Oxford University Press.

Van Jaarsveld, F.A. 1985. Die Ndzundza-Ndebele en die Blankes in Transvaal 1845–1883. Unpublished MA. dissertation. Grahamstown: Rhodes University.

Voigt, E.A. 1983. *Mapungubwe: an Archaeozoological Interpretation of an Iron Age Community*. Transvaal Museum Monograph No. 1. Pretoria: Transvaal Museum.