



Heritage Statement for Sibudu Cave

Location of the Site

The site of Sibudu Cave is located on Portion 10 of the Farm Sinembe No. 16902-FU, some 6 km northwest of Tongaat and 15 km from the coast, in the KwaDukuza Municipality, iLembe District, KZN (Figure 1a). The site is located west of the R614 which runs between Tongaat and the R33 to Pietermaritzburg (Figures 1b and 1c). The site is a large rock shelter located in a south facing cliff overlooking a bend in the uThongathi River. The region is characterised by sugar cane farming with large tracts of agricultural land, smaller agricultural holdings and the dense rural/semi-rural settlement of Ndwedwe to the west of the Tongati River. The local vegetation comprises indigenous coastal forest and riverine vegetation, with a rare tree, *Celtis mildbraedii*, located at the edge of the shelter that indicates the historic forested environment.

History of the Site

Sibudu is mentioned in the site records of the Natal Museum dating from 1929, and was first excavated by Dr Aron Mazel, then of the Natal Museum, in 1983 (Wadley and Jacobos 2004). Dr Mazel was looking for a Later Stone Age site, and abandoned his initial 1m² excavations there upon discovering the upper Stone Age layers to be MSA. Professor Lyn Wadley of the University of the Witwatersrand began excavations at the site in 1998, and two excavation seasons per year have been conducted since that time. In 2011, Wadley co-opted a co-director, Professor Nicholas Conard of the University of Tübingen, Germany. As at March 2018, Professor Conard has completed eight excavation season (Sibudu 2018).

Despite this ongoing research at the site, its scientific potential has been only partly tapped and less than 10% of its deposits have been excavated (Wadley 2011).

Description of the Site

The cave itself is approximately 55m long by 18m wide, and lies some 100m above sea level, and slopes from north to south. The MSA layers in the cave measures some 2.7m deep, and have yielded information pertaining to the continuous occupation of the region for well over 70 000 years, and provides evidence for the extensive utilisation of this site throughout the Middle Stone Age (Soriano et al. 2015). The occupation periods can be divided into pre-Still Bay, Still Bay (72,000–71,000 BP), Howiesons Poort (before 61,000 BP), post-Howiesons Poort (58,500 BP), late (47,700 BP), and final Middle Stone Age (MSA) phases (38,600 BP), with almost 10 000 year lapses in occupation between the post-Howiesons Poort and late MSA, and between late and final MSA. The evidence for this occupation comes in the form of stone and bone tools, decorative beads and items of personal adornment, organic materials such as bedding and the faunal and botanical remains indicative of their diets.

The site exhibits exceptionally fine-grained stratigraphy and organic preservation as well as high density of artefactual remains, allowing for detailed analysis and accurate reconstruction of palaeoclimates, palaeoenvironments, diet and behavioural changes through time. Analysis of charcoal, seeds and fauna has also allowed researchers to establish that the cave inhabitants experienced cooler, drier conditions than at present, and that the surrounding vegetation was more predominantly savanna than is currently the case. This is supported by faunal analyses that reveal the presence of present-day savanna species such as giraffe. Dating has been done by means of Optically Stimulated Luminescence (OSL), made possible by the high quantities of quartz grains in the deposit, as well as by radiocarbon dating (C^{-14}) on charcoal samples (Wadley and Jacobs 2006).

While the site has not yet been excavated to bedrock, it is certain from the levels already investigated, that the site had been settled by 77 000 years ago (Wadley 2011). Artefactual evidence from this time includes bifacial and unifacial points that were probably hafted onto spears, stone blades and a variety of bone tools. Faunal remains indicate they hunted small and large game including antelope, bushpig and warthog. They used river sedges for bedding, and added fragrant plants to these beds, and also made extensive use of ochre, possibly as a component in glue.

By 70 000 years ago, we begin to see double pointed, thin, carefully worked bifacial points that would have served as spearheads, and the faunal remains indicate that they were hunting or trapping small game (Ibid.). Evidence for personal adornment and likely expression of individual or group identity comes in the form of perforated estuarine shell beads

Stone tool technology shifts again by 65 000 years ago, with the assemblage predominantly comprising backed tools, and dominated by segments of various sizes (Ibid.). The smallest of these were likely used as arrowheads and spear tips, and the bone arrowheads occurring at this time at Sibudu represent the world's first such tools. Small game remains dominant in the faunal assemblage, indicating a heavy reliance on trapping.

The backed technology was replaced by 58 000 years ago, with less formalised tools, predominantly on quartz, rather than the previously preferred dolerite and hornfels (Ibid.). Large antelope are also reintroduced into the faunal assemblage. The occupation horizons of this period are dense and appear almost continuous, with more than a metre of sediment dated to the same period. The deposit is characterised by a lot of burnt material, ash and charcoal representing heavy reliance on fire as well as occupation by large groups for long periods. Use of ochre also appears to have been extensive. The upper deposits of this period contain large quantities of unifacial points and large scrapers and, although there is little technological change through time, raw materials shift, with dolerite and hornfels becoming more prevalent in the upper layers. The points show evidence for hafting with the use of glue compounds made of plant gum and red ochre, animal fat and other materials. The bedding material remained the earlier sedges and grasses, and analysis has shown that the bedding was periodically burnt, presumably for site maintenance and eradication of parasites. In recognition of the sophisticated knapping and technological innovations evident in this lithic assemblage,

Professor Conard and his team have renamed this post-Howiesons Poort assemblage the Sibudan technocomplex, and the lithics within them the Tongati and Ndwedwe tools (Sibudu 2018).

Bifacial points reoccur around 48 000 years ago, with a faunal assemblage indicating hunting of large plains game, particularly zebra (Wadley 2011). This assemblage shifts again by 38 000, with a renewed emphasis on small antelope. This shift occurs with a technological change to a rare hollow-based point that was presumably manufactured to facilitate hafting, and appears to be a regional variant of the final MSA (Wadley and Jacobs 2004).

Following this long period of repeated, and at times apparently continuous use, the site appears to have fallen out of use, and after a long hiatus, was only reoccupied in around AD 1 000 by Iron Age people who either used the site as a refuge, or for ceremonial or spiritual purposes (Wadley 2011). The Iron Age levels have yielded potsherds, upper and lower grindstones, rare pieces of metal, pits filled with ash, bones, seed, wood, wooden stakes, potsherds and even some basket-work as well as the remains of daga (burnt clay) hut floors, grass matting and a digging stick (Wadley and Jacobs 2004). More than 5 000 red beads, still strung as necklaces, have been recovered from the upper layers of the site and have been designated as originating in India.

Significance of the Site

Sibudu has yielded one of the most comprehensive and detailed records of the Middle Stone Age in South Africa, while the OSL dating has securely dated the deposits. The site therefore stands as a model for the sub-continental MSA sequence at a period when material culture and lithic technology was rapidly changing and increasing in complexity. These changes are understood to reflect complex human cognition.

The dry conditions at the site have resulted in exceptional organic preservation. In addition to the lithic assemblage, organic remains include early shell beads from 70 000 years ago, early bone tools from 77 000 years ago. The discovery at Sibudu of the world's oldest bone arrowhead from 65 000 years ago would imply that the bow and arrow were employed in Africa many thousands of years before they were used elsewhere (Lombard and Phillipson 2010). The site also contains the world's earliest evidence for the use of sedge and grass bedding from 77 000 years ago, a practice still employed today, as well as evidence for compound adhesives derived from ochre, fat and other compounds. These materials are rare in the archaeological record, due to their innate fragility and susceptibility to organic processes of decomposition. Furthermore, here they are derived from secure stratigraphic contexts, allowing for reliable dating and provenance.

This combination of factors makes this site not only of national importance, but internationally significant too, and this importance has been widely acknowledged around the world in scientific and popular journals.

Status of the Site

Despite the clear importance of the site, Sibudu has not yet been proclaimed as a National Heritage Site (NHS), although it has recently been graded as a Grade I site, which indicates recognition of its national importance. It has been proposed for inscription as a World Heritage Site (WHS), and is currently on the

UNESCO World Heritage Centre Tentative List as part of a serial nomination of several sites Pleistocene occupation sites¹. It cannot be inscribed as a WHS until it is gazetted as a NHS.

Due to its current unprotected status, it is at risk of damage from development and the absence of a Conservation Management Plan. The site is currently threatened by development in the rural landscape around it. The presence of the King Shaka airport some 7km from the site (Figure 1a) means that low cost housing, light industry and retail facilities are likely to increase rapidly, and the surrounding sugar cane fields can be easily developed. Currently there are several developments proposed for within 5kms of the site, including the contentious Wewe Mixed Use Development (Figure 2). Some of these have been given Environmental Authorisation, while others are still in the planning phase. Amafa aKwaZulu-Natali has recognised the possible threat these developments pose to the site and has instituted a 200m buffer around the site, within which no development is to take place, to ensure its protection. Amafa has, furthermore, appointed a local resident as caretaker of the site.

Unregulated development near the site will detract from the heritage significance of the site, and possibly render it unfit for inscription as a WHS. Such developments can pose direct and indirect threats to the site. Increasing development in the area will increase the likely number of visitors to the site. The sediments, however, are sensitive and can be easily damaged by tourists and visitors if not managed appropriately. However, fencing off the site is neither feasible nor desirable. The local community uses the forest around the site for herbal medicines, while the shelter is used for spiritual purposes. Fencing can also encourage curious visitors to explore beyond the fence. For these reasons, fencing in the absence of adequate site management is not appropriate.

In response to the developmental threats posed, the Sibudu Trust has purchased the core site of 4.3 hectares from the farmers who own the land. The subdivision process requires rezoning of this land from agricultural use to conservation area, and this process is currently underway (Figure 2). This core site will serve to protect the site from encroachment, but will not provide adequate space for facilities that would enhance visitor appreciation and education, as has been proposed by Friends of Sibudu (Sibudu 2018).

This requires further investigation and planning in terms of a detailed site management plan which will need to address the issues of site access as well.

References

Lombard, M. and Phillipson, L. 2010. Indications of bow and stone-tipped arrow use 64 000 years ago in KwaZulu-Natal, South Africa. *Antiquity* 84(325): 635–648.

Sibudu. 2018. *NEWS - MARCH 2018*. [online] Available at: <http://www.sibudu.net/399157540> [Accessed 29 July 2018].

Soriano, S., Villa, P., Delagnes, A., Degano, I., Pollarolo, L., Lucejko, J. J., Henshilwood, C. and Wadley, L. 2015. The Still Bay and Howiesons Poort at Sibudu and Blombos: Understanding Middle Stone Age

¹ The Emergence of Modern Humans: The Pleistocene occupation sites of South Africa, comprising Blombos (BBC), Border Cave (BC), Diepkloof (DKF), Klasies River (KR), Pinnacle Point (PP), Sibudu Cave (SC).

Technologies. *PLoS ONE*, 10(7), e0131127 [online]. Available at:

<http://doi.org/10.1371/journal.pone.0131127> [Accessed 30 July 2018].

Wadley, L. 2011. Sibudu National Heritage Site Nomination Form. [online] Available at:

<http://www.sahra.org.za/sahris/cases/sibudu-nhs-nomination> [Accessed 29 July 2018].

Wadley, L. and Jacobs, Z. 2006. Sibudu Cave, KwaZulu-Natal: Background to the excavations, stratigraphy and dating. *South African Humanities* 18(1): 1-26.

Wadley, L. and Jacobs, Z. 2004. Sibudu Cave, KwaZulu-Natal: Background to the excavations of Middle Stone Age and Iron Age occupations. *South African Journal of Science* 100(3/4): 145-151.

