

A REPORT ON THE RESULTS OF A TEST PIT IN STRATHALAN CAVE B, MACLEAR DISTRICT, NORTH-EASTERN CAPE*

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ABSTRACT

A 2 sq. m test pit in the deposit of Strathalan Cave B revealed a sequence of Middle Stone Age (MSA) occupation floors characterised by the presence of grass bedding materials. Radiocarbon dates indicate that the site was inhabited continuously between approximately 28 000 and 22 000 years ago, after which occupation ceased. Slender blades are prominent amongst the lithic artefacts and wooden tools were also used. The subsistence system was based on the hunting of medium-large antelopes and the gathering of plant foods.

INTRODUCTION

Strathalan Cave B (30.59.22S; 28.23.19E) is situated in the southern Drakensberg foothills, approximately 10 km from Maclear. The site consists of a series of adjacent caves cut into a large sandstone overhang (Figures 1 & 2). During the period 16 June-13 July 1987 a 2 sq. m test pit (Figures 3 & 4) was excavated in the deposit of Cave B, which is located towards the southern end of the overhang. Since then work at the site has continued, leading to a detailed study of the youngest occupation floor (Opperman & Heydenrych 1990) as well as the excavation of two older floors (Opperman in prep.). The material from the test pit was kept separate from materials recovered during follow-up excavations. A report on the data from the test excavation is considered important because it represents samples of a sequence of occupation floors dated to the Last Glacial Maximum (LGM), a period on which very little cultural information has been documented in South Africa.

EXCAVATION

A trench dug through the deposit in recent years by youngsters showed in its profile thick patches of grass in association with Middle Stone Age (MSA) artefacts. This observation led to the excavation of a test pit in squares A6 and B6 in order to recover material to determine the age and content of the deposit. Extensive excavations later revealed that the test pit was located in an area repeatedly used by the site's occupants as a sleeping area.

The test pit was dug in 50 mm spits independent of the stratigraphy which was afterwards detected in the profile (Fig 5). It was therefore possible to correlate the



Fig. 1. Location of Strathalan Cave B and sites mentioned in the text.

approximate stratigraphic unit for each spit. The following layers were identified from bedrock upwards:

Layer VBP.

This layer is 0,2 m thick, ashy black in appearance and represents the result of the partial combustion of a thick layer of compressed grasses. Preservation of organic materials is very good due to the extremely dry conditions in the cave and includes corm scales and corm bases, grasses, charcoal, bone fragments and some interesting needle-like artefacts manufactured from wood. A charcoal sample from near the rock floor was dated to 27 600 \pm 420 BP (Pta-4642).



Fig. 2. Strathalan Cave B. The top of the ladder indicates the entrance.



Fig. 3. Strathalan Cave B. Test pit with bedding materials visible in adjacent squares.

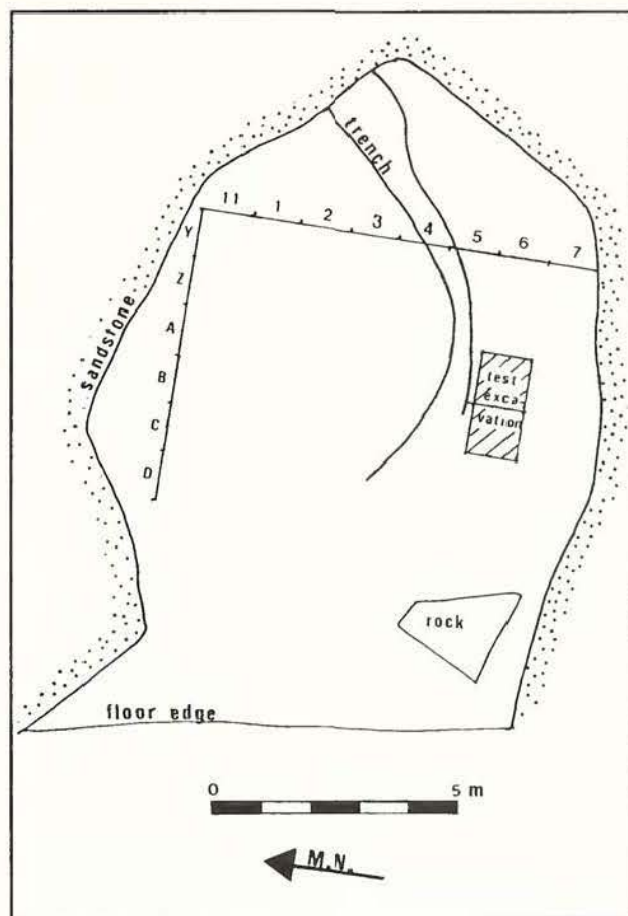


Fig. 4. Strathalan Cave B. Location of the test pit in relation to the extended excavation.

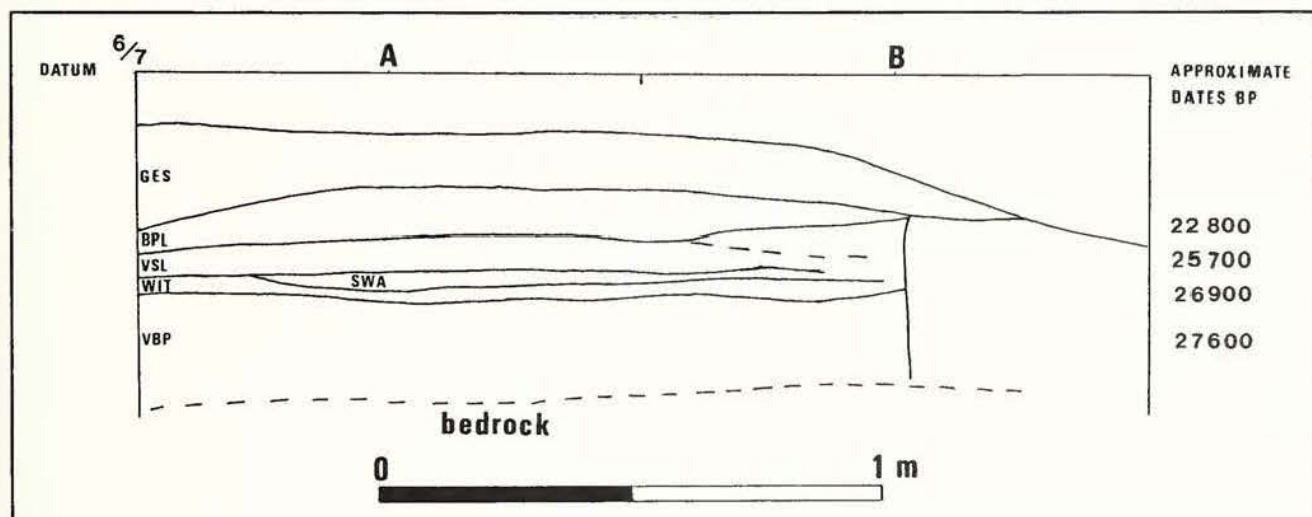


Fig. 5. Strathalan Cave B test pit. Stratigraphy.

Layer WIT.

This is a white ashy layer approximately 50 mm thick. A date of $26\,900 \pm 450$ BP (Pta-5040) was obtained for this layer from square A7.

Layer SWA.

Layer SWA is less than 50 mm thick and consists of

partially burnt plant materials. It is one of the major occupation layers in the deposit covering most of the cave's floor.

Layer VSL.

Overlying SWA is a layer of grey sand varying in thickness from 50 mm to 100 mm. It has a limited

distribution of approximately 4 sq. m and has been dated to 25 700 ± 400 BP (Pta-4644). Compressed grasses and twigs are present.

Layer BPL.

This layer is composed of grass bedding remains 100 mm thick and represents the end of human occupation of the site. A series of six radiocarbon dates indicates that layer BPL developed between 20 000 and 24 000 years ago (Opperman & Heydenrych 1990).

Layer GES.

This is a very dry sterile off-white sand layer (200 mm thick) that has effectively sealed and preserved the cultural remains in the underlying deposit.

CULTURAL REMAINS

Wooden artefacts

Worked or utilised artefacts from wood are rare in Middle Stone Age contexts and the discovery of two needle-shaped artefacts is remarkable and the first of its kind. One of the needles is a slender artefact, 144 mm long and 3 mm thick in the middle (Fig 6). It is slightly

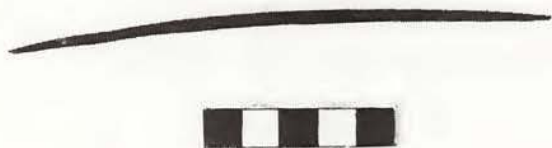


Fig. 6. Strathalan Cave B test pit. Wooden needle.

curved, which may reflect on its function, and is pointed at both ends. The other needle is a slender straight twig, 110 mm long and 3 mm thick, sharpened to a point at one end with the other end snapped off.

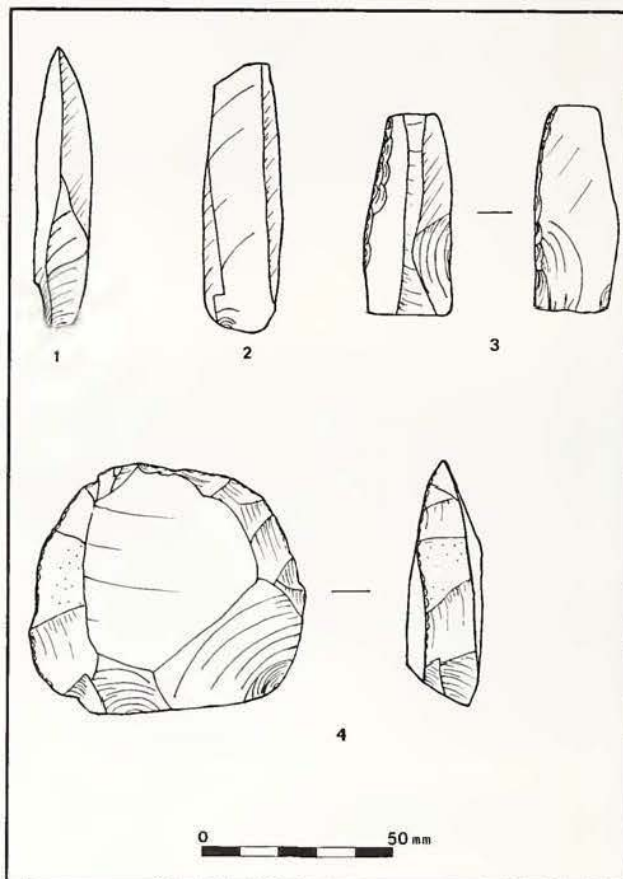


Fig. 7. Strathalan Cave B test pit. Stone artefacts. 1 & 2: unretouched flake-blades; 3: retouched flake-blade; 4: scraper.

Table 1. Strathalan Cave B test pit. Stone artefact inventory

LAYER DEPTH(m)	BPL 0,25-0,30	BPL 0,30-0,35	VSL/SWA 0,35-0,40	SWA/WIT 0,40-0,45	VBP 0,45-0,50	VBP 0,50-0,55	VBP 0,55-0,60	VBP 0,60-0,65	TOTAL
Waste									
Whole irregular flakes	2	7	25	49	95	46	7	17	248
Broken flakes		1	4	12	16	18		7	58
Whole flake-blades	2	2		23	12	7	3	4	53
Convergent flake-blades					1			1	2
Broken flake-blades		3	3	5	2	1	1	2	17
Flaking debris (< 15mm)	2	1	14	30	25	17	9	31	129
Chunks			4	8	21	3	1	4	41
Cores	1				2			1	4
TOTAL	7	14	50	127	174	92	21	67	552
Utilized artefacts									
Flakes			1	1	3	2		1	8
Blades	1		1	2	1	1		3	9
TOTAL	1		2	3	4	3		4	17
Retouched artefacts									
Flake			1	1				1	3
Blade				1					1
Scraper									
TOTAL			1	2				1	4
TOTAL	8	14	53	132	178	95	21	72	573

Stone artefacts

The stone artefact assemblage totalled 573 pieces. (Table 1). The highest concentration of artefacts appears in the basal unit (layer VBP) (0,45 m to 0,50 m) whereafter a steady decline occurs with the lowest frequencies coinciding with the final occupation of the cave. Retouched artefact frequencies are very low (0,6% of the total artefacts).

Hornfels is the dominant raw material used for the manufacture of all artefact types. For example, 88% of whole flakes are manufactured of hornfels and the remainder of chalcedony and other materials.

Table 2. Strathalan Cave B test pit. Mass of unidentified bone fragments

LAYER AND DEPTH (m)	MASS (g)
BPL (0,25-0,30)	17
BPL (0,30-0,40)	52
VSL/SWA (0,35-0,40)	30
SWA/WIT (0,40-0,45)	106
VBP (0,45-0,50)	154
VBP (0,50-0,55)	145
VBP (0,55-0,60)	199
VBP (0,60-0,65)	267
TOTAL	970

Flake-blades (10,5% of the total assemblage) (Fig. 7) are manufactured mainly of hornfels (90%) and resemble other final MSA assemblages (Volman 1984). Some of the flake-blades exhibit shallow retouch or utilisation marks on the dorsal side (Fig.7). The striking platforms are narrow, thin and mostly plain. No cores for blade manufacture were found.

FAUNAL REMAINS

Bone remains are fragmentary but well preserved. A decrease in the quantity of unidentified bone through time is apparent (Table 2). The list of animal species identified (Table 3) is very small but shows the same trend as the stone artefacts, with most of the individuals also present in VBP. The presence of grey rhebuck and eland, both mainly browsers, together with a grazer (zebra) shows that the hunters were exploiting the mountain slopes as well as the flats overlooked by the cave. The emphasis on large-medium antelopes is similar to hunting pattern observed elsewhere for the Middle Stone Age (Klein 1977).

Table 3. Strathalan Cave B test pit. The minimum numbers by which the fauna are represented (analysis by J. Brink)

LAYER DEPTH(m)	BPL 0,25-0,30	BPL 0,30-0,35	VSL/SWA 0,35-0,40	SWA/WIT 0,40-0,45	VBP 0,45-0,50	VBP 0,50-0,55	VBP 0,55-0,60	VBP 0,60-0,65	TOTAL
<u>Procavia capensis</u> Rock hyrax				1	1				2
<u>Phacochoerus aethiopicus</u> Warthog							1		1
<u>Pelea capreolus</u> grey rhebuck							1		1
<u>Taurotragus oryx</u> eland							1		1
<u>Equus sp.</u> Zebra/quagga							1		1
<u>Bovidae general</u> Small Small-medium Large-medium Large								1 1 1	1 1 5

Table 4. Strathalan Cave B test pit. Quantitative analysis of plant remains (weight in Gram)

LAYER DEPTH(m)	BPL 0,25-0,30	BPL 0,30-0,35	VSL/SWA 0,35-0,40	SWA/WIT 0,40-0,45	VBP 0,45-0,50	VBP 0,50-0,55	VBP 0,55-0,60	VBP 0,60-0,65	TOTAL
Corm materials	1,1	0,5				1,0	1,0	4,0	7,6
Grass		110,5				4,7	52,4	17,1	184,7
Twigs		23,8	2,7	15,9	27,3	61,3	46,0		177,0
Seeds			0,9	0,9					1,8
TOTAL	1,1	134,8	3,6	16,8	27,3	67,0	99,4	21,1	371,1

PLANT REMAINS

Considering that the Strathalan deposits are more than 20 000 years old the preservation of plant remains is remarkable throughout the deposit (Table 4). There is an increase in the quantity of grasses from the lower to the top units, which contrasts with a decrease in the quantities of twigs through time. Corm scales (*Watsonia* sp.) and bases, although present in low quantities, indicate that plant foods formed part of the diet (Fig. 8).



Strathalan Cave B test pit. Corm materials.

DISCUSSION AND CONCLUSIONS

Middle Stone Age hunter-gatherers began visiting the Strathalan site some 3 000 years before the onset of the LGM, which is seen as ranging from approximately 24 000 BP to approximately 17 800 BP and reaching its climax around 18 000 BP (Deacon 1990). The reasons for occupation were probably varied although the need for increased protection against the deteriorating climate seems one possibility. Evidence for colder conditions prior to 30 000 BP comes from the Lesotho caves of Melikane and Sehonghong (Carter 1976). Palynological analysis of six pollen samples from layer BPL and layer GES indicates that for the period between 24 000 BP and 21 000 BP the environment in the vicinity of the cave was cold and moist after which the climate became colder and drier (Opperman & Heydenrych 1990). A considerable increase in the quantities of grass materials used for bedding during the last stages of the cave's occupation relative to the quantities used during earlier times was possibly linked to the deteriorating climate. The presence of wooden needles, perhaps for sewing skin garments, may also indicate an attempt to cope with the cold.

The decline in plant and animal remains through time could be evidence of reduced environmental productivity but the quantities are too low to interpret with confidence. However, considering that the pollen evidence from the site indicates an extreme climate after

21 000 BP (Opperman & Heydenrych 1990) plus similar evidence from palaeoenvironmental research elsewhere (Deacon & Lancaster 1988) severe constraints on the production of food resources is not unexpected. The effect of such an environment on the maintenance of the local human population forms part of a more extensive investigation at the site (Opperman in prep.).

The decreasing frequencies of stone artefact through time, possibly reflect a scaling down of food processing activities as the food resource base weakened. Furthermore, the location of the test pit in the bedding area most probably influenced the composition of the assemblage. Consequently the frequencies of formal tools, for instance, which usually concentrate close to hearth areas, are very low.

To conclude, the data from the test pit emphasises Strathalan's potential for providing valuable glimpses into the lifestyle of Middle Stone Age hunter-gatherers approaching a critical threshold for survival.

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