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Report on excavations at Penge, a first-millennium Doornkop settlement

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ABSTRACT

Penge is an Early Iron Age farming settlement in the Sekhukhuneland region of Limpopo Province. Excavations were conducted in 2005 as part of a mitigation process for the expansion of the Penge town waterworks. Ceramic analysis suggests that the site is part of the Doornkop facies of northeastern South Africa. Radiocarbon results place occupation at between the seventh and ninth centuries AD. The faunal assemblage indicates the exploitation of domesticates and game, and the utilization of animal-based raw materials such as worked bone and shell. The data presented here contribute to the chronological, ceramic and subsistence database on early farming communities in the South African interior.

KEY WORDS: Agropastoralists, ceramics, Doornkop, early farmers, Early Iron Age, fauna.

The Penge Early Iron Age (EIA) settlement is located on the southern bank of the Olifants River (S24° 22' 10.56" E30° 17' 57.48") in the Steelpoort region of the Limpopo Province (Fig. 1). The site, associated with Doornkop ceramics, was first identified during Phase 1 cultural resource assessment investigations conducted by Roodt and Roodt Heritage Management in 2004 (Roodt 2004). An existing waterworks and related borrow pits had destroyed much of the original site. Portions of the remaining deposits were excavated during 2005 as part of the mitigation process for the expansion of the waterworks. Despite the large-scale destruction of the site, research at Penge provides insight into the lifeways of first-millennium AD farmers in northeastern South Africa—a period and region for which there is still a paucity of detailed information.

SITE DESCRIPTION

The site is located on a level floodplain above the southern bank of the Olifants River. Here, the Olifants cuts a deep valley through the northern Drakensberg. The area immediately around the site is dominated by cliffs that rise over 500 m from the river edge (Fig. 1) and has an annual rainfall of 650 mm. The varied topography around the site results in a mosaic of Riparian, Poung Dolerite and Origstad Mountain ecosystems (Mucina & Rutherford 2006: 479–81). At present, the archaeological site falls within the eastern limits of the town of Penge, a settlement built around an asbestos mine that was operational between 1914 and 1992. Following the closure of the mine, the town population has dwindled but houses and mine buildings are still used for residential purposes by former workers and local inhabitants.

At the time of excavation, the extent of archaeological material seemed to be scattered in an area measuring roughly 30 x 30 m. However, taking into account the

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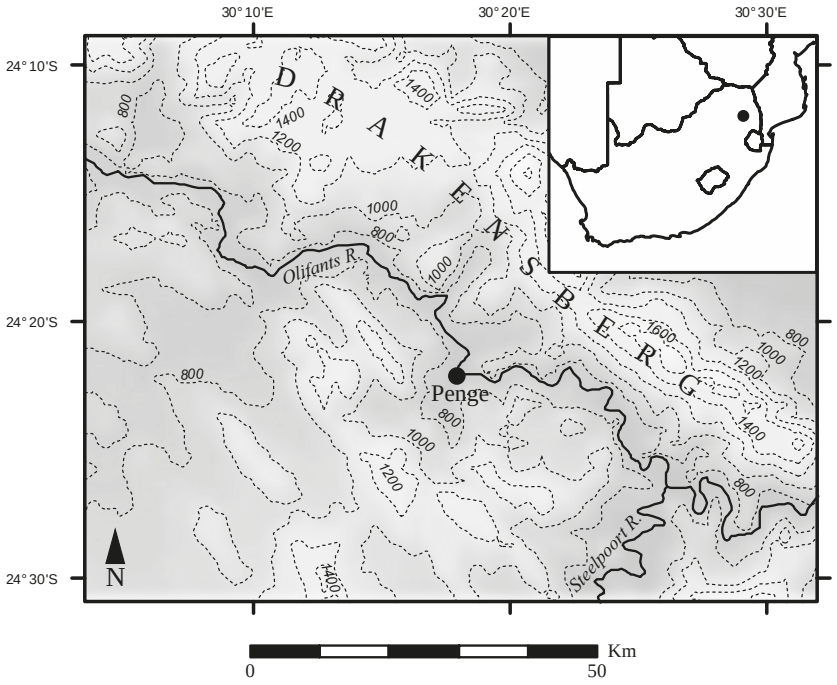

Fig. 1. Penge within the southern Sekhukhuneland region.

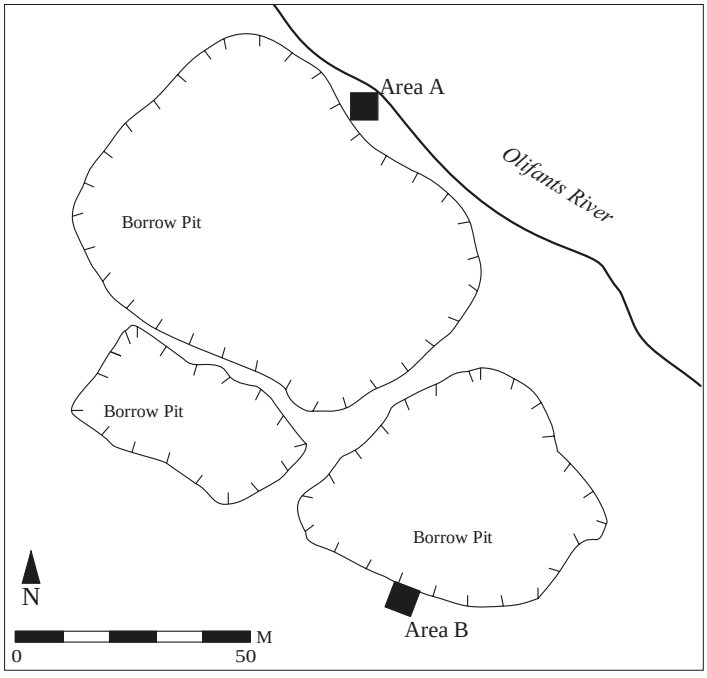

Fig. 2. Penge excavation areas and their location in relation to borrow pits and the Olifants River.

borrow pits and the horizontal meandering of the Olifants River that had undercut the site, the original site may have been much larger.

The site was broadly separated into two spatial areas, A and B. The area adjacent to the Olifants River's bank is referred to as Area A. Here, a narrow strip of relatively undisturbed deposit of around 3 m width remained between a borrow pit to the southwest and the Olifants River to the northeast (Fig. 2). Area B was located east of the borrow pits. Here, the vertical cut of the pits had exposed midden material as well as vitrified dung, which suggested the location of an earlier kraal. Subsequent excavations revealed that archaeological deposits did not extend much further than the borrow pit edge. Both areas were tested through excavation and material was screened through 2.5 mm steel mesh, with all cultural remains collected for analysis.

Area A

The excavation of Area A was initially conducted as two adjacent 2 x 2 m units (Units A and B). A portion of an *in situ* hut floor rested on sterile soil, and the excavation was expanded to determine the extent of the feature. As a result, three contiguous 1 x 1 m squares (Unit C) were placed in an L-shape adjacent to the eastern corner of Unit B (Fig. 3).

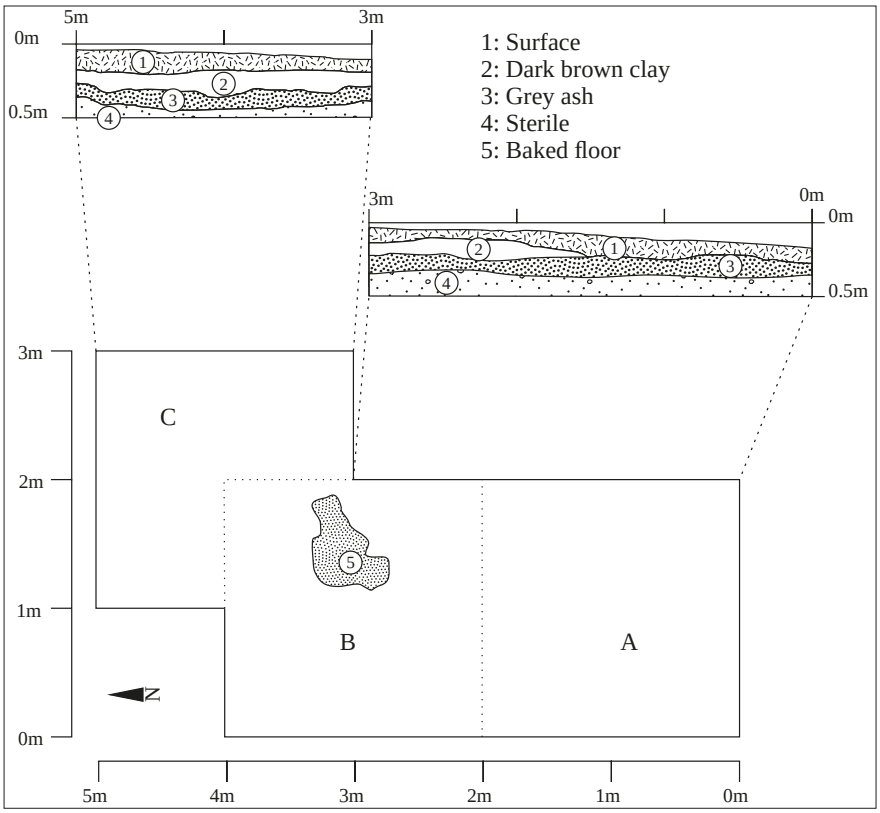

Fig. 3. Plan of Area A excavations, at terminal depth showing location of floor remains, and west-facing profiles.

Three stratigraphic layers were identified. Layer 1 was heavily disturbed topsoil littered with modern intrusions and impacted by more recent activity on the site. Only a small quantity of archaeological material was present in this layer. It ended approximately 20 cm below datum. Layer 2 was dark-brown clayey loam. As with the upper layer, there were clear indications of more recent disturbance. This level ended about 20–30 cm below datum.

Layer 3 was homogenous white to pinkish-grey ash. It started around 30–50 cm below datum and ended at approximately 59 cm below datum. The layer had very little internal variation in terms of colour, composition and compaction. Because of the undifferentiated nature of the deposit, the layer was excavated in 10 cm spits. Small chunks of burnt daga were present throughout the layer. Although these were probably the remains of a nearby structure, they were suspended within the matrix and could not be linked to a definable feature during excavation. This layer is interpreted as a general midden deposit due to its uniform ashy composition, and associated food and cultural debris. Unlike the upper layers, the archaeological context of Layer 3 seemed relatively undisturbed.

The northern portion of Unit B revealed the remains of a baked floor resting on sterile ground (Fig. 3). Only a small part of the floor remained, and no estimates of the size of the original structure could be made. The floor surface was light grey, due to contact with the ash from the midden. It was around 2.5 cm thick and was constructed from reddish-orange clay, baked to a very hard consistency.

A single carbon sample (D-AMS 3074) was collected from the spit overlaying the baked floor. The AMS date of 1318 ± 26 b.p. has a calibrated 95 % probability range of AD 674–856 (Bronk Ramsey 2013; Hogg et al. 2013).

Area B

A single 2 x 0.5 m unit was excavated in Area B. The unit was set on the bank of a borrow pit with visible archaeological deposit in the exposed wall. The primary aim of this excavation was to obtain a stratigraphic profile from this area of the site. The excavation unit was placed 5 cm from the edge of the borrow pit, with its longest sides parallel to the wall. The excavations started by first clearing the exposed wall, and then proceeding with stratigraphic excavations away from the pit wall.

Two layers were defined (Fig. 4). Layer 1 was dark-brown topsoil that was very disturbed due to construction activities on the site and contained virtually no archaeological material. Layer 2 was a light-grey powdery ash deposit that contained ceramics, bone and burnt dung. This layer ended on sterile soil, 70 cm below datum. The nature of the deposit is unclear because of the small sample. It was initially interpreted as a small midden but could also be kraal deposit.

CERAMIC ANALYSIS

The ceramics were analysed following Huffman's (1980) multidimensional analysis for southern African Iron Age ceramics. Comparisons have shown that this method accurately classifies assemblages and is widely applied by Iron Age archaeologists in the region (e.g. Evers 1982; Evers & Van der Merwe 1987; Loubser 1993; Whitelaw 1996; Calabrese 2000). In this analysis, vessel profile, decoration placement and decoration motif are combined to create vessel classes.

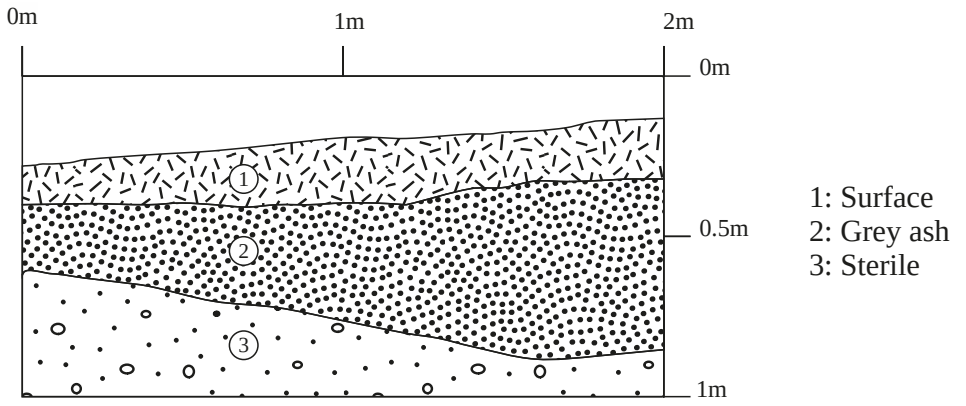

Fig. 4. Profile of Area B excavation.

Two vessel shapes were identified: recurved jars, some of which displayed a strongly everted rim, and shallow inturned bowls. Jars were decorated on the rim and/or neck areas while bowls were predominantly decorated on the upper portion of the vessel. Seven classes were identified (excluding undecorated vessels):

Class 1: Recurved jar with multiple bands of herringbone on the neck (Fig. 5).
Class 2: Recurved jar with band of decoration on the rim and band of decoration on the lower neck/shoulder (Fig. 6).
Class 3: Recurved jar with multiple bands of decoration on the neck (Fig. 6).
Class 4: Recurved jar with strongly everted rim, decorated with a single band on the shoulder (Fig. 7).
Class 5: lnturned bowl with decoration on the rim area (Fig. 7).
Class 6. lnturned, carinated bowl decorated with bands below and above the carination (Fig. 7).
Class 7: lnturned bowl with band of decoration on the rim and body (Fig. 7).

The ceramic stylistic classes and the AD 674–856 date range show that the site is part of the Doornkop ceramic facies (Huffman 2007: 275). Nearby Doornkop sites include Mototolong (Van Schalkwyk 2007) and Site 2430CC4 (Huffman 2004–05), both in the Steelpoort River Valley, as well as Lydenburg Heads (Whitelaw 1996), Doornkop name site, Langdraai (Evers 1988: 65–9) and Ficus (Moore 1981), all located within the larger region. The date from Penge suggests that the site was occupied during the earlier part of the Doornkop sequence (Table 1, Fig. 8), but still well within the expected range of AD 750–1000 (Huffman 2007: 275).

Stylistically, Doornkop assemblages are characterized by recurved jars with single or multiple continuous bands of decoration on the neck, as well as constricted and open bowl shapes, with a band of decoration on the body (Evers 1988: 65–9; Huffman 2007: 275–7). The most distinguishable vessel at Doornkop sites is a recurved jar with multiple continuous bands on the neck—similar to the Class 1 vessels from Penge. These vessels are also the most common vessel type in the Penge assemblage. The Penge bowl types have a similar profile to published examples (Evers 1988: 70), but they display greater variation in decoration placement and decorative motifs.

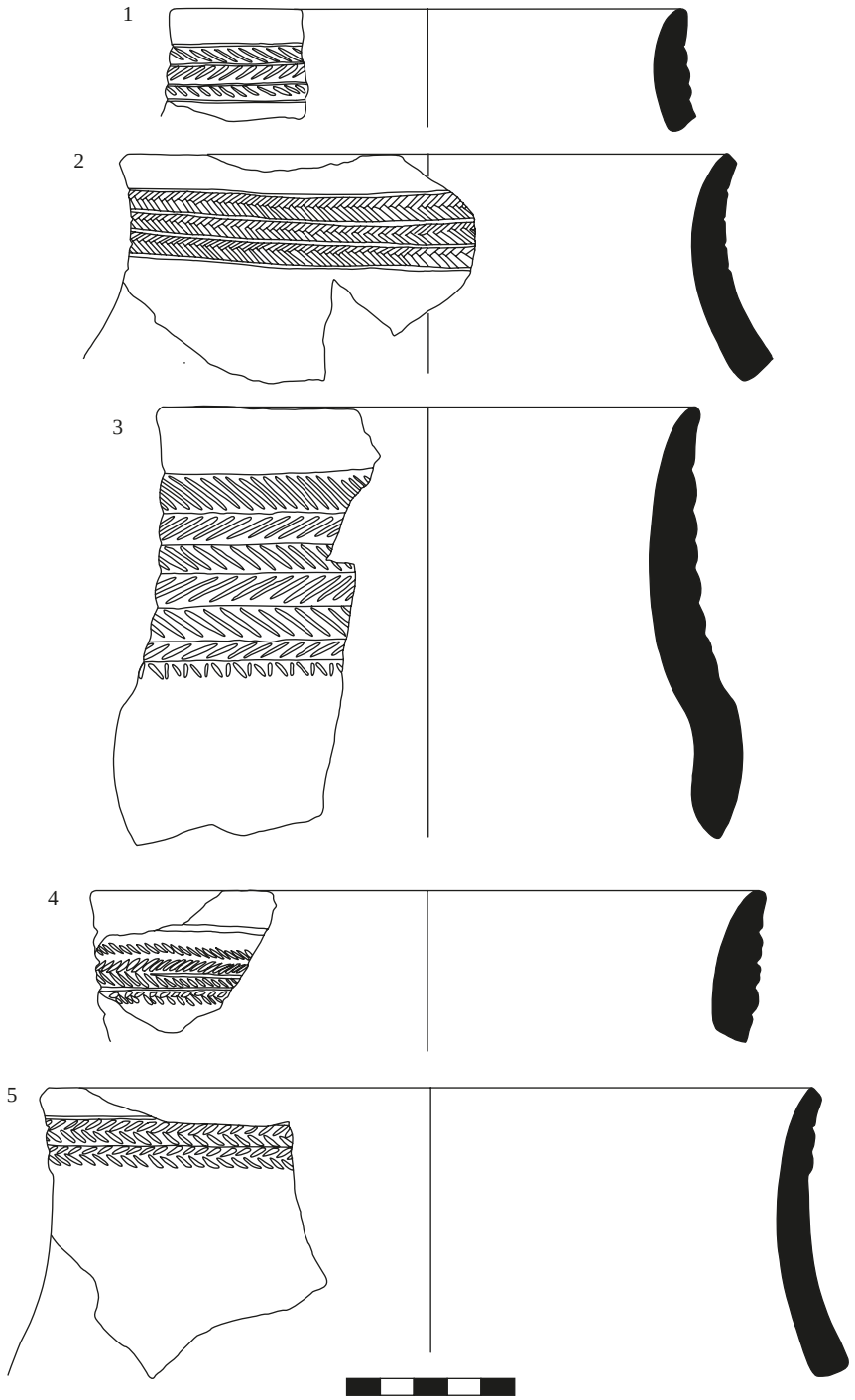

Fig. 5. Ceramic vessel types, Class 1 (1–5). Vessels 1–2 from Area A, L2; 3 from Area B, L2; 4–5 from surface.

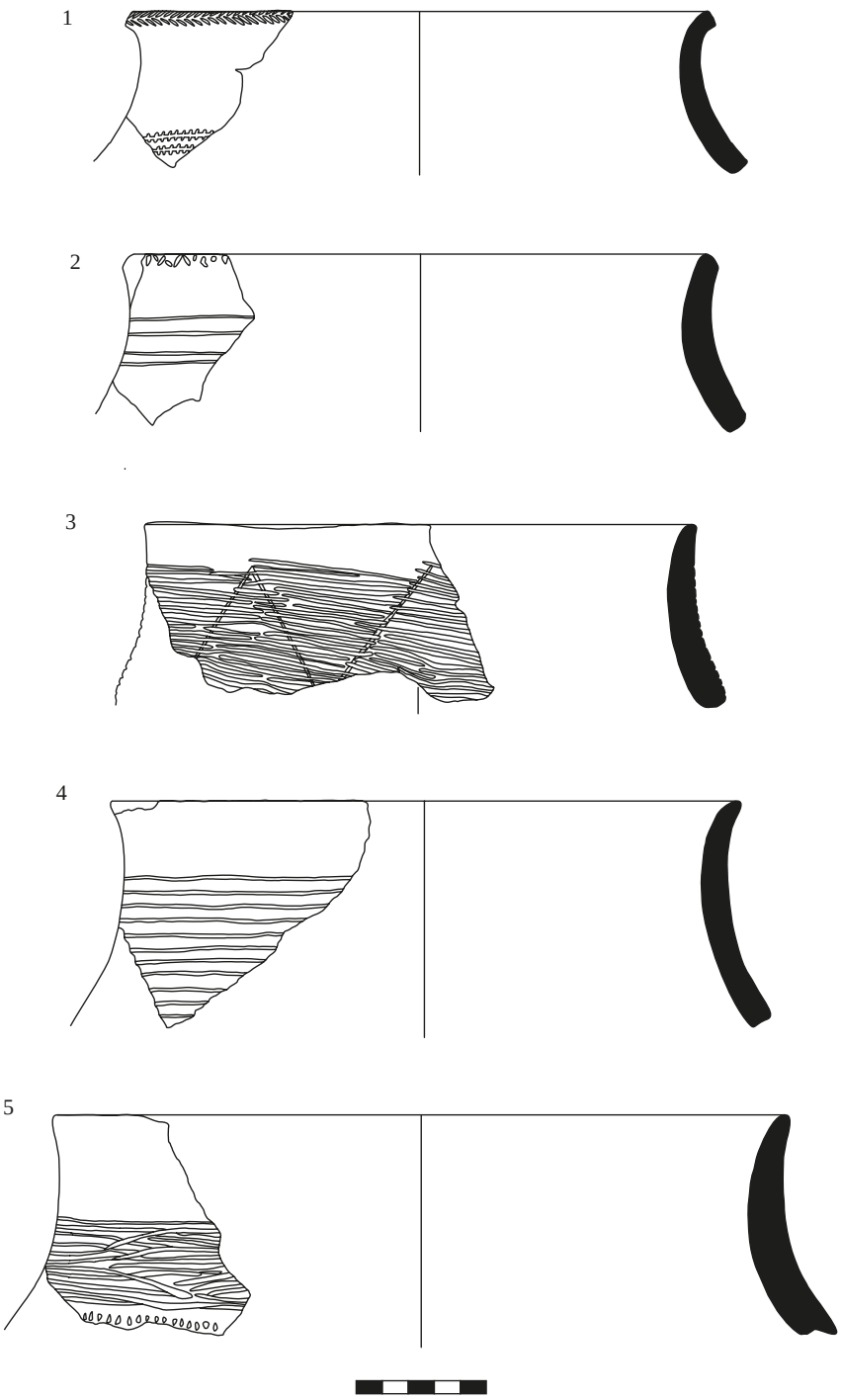

Fig. 6. Ceramic vessel types, Class 2 (1–2), Class 3 (3–5). Vessels 4–5 from Area A, L2; 1 from Area B, L2; 2–3 from surface.

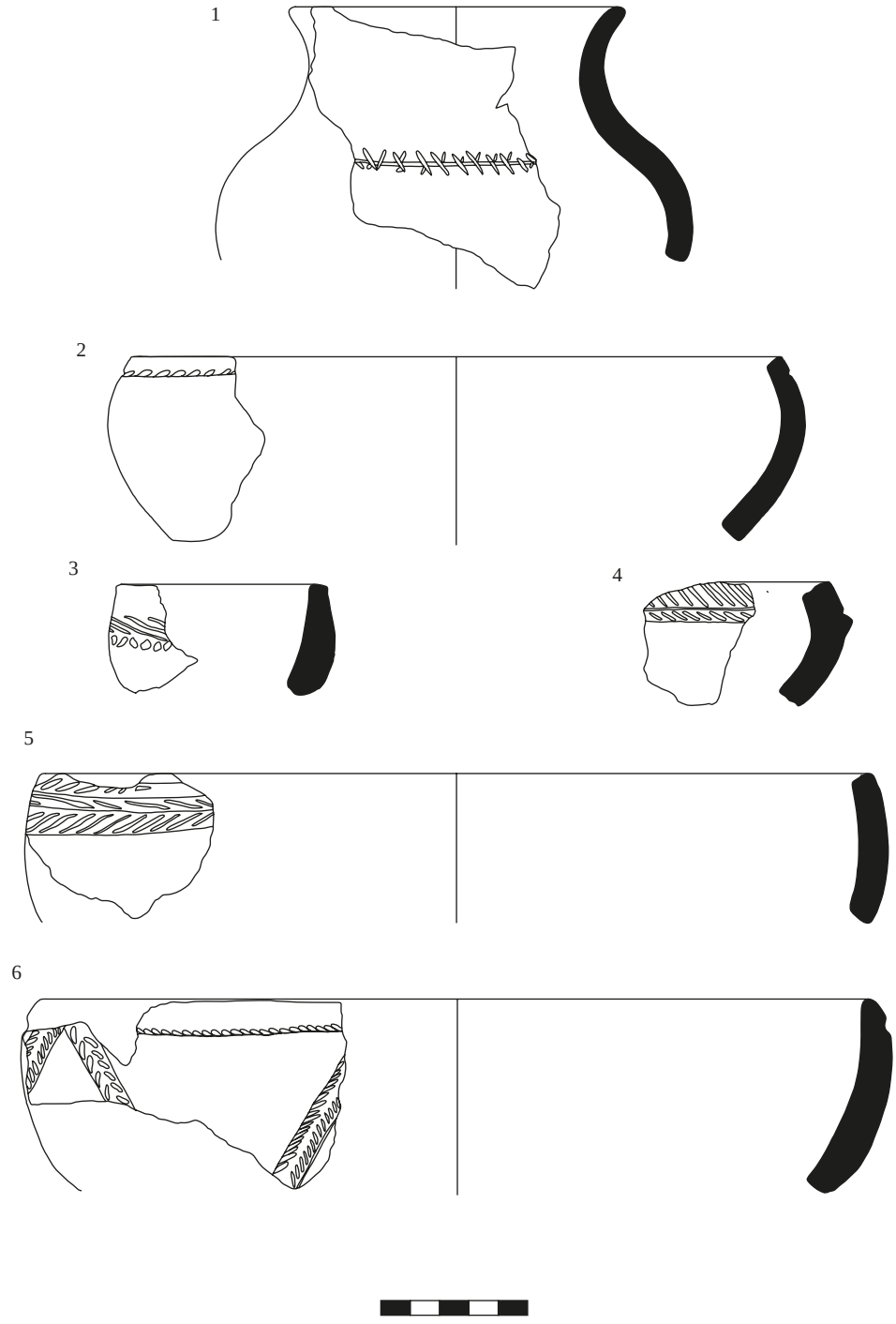

Fig. 7. Ceramic vessel types, Class 4 (1), Class 5 (2, 3, 5), Class 6 (4), Class 7 (6). Vessels 1, 2, 4, 5 from Area A, L2; 3 from Area B, L2.

TABLE 1

Calibrated and uncalibrated radiocarbon date ranges for Penge and other sites associated with Doornkop ceramics. Calibrated with OxCal v4.2.3 (Bronk Ramsey 2009; 2013) using the southern hemisphere atmospheric curve (Hogg et al. 2013).

Site Name	^{14}C Age b.p.	years AD 68 % probability	years AD 95 % probability
Penge (D-AMS 3074)	1318 ±26	683–768	674–856
Doornkop (Pta 2944)	1270 ±60	690–883	674–967
Doornkop (Pta 2535)	1210 ±50	777–967	693–992
Ficus (Wits 888)	1115 ±50	898–1022	877–1134
Ficus (Wits 781)	1080 ±40	909–1037	894–1143
Langdraai (Wits 1218)	1190 ±70	780–987	690–1021
Langdraai (Wits 1237)	1230 ±70	769–966	681–990
Mototolong (Pta 8874)	1200 ±20	879–965	779–974
Mototolong (Pta 8908)	1050 ±40	992–1130	982–1152

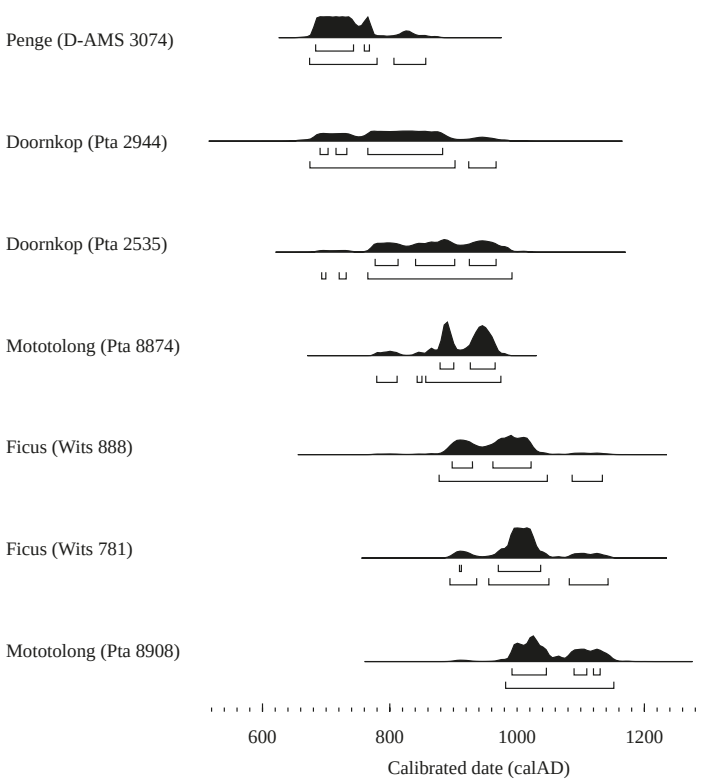

Fig. 8. Calibrated radiocarbon date ranges for Penge and other sites associated with Doornkop ceramics. Sigma 1 and 2 ranges are indicated. Calibrated with OxCal v4.2.3 (Bronk Ramsey 2009; 2013) using the southern hemisphere atmospheric curve (Hogg et al. 2013).

The Doornkop facies falls within the larger Kalundu Tradition of related ceramic styles, developing from the preceding Happy Rest facies (Prinsloo 1974) with stylistic influences from the Mzonjani facies (Maggs 1980). Happy Rest ceramics typically have curved everted necks, decorated rim bands, comb-stamping and multiple bands of decoration (Prinsloo 1974; Huffman 2007: 219–21). Mzonjani assemblages, on the other hand, typically include jars with everted rims and decorations on the rim and or body (Maggs 1980). In contrast to both, the jars from Penge generally had curved necks with only slightly everted rims and lacked comb-stamping altogether. In addition, only a few examples had pronounced everted rims (see Figs 5–7) as found in the earlier phases.

FAUNAL REMAINS

The total Penge faunal assemblage consisted of 1231 bone and shell fragments, of which 26 % was identifiable to species, genus or family level (Table 2). The sample was analysed following a modified version of the methods set out by Brain (1974) and Voigt (1983). Taxa were identified using the comparative skeletal collection at Ditsong National Museum of Natural History in Pretoria. Bone counts are reported as Number of Identified Specimens (NISP).

Identified taxa

Table 3 lists the taxa identified from both excavations, which includes domestic and wild animals of various sizes. The sample from Area B is very small (NISP = 18), with only a few bovid, rodent and *Achatina* sp. remains present. Area A has a more diverse range of taxa, which includes both cattle and small stock. Only sheep were positively identified, although goats may be represented among the sheep/goat remains. All cattle bones are from adults while 42 % of sheep/goat remains are from juvenile animals. The majority of undiagnostic medium and large bovid remains are from mature animals as well. Juvenile bones are more prone to post-depositional destruction (Munson 2000), which may account for their low recovery rate at Penge. However, an equally plausible explanation could be that slaughtering practices favoured more mature animals.

Wild animals include warthog and probable identifications of klipspringer and buffalo. Three carnivore taxa were identified: a complete left and right third metacarpal of an adult leopard, an indeterminate mongoose distal metapodial and a medium-sized felid pelvis. Smaller animals include hyrax, cane rat, tortoise and bird. The bird distal radius is of a large flying, rather than a ground-dwelling, species. A large number of *Achatina* sp. and a few freshwater-mussel shell fragments were also identified.

Taphonomy

A carbonate crust covered many of the bone specimens, which potentially obscured some taphonomic features. The material was quite fragmented, as the fairly low percentage of identified remains (Table 2) suggests. If one excludes the easily recognizable *Achatina* sp. shell fragments, the identification rate drops from 26 % to 9 %. High fragmentation rates characterize many other first-millennium AD assemblages (e.g. Voigt & Plug 1981; Raath & Koortzen 2007) and could be the result of various taphonomic processes. Besides natural processes such as weathering and carnivore gnawing, human action, including marrow extraction and raw-material utilization, often cause bone breakage. In addition, boiled and burnt bones are more prone to

TABLE 2
Total faunal assemblage from Penge based on Number of Identified Specimens (NISP).

Skeletal Part	Area A			Area B		
	NISP	% NISP	Mass (g)	NISP	% NISP	Mass (g)
Identified						
Bovid (teeth)	25	2.2	63	–	–	–
Bovid (other)	48	4.3	358	7	6.8	19
Non-bovid	230	20.4	197	11	10.7	5
Unidentified						
Skull fragments	8	0.7	15	1	1.0	3
Enamel fragments	33	2.9	19	–	–	–
Vertebra fragments	22	2.0	138	2	1.9	2
Rib fragments	77	6.8	114	21	20.4	24
Bone flakes	448	39.7	519	55	53.4	65
Misc. fragments	237	21.0	142	6	5.8	7
TOTAL	**1128**	**100**	**1565**	**103**	**100**	**125**

fragmentation from animal and human trampling (e.g. Stiner et al. 1995; Roberts et al. 2002). Collection strategies also contributed to the high fragmentation rate at Penge as a number of fresh fractures were recorded.

Bovid remains were the most abundant, with almost all skeletal elements represented (Table 4). Cranial fragments are rare, but the presence of maxillary (and mandibular) teeth suggests that skulls, or portions thereof, were deposited with the rest of the bones. Warthog remains include a fragmented maxilla and portion of an incisor, and a probable proximal metatarsal. Hyrax remains include a pelvis and limb-bone fragments, all probably from the same individual. Similarly, the six carapace fragments probably represent a single tortoise. (See 'Identified taxa' for carnivore and bird skeletal elements.)

Evidence of rodent gnawing was present on 13 specimens and carnivore damage on 16 specimens. The observed furrows and punctures on the latter are consistent with damage caused by a medium-sized carnivore such as a dog or jackal. Although no dog remains were recovered from Penge, they have been reported from contemporaneous settlements further afield in the Limpopo Valley (e.g. Voigt & Plug 1981) and KwaZulu-Natal (e.g. Voigt & Von den Driesch 1984).

Weathered bones made up only 17 % of the assemblage. Both chemical and physical processes can cause weathering and may result in cracking, flaking and complete erosion of the bone surface (Fisher 1995). The low incidence of bone-surface weathering probably did not influence the identification rate of other alterations such as gnaw and butchery marks.

Eleven percent of the sample showed signs of burning, mostly on the unidentified bones (Table 5). Most of the bones showed localized charring or brown colouration, which could be from either deliberate or incidental heat exposure. Of the identified bones, only medium and large bovid bones were burnt, and of these, limb bones had a higher incidence of burning than other skeletal elements. Unidentified burnt bone flakes show that burning on limb bones was not restricted to articular ends. The range

TABLE 3
Identified taxa from Penge expressed as Number of Identified Specimens (NISP). Brackets indicate the number of juvenile/sub-adult specimens.

Taxa	Area A	Area B
Mongoose	1	–
Panthera pardus (leopard)	2	–
Felid (medium)	1	–
Hyrax	5	–
Phacochoerus aethiolicus (warthog)	2	–
Suid	1	–
Bos taurus (cattle)	5	–
cf. *Bos taurus* (probably cattle)	1	–
Ovis aries (sheep)	2 (1)	1
cf. *Ovis aries* (probably sheep)	4 (3)	–
Ovis/Capra (sheep/goat)	15 (4)	–
cf. Ovis/Capra (probably sheep/goat)	1	–
cf. *Oreotragus oreotragus* (probably klipspringer)	1	–
cf. *Syncerus caffer* (probably buffalo)	1	–
Bovid (small)	2	1
Bovid (medium)	24 (7)	4
Bovid (large)	18 (2)	1
Thryonomys swinderianus (greater cane rat)	1 (1)	–
Rodent	1	3
Bird (flying)	1	–
Tortoise	6	–
Achatina sp. (giant land snail)	205	8
Unionidae (freshwater mussel)	3	–
Total	**303 (18)**	**18**

of burnt skeletal parts suggests a random burning pattern, perhaps more indicative of disposal and post-depositional practices. The sample was, however, too small to establish any definite patterning.

Other than burning, the occurrence of human damage is uncommon (Table 5), with the carbonate crust potentially obscuring some marks. The majority of butchery marks on identified taxa were on bovid bones. Those cut and chop marks that are present indicate some initial processing, where carcasses were reduced to smaller portions suitable for cooking. The low incidence of butchery marks suggests that most of the meat was removed once cooked (Gifford-Gonzalez 1989: 207). The cut marks on the felid pelvis are peculiar, as the role of carnivores as a food source is ambiguous.

Worked bone and shell

Deliberate human modification of faunal remains includes two formal bone points, an expedient bone point and shell beads. All of the worked bone and shell were recovered from Area A. A limb-bone shaft fragment of a large mammal (probably large bovid),

TABLE 4
Bovid skeletal elements represented at Penge (NISP).

Element	Bovid (small)	Bovid (medium)	Bovid (large)	Bovid (very large)	Total
Skull	–	1	–	–	1
Mandible	1	3	–	–	4
Teeth	–	20	5	–	25
Humerus proximal	–	–	1	–	1
Humerus distal	1	–	–	–	1
Humerus shaft	–	3	1	–	4
Radius shaft	–	1	–	–	1
Ulna proximal	–	–	1	–	1
Pelvis	–	1	–	–	1
Femur distal	–	1	–	–	1
Femur shaft	–	1	2	–	3
Tibia distal	–	1	1	–	2
Tibia shaft	–	1	–	–	1
Metacarpal proximal	–	1	–	–	1
Metacarpal distal	–	–	1	–	1
Metacarpal shaft	–	–	1	–	1
Metatarsal proximal	–	1	–	–	1
Metatarsal shaft	–	–	1	–	1
Metapodial distal	–	1	2	–	3
Metapodial shaft	–	–	2	–	2
Carpals	–	–	1	–	1
Tarsals	1	5	1	–	7
Phalanx 1	–	2	1	1	4
Phalanx 2	–	1	1	–	2
Phalanx 3	–	1	1	–	2
Total	**3**	**45**	**23**	**1**	**72**

was shaped into an unfinished or perhaps an informal awl-like tool (Unit A, Layer 1; length: 83 mm, diameter: 9.5 mm). The internal cavity is still visible on the one end of the bone, while the other end has been smoothed and showed some light polish. The tip probably broke off in antiquity. The smoothed and polished surface suggests an expedient use (i.e. informal or improvised), rather than an unfinished tool.

Two bone points were recovered from Area A, one complete (Unit A, Layer 1) and one broken (Unit A, Layer 2). The first point (length: 39.5 mm, diameter at base: 4.9 mm) is entirely shaped and smoothed, and shows some evidence of heat exposure. There are slight traces of overall use-wear polish, which indicates some use prior to deposition. The shape of the tool is similar to arrow components reported from other farming community assemblages in the immediate region and beyond (e.g. Voigt 1983; Plug & Voigt 1985; Raath & Koortzen 2007). The second tool consists of two previous and recently broken fragments of a probable bone point mid-shaft. The tool is entirely shaped and smoothed, and has a circular cross-section (diameter: 4.3 mm). A thin carbonate crust covers the entire surface that conceals any potential use-wear.

TABLE 5:
Total Number of Identified Specimens (NISP) affected by taphonomic agents

Skeletal Part	NISP	Burnt	Butchered	Weathered	Gnawed (carnivore)	Gnawed (rodent)
Identified						
Bovid (teeth)	25	1	–	6	–	–
Bovid (other)	55	10	7	28	4	5
Non-bovid	241	–	1	4	–	1
Unidentified						
Skull	9	1	1	1	–	–
Enamel	33	3	–	9	–	–
Vertebrae	24	7	1	7	–	–
Ribs	98	17	7	31	3	1
Bone flakes	503	76	14	100	8	4
Miscellaneous	243	24	1	22	1	2
TOTAL	**1231**	**139**	**32**	**208**	**16**	**13**

There are also three ostrich eggshell and 14 *Achatina* sp. finished shell beads from Penge. Six beads, two of which are ostrich eggshell, have a diameter of between 5–7 mm. Five *Achatina* sp. and one ostrich eggshell bead are between 7–8 mm. The remaining five *Achatina* sp. beads are between 10–13mm. Bead production evidently took place on-site, as the presence of an unfinished *Achatina* sp. blank suggests. The blank was chipped into a fairly large rounded shape, about 13 mm in diameter, but was not perforated.

CONCLUDING REMARKS

Although regional settlement dynamics during the Doornkop facies are still poorly understood, communities seem mostly to have settled around the Mountain Bushveld regions of the eastern escarpment of Limpopo Province and northern Mpumalanga. Within this region, Doornkop communities especially favoured the Olifants and Steelpoort valley systems. At some sites, such as Mototolong (Van Schalkwyk 2007) and Lydenburg Heads (Inskeep & Maggs 1975; Evers 1982; Whitelaw 1996), Doornkop occupations cover earlier Mzonjani levels. However, ceramic and stratigraphic data from Penge suggest a single Doornkop occupation. During its occupation, the settlement's spatial layout did, however, fluctuate. For example, the baked floor in Area A—presumably from a hut—was later covered by a midden. Elsewhere it has been observed that, although overall settlement organization on first-millennium sites remained relatively stable, settlements were dynamic, and the use of space could change over time (e.g. Whitelaw 1994). The extent to which the spatial dynamics at Penge changed over time is impossible to determine due to post-depositional destruction and the limited excavations. As a result, little can be said regarding other salient spatial features such as the location, size and number of kraals, households and activity areas.

Upper and lower grinding stones found on the site surface point to agricultural production. The lower grinding stones typically had broad oval-shaped grooves, while uppers were relatively small, often with several round facets. These types are usually

associated with small-grained cultivars such as millet and sorghum (e.g. Van Schalkwyk 1994; Huffman 2006: 67). The floodplain where the site is located would evidently have served as an ideal area for crop cultivation.

Faunal analysis shows that cattle and small stock provided a reliable meat and possibly milk supply, while the presence of wild animals points to the exploitation of a broad resource base. The Penge community used a diverse set of procurement strategies, which included herding, hunting, trapping, gathering and the use of riverine resources. Similar procurement strategies have been reported for other first-millennium AD farming communities in the region (e.g. Plug & Voigt 1985: 208; Plug 1989; Raath & Koortzen 2007). The wild taxa identified reflect the varied environmental zones within easy access of the site. In addition, the close vicinity of the Olifants River probably provided ready access to watering animals as well as those that forage in wet environments (e.g. warthogs).

Carnivores, such as the leopard and medium felid, were possibly killed for their skins and other body parts. In more recent times, the symbolic role of certain carnivore skins—especially as symbols of leadership and status—is well documented (e.g. Krige 1950: 259; Quin 1959: 124–5; Mönnig 1967: 176). In the recent past, carnivore skins were traded both locally and regionally, and there is some indication that this was also the case in earlier times (e.g. Plug 1989; Huffman 2007: 76–7). Ethnographic sources also note the medicinal and ritual use of certain skeletal elements (e.g. Quin 1959: 125; Junod 1962: 546; Stayt 1968: 269, 271; Plug 1987). Although there is no direct evidence to suggest a similar use of carnivores at Penge, the possibility does exist that portions of these animals were removed and utilized prior to carcass disposal. Recent ethnographic sources often note the taboos surrounding carnivore meat consumption (Schapera & Goodwin 1937: 133; Stayt 1968: 47). However, some sources do record the consumption of certain carnivores (e.g. Quin 1959: 125; Grivetti 1979: 237). The cut marks on the felid pelvis certainly suggest dismemberment or removal of the meat and not just the skin.

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