Table 5. Number of elements recorded in Phase 1 analysis of comparative collections.

	Hyaena	Dog	Leopard	Cheetah	Porcupine	Trampling	Spring	Fluvial	Wind
Skull	5				4		2	2	
Calvaria							1		
Horncore	4					83 (7%)	24 (9%)	23 (7%)	
Maxilla	4				1		2		
Mandible	35 (6%)		2		9 (9%)	7	8	6	3
Atlas							2	1	3
Axis	1						1	2	
Vertebra	36 (6%)		11			66 (6%)	13	9	45 (18%)
Sacrum	1		13						2
Caudal vertebra	4				1				
Rib	12		45 (26%)	14 (78%)	2	15	34 (13%)	2	32 (13%)
Scapula	4		5	1	3	43	18 (7%)	6	7
Pelvis	21		4	1	4	25	20 (8%)	2	9
Humerus (proximal)	1		1				1	1	1
Humerus (distal)	26 (4%)		3		2	81 (7%)	5	1	8
Humerus (shaft)	10		8	3	5	25	2	1	2
Radius (proximal)	13				1	23	5	4	6
Radius (distal)	3		2			24	6		2
Radius (shaft)	6		6	4	3	3	1		
Ulna (proximal)	2						2	2	4
Ulna (distal)	1				1				
Ulna (shaft)	3		5			1	1		
Femur (proximal)	2		1			31	5		2
Femur (distal)	1					1			
Femur (shaft)	8		12 (7%)	2			6		
Tibia (proximal)	2		2			6	2		2
Tibia (distal)	29 (5%)		2			47	6		
Tibia (shaft)	9		13 (8%)	3	2	59 (5%)	4		7
Metacarpal (complete)	2								
Metatarsal (proximal)	6		6			19	2		1

Table 5. *continued.*

	Hyaena	Dog	Leopard	Cheetah	Porcupine	Trampling	Spring	Fluvial	Wind
Metatarsal (distal)	3					8			
Metatarsal (shaft)	6								1
Metapodial (complete)	9				3	63 (5%)	1	3	1
Metapodial (proximal)	13	1	12			3	3	1	1
Metapodial (distal)	16		1	1	9 (9%)	53	8	1	2
Metapodial (shaft)	7				1	17	2		
Astragalus	3		1		1	80 (7%)	10	1	2
Calcaneus	1			1			3	2	4
Tarsal							3		
Carpal	1						1		3
Phalynx (proximal)	2		7				1	7	2
Phalynx (medial)	2				2		1	3	4
Phalynx (distal)					1		1		4
Aves long bone							1		
Fragment	10	1			1	121 (10%)			1
Flake	180 (31%)	4 (66%)	4		6	171 (14%)	26 (10%)	179 (57%)	44 (18%)
Mammal long bone	89 (15%)		5		38 (38%)	47	20 (8%)	19 (6%)	19 (8%)
Phase 1 *n*	582	6	171	18	101	1184	258	316	250
Most common identifiable element (mode)	vertebra	metapod. p.	rib	rib	mandible	horn	rib	horn	vertebra
Second most common identifiable element (mode)	mandible				metapod. d.				rib

The data in this table are derived from calculations made by the author.
Values in parentheses are percentages given for elements that constitute >5% of the collection.
The most common elements were calculated as the mode.
Metapod. p. = proximal metapodial.

Table 5. *continued.*

Metapod. d. = distal metapodial.
Patella, proximal metacarpal, distal metacarpal, metacarpal shaft, complete metatarsal, aves cranial, and aves vertebra skeletal part categories not represented as none were recorded in the comparative collections studied.

Table 6. Summary of observed frequency (%) of specimens recorded in Phases 1 - 4 in comparative collections.

	Total	Phase 1	%	Phase 2	%	Phase 4	%
	n	*n*		*n*		*n*	
Brown hyaena, Botswana	27	15	56				
Bown hyaena, Kannaguass	54	33	61				
Brown hyaena, Kaspersdraai B	13	8	61				
Brown hyaena, Kwang	56	24	42				
Brown hyaena, Rooikop	17	12	70				
Brown hyaena, Namibia	7023	10	0				
Brown hyaena, Deelpan A	220	104	47				
Brown hyaena, Uitkomst	234	30	13	2	0.85	1	0.43
Spotted hyaena, Kaspersdraai	15	13	86				
Spotted hyaena, Satara	12	2	17				
Spotted hyaena, Urikaruus	69	37	53				
Spotted hyaena, Bacon Hole	199	110	55	15	8	10	5
Mixed hyaena sp. & porcupine	8	1	13				
Hyaena sp., miscellaneous	70	3	4				
Hyaena sp., Elandsfontein B. C.	196	150	76				
Hyaena sp., Ysterfontein	150	30	20				
Dog, Irene	7	2	29	1	14		
Dog, Johannesburg	4	4	100				
Leopard, Portsmut	184	4	2				
Leopard, Hakos River	318	39	12				
Leopard, Kruger National Park	174	16	9				
Leopard, Quartzberg	212	32	15				
Leopard, Valencia	239	80	33				
Cheetah, Umfolosi	108	7	6				
Cheetah, Valencia	291	11	4				
Porcupine, Wepener	105	101	96	1	0.95		
Trampling, Elandsfontein Main	1116	1116	100				
Trampling, Homeb water hole	93	70	75	68	73	6	6
Spring, Florisbad	216	216	100	216	100		
Spring, Vlakkraal	42	42	100	42	100		
Flood plain, Erfkroon A	301	150	49	5	2	1	0.38
Fluvial, Cornelia	974	92	9	12	1		
River gravel, Erfkroon B	263	75	29	16	6	1	0.004
Wind, Duinefontein 2	152	111	73	6	4	5	3
Wind, Oyster Bay	139	139	100	16	12		
SUM	13301	2889		360		24	

Frequency refers to the percentage of observed occurrences in the total number of specimens examined.
The data in this table are derived from calculations made by the author.
B. C. = Bone Circle

Table 7. Observed frequency (%) of specimens in comparative collections exhibiting Phase 1 damage categories.

	Phase 1 *n*	Fine abrasion	Rounded/ pointed	Polish	Striations	Flaked tip
Brown hyaena, Botswana	15			55.56		
Bown hyaena, Kannaguass	33	1.85	1.85	61.11		
Brown hyaena, *Kaspersdraai B*	8			61.54		
Brown hyaena, Kwang	24	1.79		42.86		
Brown hyaena, Rooikop	12			70.59		
Brown hyaena, Namibia	10		0.09	0.06		
Brown hyaena, Deelpan A	104		14.09	37.73	0.45	
Brown hyaena, Uitkomst	30	0.85	4.70	11.11	0.43	0.43
Spotted hyaena, Kaspersdraai	13			86.67		
Spotted hyaena, Satara	2			16.67		
Spotted hyaena, Urikaruus	37			71.01		
Spotted hyaena, Bacon Hole	110	29.65	32.16	52.76	18.59	
Mixed hyaena sp. & porcupine	1			12.50		
Hyaena sp., miscellaneous	3	1.43	2.86	2.86		
Hyaena sp., Elandsfontein B.C.	150	51.53	16.84	61.22		
Hyaena sp., Ysterfontein	30	1.33	10.67	11.33		
Dog, Irene	2	28.57	28.57	28.57		
Dog, Johannesburg	4		100		75	
Leopard, Portsmut	4			4		
Leopard, Hakos River	39			12.26		
Leopard, Kruger National Park	16			9.20		
Leopard, Quartzberg	32		0.94	14.62		
Leopard, Valencia	80			33.47		
Cheetah, Umfolosi	7			17.59		
Cheetah, Valencia	11			3.78		
Porcupine, Wepener	101	83.81	4.76	96.19		0.95
Trampling, Elandsfontein Main	1116	100	4.30	99.46		
Trampling, Homeb water hole	70	67.74	51.61	75.27	73.12	8.60
Spring, Florisbad	216	99.54	28.24	92.13		
Spring, Vlakkraal	42	100	2.38	100		
Flood plain, Erfkroon A	150	1.66	49.83	1.66		
Fluvial, Cornelia	92	0.10	1.75	8.01		
River gravel, Erfkroon B	75	19.01	27.38	7.60	0.38	
Wind, Duinefontein 2	111	23.68	15.79	55.26		
Wind, Oyster Bay	139	100	10.79	52.52		

The data in this table are derived from calculations made by the author.
Frequency refers to the percentage of observed occurrences in the total number of specimens examined.
B.C. = Bone Circle.

Table 8. Observed frequency (%) of specimens in comparative collections exhibiting Phase 2 damage categories, including average specimen size, weathering stage and percentage of surface damage.

	Brown hyaena Uitkomst	Spotted hyaena Bacon Hole	Dog Irene	Porcupine Wepener
n Phase 2	2	15	1	1
$\bar{x}$ Length (SD)	133.33 (8.96)	93.20 (30.50)	71.7 (0.00)	122 (0.00)
$\bar{x}$ Breadth (SD)	12.00 (1.00)	24.60 (9.86)	18.34 (0.00)	13 (0.00)
$\bar{x}$ Weathering stage (mode)	1	0	0	0
Smoothing (entire)			14.29	0.95
Smoothing (local)	1.28	5.03		
Polish (entire)			14.29	0.95
Polish (local)	1.28	5.03		
Sediment	1.28	1.51	14.29	
Striations	0.43	3.02		
Grooves		2.51		
Flaked tip		1.01		0.95
Conchoidal flake scar				
MnO_2 staining	0.43	3.02		
Rodent end chewing	0.85			
Small rodent gnawing				
Porcupine gnawing	0.85			
Mammal tooth score	0.43	4.02	14.29	0.95
Mammal tooth crush		1.51		
Mammal tooth pit		3.02		0.95
Mammal tooth puncture				
Root acid etching				
Larvae damage				
Dimpling		2.01		
Fine pitting		3.52		
Abrasion (indeterminate)	0.43	5.03		
Wind erosion				
Water abrasion				
Hollowing				
$\bar{x}$ Percentage surface damage (SD)	35 (47.70)	28 (7.89)	100 (0.00)	100 (0.00)

Etching, scrapemark, mammal tooth notch, crenulated edge, shredded end, step fracture, peeling, digested, beetle boring and larvae damage categories had zero values and are not represented.
Frequency refers to the percentage of observed occurrences in the total number of specimens examined.
All measurements in mm. Values in parentheses are standard deviations from the mean.
Measurements calculated described in Methods.
Weathering stages are calculated as the mode.

Table 8. *continued*

Trampling Homeb	Spring Florisbad	Spring Vlakkraal	Flood plain Erfkroon A	Fluvial Cornelia	River gravel Erfkroon B
68	216	42	5	12	16
99.59 (39.66)	136.16 (86.06)	177.50 (69.34)	95.50 (43.21)	65.25 (11.98)	34.71 (17.37)
29.06 (12.31)	50.96 (37.29)	52.00 (23.46)	19.67 (6.02)	22.58 (4.36)	11.82 (5.39)
1	1	1	2	3	3
35.48	96.76	95.24			4.94
32.26	1.85	2.38	1.66	0.41	1.52
44.09	73.61	69.05			3.42
27.96	17.59	23.81	1.66	0.31	1.90
72.04	75.93	76.19	1.66	1.13	6.08
72.04	20.83	2.38	0.33		0.76
64.52	7.41	2.38			
2.15	6.48	2.38	0.66	0.62	0.76
4.30	1.39		0.33	0.21	
		100	1.99	1.13	3.42
			1.00		
			1.00	0.10	
			0.33		
	12.96	19.05			0.38
					0.38
1.08					
1.08					
	0.46		0.33		2.66
	2.31				
21.51	3.24	4.76	0.33		0.76
11.83	91.20	92.86	1.66	0.41	2.66
67.74	98.15	92.86	1.99	0.92	6.08
	98.61	97.62	1.99	1.23	6.46
	57.41	42.86			
73 (35.49)	98 (9.05)	100 (0.00)	100 (0.00)	92 (19.46)	99 (4.85)

Table 8. *continued*

Wind Duinefontein 2	Wind Oyster Bay
6	16
73.00 (42.01)	83.19 (40.45)
18.83 (9.91)	19.38 (4.05)
1	1
0.66	8.63
3.29	2.16
0.66	4.32
3.29	6.47
3.95	11.51
3.29	
	1.44
1.97	3.6
0.66	
1.32	2.16
1.97	
1.32	
1.32	2.88
	7.91
1.97	11.51
2.63	
3.95	5.04
97 (4.08)	96 (12.55)

Table 9. New tools identified in the Swartkrans faunal collection.

Catalogue number	Member	Element	Co-ordinates and quadrant	Depth (cm)
SKX 47046	1 Lower Bank	Long bone shaft fragment	E3/N4 SW	690-700
SKX 8741	1 Lower Bank	Rib	E4/N4 SW	670-680
SKX 2787	1 Lower Bank	Long bone shaft fragment	E6/S1 --	150-200 below B
SKX b	1 Lower Bank	Long bone shaft fragment	none	
SKX 39365	1 Lower Bank	Long bone shaft fragment	collapsed ESA	
SKX 5847	1 Lower Bank	Long bone shaft fragment	E3/N5 SW	570-580
SKX 47045	1 Lower Bank	Long bone shaft fragment	E3/N4 SW	690-700
SKX 9123	1 Lower Bank	Long bone shaft fragment	E3/N5 NE	620-630
SKX 8954	1 Lower Bank	Long bone shaft fragment	E2/N4 SE	500-510
SKX 29434	1 Lower Bank	Long bone shaft fragment	W3/S2 SW	280-290
SKX 30568	1 Lower Bank	Long bone shaft fragment	W3/S2 SW	310-320
SKX 36969	1 Lower Bank	Long bone shaft fragment	W5/S4 --	550-600
SKX 19845	1 Lower Bank	Long bone shaft fragment	W2/S5 NE	190-200
SKX SEM	1 Lower Bank	Long bone shaft fragment	none	
SKX 34370	3	Long bone shaft fragment	W2/S6 SW	170-180
SKX 39364	1	Long bone shaft fragment	collapsed ESA	

Table 10. Purported bone tool dimensions.

Catalogue number	Width 5mm	Thickness 5mm	Width 10mm	Thickness 10mm	Width 15mm	Thickness 15mm	Width 20mm	Thickness 20mm	Greatest width	Greatest thickness	Greatest length	Compact bone thickness
SKX 4228b				8		9		10	15	12	42	
SKX 7068	10	10	12	11,5	14,5	13	16,5	15	16,5	15	38	
SKX 5011	8	5,5	11	7,5	13	9	14,5	10,5	29,6	20,7	144,2	
SKX 1429	6	3,5	8	5	9	6			9,3	6,25	18,55	6,5
SKX 3477/78	8,5	5	12	6,5	18	8,5	19	10	19,3	13,4	63,95	15,6
SKX 5003	9	6,5	11	8,5	13,5	9	14	10	16	10,25	59,25	9,9
SKX 5001	11,5	4	13	6	14	7	15	9	15	9	52,4	5,9
SKX 5005	5,5	5	8	6	9	7	10	7,5	19,5	7,6	100,15	7,5
SKX 5006	6	4	11	4,5	12,5	5	14	6	14,75	6,55	35,95	5,4
SKX 5008	7	6,5	10	7,5	12	9	14	9	16,15	15,15	146,5	8,4
SKX 5010a	10,5	6	14,5	8	15	11	15	14,5	21,55	14,5	113,8	6,9
Skx 5010b	7,5	6,5		8,5		9,5			11,9	12,75	84,45	10,5
SKX 7062	8	8	10	9	10	9,5	10,5	10,5	11,65	11	80,3	6,9
SKX 5000	9,5	8	13,5	9,5	16,5	10,5	19,5	11,5	23,65	12,1	62,9	11,4
SKX 5009		6		6		6		6	7,05	6,65	36,6	6,2
SKX 5012	13,5	7	16	9	18	11	19	14	25,1	20,95	117	14,9
SKX 12383	10	10	14,5	14,5	20,5	17,5	22	20	24,3	20	50,6	
SKX 15536	12	10	15,5	14	17,5		19		23	17	56,65	
SKX 105	5	4	7	6	9	8	10	10	12,6	12,25	37,7	5,5
SKX 1142	12	8	17	9,5	20	9		11	20,5	11,25	60,65	8,7
SKX 3227	12	9	15,5		16		16,5		16,5	10,35	42,2	7,1
SKX 10158/9	6,5	8	10	11,5	13,5	14	15,5	14,5	20	15,15	59,8	11,6
SKX 16976		6		6,5		7		8	20,85	13,35	67,85	9,6
SKX 352		10		10,5		10,5		11	13,3	11	41,2	9,1
SKX 1143	8,5	5		7		8		8,5	13,3	8,5	52,35	9,4
SKX 3287	6	9,5	10	10	12,5	10	16,5	10	23,95	15,3	131,1	10,9
SKX 21790	10,5	5	13	6,5	14	7	15	8	15	11,4	42,25	
SKX 28876B	11	10	11,5						32	23	140	
SKX 30246/9	10,5	8	13	11	14	12	15	14	29,4	23,25	122,8	
SKX 23567	7	7,5	11	10	13	11			14	11	32,35	
SKX 26234	7	6,5	7,5	8,5	9	8,5	10	9	13	12	46,2	

Table 10. *continued.*

Catalogue number	Width 5mm	Thickness 5mm	Width 10mm	Thickness 10mm	Width 15mm	Thickness 15mm	Width 20mm	Thickness 20mm	Greatest width	Greatest thickness	Greatest length	Compact bone thickness
SKX 28437	13	12,5	17,5	13,5	20	14,5	21,5	15,5	22,65	18,6	52,65	
SKX 30214/5	10	8,5	11	10	11,5	11			12	11	20	
SKX 34570	9	5,5		11,5		8,5		10	11	10	26,3	
SKX 36485	7,5	6,5	9	8,5	14	8,9			9,85	8,9	29,8	8,4
SKX 29388	13	9	19	11	24	11,5	27	12	54,35	24	186	
SKX 26324/8	18	8	20,5	11,5	23	16	25,5	18	26,3	26,05	94,6	7,1
SKX 10859		8,5		17,5		18		18	10,9	18,4	42,5	16,4
SKX 10978	6	5	8,5	7	9,5	7,5	11,5	11	14,15	13,15	63,65	11,6
SKX 20046	14	6	19	7,5	22,5	10	25	12,5	28,65	19,55	87,55	6,5
SKX 20081	10,5	4,5	12	7	14	7,4	15,5	9	20,5	12,5	61,8	11,4
SKX 21617		13		16		17,5		18,5	14,1	18,5	49,45	17,4
SKX 22885	5,5	6	9,5	5,5	14	7	16,5	8	17	8	35,5	5,1
SKX 22933a		6		8		9		9,5	8,4	9,5	25,35	10
SKX 25678		3		4,5		6		6		6,7	30,5	6,7
SKX 26112	7	5,5	11,5	9,5	16	14	20	17,5	20	17,5	92,35	11,5
SKX 26113	10,5	6,5	12	9	13,5	10	14	10,5	14	12	49,5	11,9
SKX 26138	6	4	6,5	4,5	7	5	9	7	11	7,75	47,05	4,3
SKX 26139		7		7		7,5		7,5		7,5	27,5	6,7
SKX 26149	6	5	8	5	9,5	5,5	11	6	13,65	6	46	4,5
SKX 26624	10	8	14	12,5	17	15,5	20	15,5	22,35	15,55	46,25	14,4
SKX 28076	5	6	7,5	7,5	8,5	7	9,5	9,5	9,95	9,5	51	10,5
SKX 28487	6,5	5,5	9,5	6,5	11	7		8	11	8	35,45	6,7
SKX 28828	11	4,5	12,5	6,5		7,5		8	14,7	8	43,25	5,9
SKX 30052	12,5	6	17,5	7,5	19	8	20	9	20	9	26	6,4
SKX 30141	7,5	4,5	9	6		7,5		9	11,35	9	39,9	6,2
SKX 32582									5,45	4	25,35	
SKX 32897	6,5	5	7	6	7	7	7	8	7,5	8,6	49,15	2,5
SKX 33654	6,5	6,5	10,5	8,5	12,5	9	13,5	10	13,7	11,1	71,5	9
SKX 35196	12,5	2,5	14,5	4,5	15	5	15	6	15,3	7,1	56,35	4,8
SKX 37703	8,5	5,5	10	7,5	11,5	9,5	12,5	10,5	21	13,7	131,2	
SKX 38041	8	7,5	11	8	14	8,5	16	9	16	10	44,25	10,5

Table 10. *continued.*

Catalogue number	Width 5mm	Thickness 5mm	Width 10mm	Thickness 10mm	Width 15mm	Thickness 15mm	Width 20mm	Thickness 20mm	Greatest width	Greatest thickness	Greatest length	Compact bone thickness
SKX 38830	10,5	5,5	13,5	7	16	9	17	10	13,8	11,75	86,6	6,5
SKX 45806	6	5,5	9	7,5					10,3	10,6	23,45	6,5
SKX 37052	3,5	2,5	5,5	4	6	5	7,5	5	7,5	5,7	58	2,9
SKX 1141				14		14		14		14	33	9,6
SKX 47046	5	3		5,1		5,1				5,1	23,5	5,6
SKX 8741	11	4,5	12,5	5,5	13	6	12	7	15	8	44	0,4
SKX 2787										5,2	34	5,2
SKX b		8,5		9		9		10		11,1	52	9,5
SKX 39365	11	7	11	8	15	10	19	12		13,3	39	6,7
SKX 5847	6	7,4	7,4	8	10		12			7,2	27	5,9
SKX 47045	9	5,5		6		6		7		7,5	52	6,1
SKX 9123	11,5	7	14,5	15	17	16	17	18	18	18	79	5
SKX 8954									13	7	46	6,5
SKX 29434	14,5	6	17,5	11	18	9,5	20	10	20,5	10	61	5,2
SKX 30568		5		5		5				5	9	2,8
SKX 36969	7	6	9	7	10	7	10,5	7	18	8	63	6,4
SKX 19845	8,5	4	10,5	5	11,5	6	12,5	7	13	9	34	4,5
SKX SEM		8		9		9		9,5		9,8	40,5	9,3
SKX 34370	8,4	3,3	11,15	4,2	12,7	4,7			13,1	4,8	20,15	4,1
SKX 39364	9,5	3,3	11	5,2	13,3	6,1	15	6	15,4	6,6	47,45	6,6
Se 612	8	4	11.5	7	13	9	14.5	12	29.4	14.6	83.3	10.5

The bold line is used to distinguish the sixteen new tools.

Table 11. Description of purported bone tools according to bone type and origin.

Catalogue number	Bone type	Anatomical provenience	Bone segment	Size class	Taxon
SKX 4228b	spongy	horncore	distal	mammal I	unidentified
SKX 7068	spongy	horncore	distal	mammal II	unidentified
SKX 5011	spongy	horncore	complete	mammal II	*Damaliscus d.*
SKX 1429	spon. & com.	rib	distal	mammal II	unidentified
SKX 3477/78	compact	long bone shaft frag.	medial	mammal III-IV	unidentified
SKX 5003	spon. & com.	long bone shaft frag.	medial	mammal III	unidentified
SKX 5001	compact	metapodial	medial	mammal II-III	unidentified
SKX 5005	spon. & com.	rib	medial	mammal III-IV	unidentified
SKX 5006	compact	long bone shaft frag.	medial	mammal II-III	unidentified
SKX 5008	compact	ulna	distal	mammal III	unidentified
SKX 5010a	compact	radius	medial	mammal II-III	unidentified
Skx 5010b	spon. & com.	long bone shaft frag.	medial	mammal III	unidentified
SKX 7062	compact	long bone shaft frag.	medial	mammal II-III	unidentified
SKX 5000	spon. & com.	long bone shaft frag.	medial	mammal III-IV	unidentified
SKX 5009	compact	long bone shaft frag.	medial	mammal II-III	unidentified
SKX 5012	compact	long bone shaft frag.	medial	mammal V	unidentified
SKX 12383	spongy	horncore	distal	mammal III	unidentified
SKX 15536	spongy	horncore	distal	mammal III-IV	unidentified
SKX 105	compact	long bone shaft frag.	medial	mammal III	unidentified
SKX 1142	compact	long bone shaft frag.	medial	mammal II-III	unidentified
SKX 3227	compact	long bone shaft frag.	medial	mammal II-III	unidentified
SKX 10158/9	spon. & com.	long bone shaft frag.	medial	mammal III-IV	unidentified
SKX 16976	compact	femur	medial	mammal II-III	unidentified
SKX 352	compact	long bone shaft frag.	medial	mammal III-IV	unidentified
SKX 1143	compact	long bone shaft frag.	medial	mammal III-IV	unidentified
SKX 3287	compact	tibia	proximal	mammal III-IV	unidentified
SKX 21790	spongy	horncore	complete	mammal II-III	antelope
SKX 28876B	spongy	horncore	complete	mammal II-III	cf. *Alcelaphine* a.
SKX 30246/9	spongy	horncore	complete	mammal II	*Antidorcas* sp.
SKX 23567	spongy	horncore	distal	mammal II	unidentified
SKX 26234	spongy	horncore	distal	mammal I	steenbuck-like a.
SKX 28437	spongy	horncore	distal	mammal III	unidentified
SKX 30214/5	spongy	horncore	distal	mammal II-III	unidentified
SKX 34570	spongy	horncore	distal	unidentified	unidentified
SKX 36485	spon. & com.	horncore	distal	unidentified	unidentified
SKX 29388	spon. & com.	mandible	distal	mammal II-III	*Hipparion l. s.*
SKX 26324/8	compact	tibia	medial	mammal III-IV	unidentified
SKX 10859	compact	long bone shaft frag.	medial	mammal V	unidentified
SKX 10978	compact	long bone shaft frag.	medial	mammal III-IV	unidentified
SKX 20046	compact	long bone shaft frag.	medial	mammal III-IV	unidentified
SKX 20081	compact	long bone shaft frag.	medial	mammal II-III	unidentified
SKX 21617	spon. & com.	long bone shaft frag.	medial	mammal III-IV	unidentified
SKX 22885	spon. & com.	long bone shaft frag.	medial	mammal II-III	unidentified
SKX 22933a	compact	long bone shaft frag.	medial	mammal II-III	unidentified
SKX 25678	compact	long bone shaft frag.	medial	mammal II-III	unidentified
SKX 26112	compact	long bone shaft frag.	medial	mammal III-IV	unidentified
SKX 26113	compact	long bone shaft frag.	medial	mammal III-IV	unidentified
SKX 26138	compact	long bone shaft frag.	medial	mammal I-II	unidentified
SKX 26139	spon. & com.	rib	medial	mammal III-IV	unidentified
SKX 26149	compact	long bone shaft frag.	medial	mammal II-III	unidentified

Table 11. *continued.*

Catalogue number	Bone type	Anatomical part	Bone segment	Size class	Taxon
SKX 26624	spon. & com.	long bone shaft frag.	medial	mammal III-IV	unidentified
SKX 28076	compact	long bone shaft frag.	medial	mammal II-III	unidentified
SKX 28487	compact	long bone shaft frag.	medial	mammal II-III	unidentified
SKX 28828	compact	long bone shaft frag.	medial	mammal I-II	unidentified
SKX 30052	compact	long bone shaft frag.	medial	mammal III	unidentified
SKX 30141	compact	long bone shaft frag.	medial	mammal II-III	unidentified
SKX 32582	compact	ivory	distal	mammal II	*Phacocoerus* sp.
SKX 32897	spon. & com.	rib	medial	mammal II-III	unidentified
SKX 33654	compact	long bone sh	...dial	mammal III-IV	unidentified
SKX 35196	spon. & com.	rib	distal	mammal II	unidentified
SKX 37703	spongy	rib	medial	mammal III-IV	unidentified
SKX 38041	compact	long bone shaft frag.	medial	mammal III	unidentified
SKX 38830	compact	metacarpal	medial	mammal II	unidentified
SKX 45806	compact	long bone shaft frag.	medial	unidentified	unidentified
SKX 37052	compact	ulna	medial	unidentified	unidentified
SKX 1141	compact	long bone shaft frag.	medial	mammal III	unidentified
SKX 47046	compact	long bone shaft frag.	medial	mammal I	unidentified
SKX 8741	spon. & com.	rib	distal	mammal II-III	unidentified
SKX 2787	spon. & com.	long bone shaft frag.	medial	unidentified	unidentified
SKX b	compact	long bone shaft frag.	medial	mammal IV	unidentified
SKX 39365	compact	long bone shaft frag.	medial	mammal III	unidentified
SKX 5847	compact	long bone shaft frag.	medial	mammal II-III	unidentified
SKX 47045	compact	long bone shaft frag.	medial	mammal III-IV	unidentified
SKX 9123	compact	long bone shaft frag.	medial	mammal II-III	unidentified
SKX 8954	compact	long bone shaft frag.	medial	mammal II-III	unidentified
SKX 29434	compact	long bone shaft frag.	medial	mammal III-IV	unidentified
SKX 30568	compact	long bone shaft frag.	medial	mammal I	unidentified
SKX 36969	compact	long bone shaft frag.	medial	mammal II-III	unidentified
SKX 19845	compact	long bone shaft frag.	medial	mammal I	unidentified
SKX SEM	spon. & com.	long bone shaft frag.	medial	mammal III-IV	unidentified
SKX 34370	compact	long bone shaft frag.	medial	mammal II-III	unidentified
SKX 39364	spongy	long bone shaft frag.	medial	mammal II-III	unidentified
SE 612	compact	metapodial	medial	mammal III	unidentified

com. = compact.
frag. = fragment.
Damaliscus d. = *Damaliscus dorcas.*
cf. *Alcelaphine* a. - cf. *Alcelaphine* antelope.
steenbuck-like a. = steenbuck-like antelope.
Hipparion l. s. = *Hipparion lybicum steytleri.*
The bold line distinguishes the sixteen new tools.

Table 12. Description of purported bone tool conservation.

Catalogue number	Preservation	Left breakage	Right breakage	Bottom breakage	Tip breakage	Left worn	Left condition	Right worn	Right condition	Bottom worn	Bottom condition
SKX 4228b	incomplete	ancient		fresh	ancient	worn		worn		n/a	
SKX 7068	incomplete			fresh		worn		worn		n/a	
SKX 5011	complete					worn		worn		worn	weathered
SKX 1429	incomplete			fresh		worn		worn		n/a	
SKX 3477/78	incomplete	fresh		ancient		n/a		worn		n/a	
SKX 5003	incomplete	fresh		fresh		worn		worn	weathered	n/a	
SKX 5001	incomplete	ancient		ancient		n/a		worn	weathered	n/a	
SKX 5005	incomplete			ancient		worn	weathered	worn	weathered	n/a	
SKX 5006	incomplete			ancient		worn	weathered	worn	weathered	n/a	
SKX 5008	complete					worn	weathered	worn	weathered	worn	weathered
SKX 5010a	incomplete			fresh		worn	weathered	worn	weathered	n/a	
Skx 5010b	incomplete	ancient		ancient		n/a		worn	weathered	n/a	
SKX 7062	incomplete	ancient		ancient		n/a		worn	weathered	n/a	
SKX 5000	incomplete	ancient		ancient		worn	weathered	worn	weathered	n/a	
SKX 5009	incomplete	fresh		fresh		n/a		worn		n/a	
SKX 5012	incomplete	ancient		ancient		n/a		worn	weathered	n/a	
SKX 12383	incomplete			fresh		worn		worn		n/a	
SKX 15536	incomplete	fresh		fresh		worn		worn		n/a	
SKX 105	incomplete			fresh		worn	weathered	worn	weathered	n/a	
SKX 1142	incomplete	fresh		ancient		worn	weathered	worn	weathered	n/a	
SKX 3227	incomplete	ancient		ancient		n/a		worn	weathered	n/a	
SKX 10158/9	incomplete			ancient		worn	weathered	worn	weathered	n/a	
SKX 16976	incomplete	fresh		fresh		n/a		worn	weathered	n/a	
SKX 352	incomplete		ancient	ancient		worn	weathered	n/a		n/a	
SKX 1143	incomplete		ancient	ancient		worn	weathered	n/a		n/a	
SKX 3287	complete					worn	weathered	worn	weathered	worn	weathered
SKX 21790	complete					worn		n/a		n/a	
SKX 28876B	incomplete	fresh		ancient		n/a		n/a		n/a	
SKX 30246/9	incomplete			fresh		n/a		n/a		n/a	
SKX 23567	incomplete		ancient	ancient		worn	weathered	worn	weathered	n/a	
SKX 26234	incomplete			ancient		worn		worn		n/a	

Table 12. *continued.*

catalogue number	preservation	left breakage	right breakage	bottom breakage	tip breakage	left worn	left condition	right worn	right condition	bottom worn	bottom condition
SKX 28437	incomplete			fresh	ancient	worn		worn		n/a	
SKX 30214/5	incomplete			fresh		worn		worn		n/a	
SKX 34570	incomplete	fresh	ancient	fresh		n/a		n/a		n/a	
SKX 36485	incomplete	ancient	ancient	ancient		worn	weathered	worn	weathered	n/a	
SKX 29388	complete					worn	weathered	worn	weathered	n/a	
SKX 26324/8	incomplete			ancient		worn	spiral	worn	spir	n/a	
SKX 10859	incomplete	ancient		ancient		n/a		worn	weathered	n/a	
SKX 10978	incomplete			ancient		worn	weathered	worn	weathered	n/a	
SKX 20046	incomplete	fresh	fresh	ancient		n/a	spiral	worn		n/a	
SKX 20081	incomplete			ancient		worn	weathered	worn	weathered	n/a	
SKX 21617	incomplete		ancient	ancient		worn	weathered	n/a		n/a	weathered
SKX 22885	incomplete			ancient		worn	weathered	worn	weathered	n/a	
SKX 22933a	incomplete		fresh	ancient		worn	weathered	n/a		n/a	
SKX 25678	incomplete		fresh	ancient		worn		n/a		n/a	
SKX 26112	incomplete			ancient		worn	weathered	worn	weathered	n/a	
SKX 26113	incomplete			ancient		worn	spiral	worn	spir	n/a	
SKX 26138	incomplete	fresh		ancient		worn	weathered	worn	weathered	n/a	
SKX 26139	incomplete		ancient	ancient		worn	weathered	n/a		n/a	
SKX 26149	incomplete			ancient		worn		worn		n/a	
SKX 26624	incomplete			ancient		worn	spiral	worn	spir	n/a	
SKX 28076	incomplete			fresh		worn	weathered	worn	weathered	n/a	
SKX 28487	incomplete	fresh	fresh	fresh		worn		worn		n/a	
SKX 28828	incomplete	ancient		ancient		worn		worn	weathered	n/a	
SKX 30052	incomplete			ancient		worn		worn		n/a	
SKX 30141	incomplete		fresh	fresh		worn	weathered	n/a		n/a	
SKX 32582	incomplete	ancient		fresh		n/a		worn	weathered	n/a	
SKX 32897	incomplete			fresh		worn	weathered	worn	weathered	n/a	
SKX 33654	incomplete			ancient		worn	weathered	worn	weathered	n/a	
SKX 35196	incomplete			ancient		worn	weathered	worn	weathered	n/a	
SKX 37703	incomplete			ancient		worn	weathered	worn	weathered	n/a	
SKX 38011	incomplete			fresh		worn	weathered	worn	weathered	n/a	

Table 12. *continued.*

catalogue number	preservation	left breakage	right breakage	bottom breakage	tip breakage	left worn	left condition	right worn	right condition	bottom worn	bottom condition
SKX 38830	incomplete			ancient		worn	weathered	worn	weathered	n/a	
SKX 45806	incomplete			ancient		worn	weathered	worn	weathered	n/a	
SKX 37052	incomplete	ancient	ancient	ancient		worn	weathered	worn	weathered	n/a	
SKX 1141	incomplete		ancient	ancient	fresh	worn	weathered	n/a		n/a	
SKX 47046	incomplete	ancient		fresh		worn		worn		n/a	
SKX 8741	incomplete	ancient	ancient	fresh		worn		worn		n/a	
SKX 2787	incomplete	fresh		fresh		n/a		worn	weathered	n/a	
SKX b	incomplete	fresh		ancient		n/a		worn	weathered	n/a	
SKX 39365	incomplete	ancient	ancient	fresh		worn	weathered	worn	weathered	n/a	
SKX 5847	incomplete			fresh		worn	weathered	worn	weathered	n/a	
SKX 47045	incomplete					n/a		n/a		n/a	
SKX 9123	incomplete					n/a		n/a		n/a	
SKX 8954	incomplete	fresh		fresh		worn		worn	weathered	n/a	
SKX 29434	incomplete					n/a		n/a		n/a	
SKX 30568	incomplete		ancient	ancient		worn		n/a		n/a	
SKX 36969	incomplete			ancient		worn		worn		n/a	
SKX 19845	incomplete			ancient		worn	weathered	worn	weathered	n/a	
SKX SEM	incomplete	fresh		fresh		n/a		worn		n/a	
SKX 34370	incomplete			fresh			weathered	worn	weathered	n/a	
SKX 39364	incomplete			fresh	fresh	worn	weathered	worn	weathered	n/a	
SE 612	incomplete			fresh		worn	weathered	worn	weathered	n/a	

n/a = not applicable as broken or obscured.
For definitions of terms see Chapter 5, section 1.
The bold line distinguishes the sixteen new tools.

Table 13. Description of the worn area on the purported bone tools.

Catalogue number	Tip shape	Wear length (mm)	Flake damage position	Worn flake damage
SKX 4228b		25	periosteal	no
SKX 7068	pointed	19		no
SKX 5011	pointed	33		no
SKX 1429	pointed	19		no
SKX 3477/78	pointed	35	periosteal	no
SKX 5003	pointed	20		no
SKX 5001	rounded	42		no
SKX 5005	pointed	40		no
SKX 5006	pointed	22		no
SKX 5008	pointed	32		no
SKX 5010a	rounded	54	periosteal & posterior	yes
Skx 5010b	pointed	33	periosteal	yes
SKX 7062	pointed	28		no
SKX 5000	pointed	42		no
SKX 5009		27		no
SKX 5012	linear	20	posterior	yes
SKX 12383	pointed	20		no
SKX 15536	rounded	20	periosteal & posterior	no
SKX 105	pointed	29		no
SKX 1142	rounded	40		no
SKX 3227	rounded	33		no
SKX 10158/9	pointed	23		no
SKX 16976	rounded	24		no
SKX 352	linear	25	periosteal	yes
SKX 1143	pointed	32	periosteal	yes
SKX 3287	pointed	37		no
SKX 21790	rounded	14		no
SKX 28876B	rounded	5		no
SKX 30246/9	rounded	20		no
SKX 23567	pointed	25		no
SKX 26234	pointed	28		no
SKX 28437	pointed	15		yes
SKX 30214/5	pointed	16		no
SKX 34570	pointed	20		no
SKX 36485	pointed	30		no
SKX 29388	rounded	20	periosteal & posterior	yes
SKX 26324/8	rounded	40	periosteal & posterior	yes
SKX 10859	pointed	25	posterior	yes
SKX 10978	pointed	33	periosteal & posterior	yes
SKX 20046	rounded	33	posterior	no
SKX 20081	rounded	40	posterior	yes
SKX 21617	linear	10		no
SKX 22885	pointed	20		no
SKX 22933a		25		no
SKX 25678	rounded	30		no
SKX 26112	pointed	35		no
SKX 26113	pointed	26	posterior	yes
SKX 26138	pointed	28		no
SKX 26139		25		no
SKX 26149	pointed	46	periosteal	yes

Table 13. *continued.*

Catalogue numbe	Shape	Wear length (mm)	Flake damage position	Worn flake damage
SKX 26624	pointed	18		no
SKX 28076	pointed	23		no
SKX 28487	pointed	35	posterior	yes
SKX 28828	linear	30	posterior	yes
SKX 30052	rounded	26	posterior	no
SKX 30141	pointed	18		no
SKX 32582			periosteal	yes
SKX 32897	pointed	28		no
SKX 33654	pointed	30		no
SKX 35196	rounded	25	periosteal & posterior	yes
SKX 37703	pointed	25		no
SKX 38041	pointed	20		no
SKX 38830	rounded	47	periosteal & posterior	yes
SKX 45806	pointed	24	periosteal	yes
SKX 37052	pointed	17	posterior	yes
SKX 1141				no
SKX 47046	pointed	24		no
SKX 8741	pointed	27		no
SKX 2787		16		no
SKX b	linear	25		no
SKX 39365	pointed	39	periosteal & posterior	yes
SKX 5847	pointed	25		no
SKX 47045	pointed	22		no
SKX 9123	pointed	34	periosteal	yes
SKX 8954		30		no
SKX 29434	rounded	36	periosteal	yes
SKX 30568	pointed			no
SKX 36969	pointed	35		no
SKX 19845	pointed	29		no
SKX SEM		34		no
SKX 34370	rounded	20		no
SKX 39364	pointed	34	periosteal & posterior	yes
SE 612	pointed	42		no

The bold line distinguishes the sixteen new tools.

Table 14. Description of the striations recorded on the purported bone tools.

Catalogue	Periosteal				Right		
number	longitud.	oblique	transverse	n/a	longitud.	oblique	transverse
SKX 4228b	present	present	ab/na	ab/na	present	present	ab/na
SKX 7068	present	present	ab/na	ab/na	present	present	ab/na
SKX 5011	present	present	ab/na	ab/na	present	present	ab/na
SKX 1429	present	present	present	ab/na	present	present	present
SKX 3477/78	present	present	present	ab/na	present	ab/na	ab/na
SKX 5003	present	ab/na	ab/na	ab/na	present	present	ab/na
SKX 5001	present	present	ab/na	ab/na	present	ab/na	ab/na
SKX 5005	present	ab/na	present	ab/na	present	ab/na	ab/na
SKX 5006	present	present	present	ab/na	present	present	ab/na
SKX 5008	present	present	ab/na	ab/na	present	present	present
SKX 5010a	present	present	ab/na	ab/na	present	ab/na	ab/na
Skx 5010b	present	ab/na	ab/na	ab/na	present	ab/na	ab/na
SKX 7062	present	present	ab/na	ab/na	ab/na	ab/na	ab/na
SKX 5000	present	ab/na	ab/na	ab/na	ab/na	present	ab/na
SKX 5009	present	ab/na	ab/na	ab/na	present	ab/na	ab/na
SKX 5012	present	present	ab/na	ab/na	present	present	present
SKX 12383	present	ab/na	ab/na	ab/na	present	ab/na	ab/na
SKX 15536	ab/na	ab/na	ab/na	ab/na	ab/na	present	ab/na
SKX 105	present	present	present	ab/na	present	present	present
SKX 1142	present	present	ab/na	ab/na	present	present	ab/na
SKX 3227	present	present	ab/na	ab/na	present	ab/na	ab/na
SKX 10158/9	present	ab/na	ab/na	ab/na	present	ab/na	ab/na
SKX 16976	present	present	ab/na	ab/na	ab/na	ab/na	ab/na
SKX 352	present	present	ab/na	ab/na	ab/na	ab/na	ab/na
SKX 1143	present	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na
SKX 3287	present	ab/na	ab/na	ab/na	present	ab/na	ab/na
SKX 21790	present	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na
SKX 28876B	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na
SKX 30246/9	ab/na	ab/na	ab/na	ab/na	present	ab/na	ab/na
SKX 23567	present	ab/na	ab/na	ab/na	present	ab/na	ab/na
SKX 26234	present	ab/na	ab/na	ab/na	present	ab/na	ab/na
SKX 28437	ab/na	ab/na	ab/na	ab/na	ab/na	present	ab/na
SKX 30214/5	present	present	present	ab/na	present	present	present
SKX 34570	present	present	ab/na	ab/na	ab/na	ab/na	ab/na
SKX 36485	present	present	ab/na	ab/na	present	present	ab/na
SKX 29388	present	ab/na	ab/na	ab/na	present	ab/na	ab/na
SKX 26324/8	present	present	present	ab/na	present	ab/na	ab/na
SKX 10859	present	ab/na	ab/na	ab/na	present	ab/na	ab/na
SKX 10978	present	present	present	ab/na	present	present	ab/na
SKX 20046	present	ab/na	ab/na	ab/na	present	ab/na	ab/na
SKX 20081	present	present	present	ab/na	present	ab/na	ab/na
SKX 21617	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na
SKX 22885	present	present	ab/na	ab/na	present	ab/na	ab/na
SKX 22933a	present	present	ab/na	ab/na	ab/na	ab/na	ab/na
SKX 25678	present	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na
SKX 26112	present	ab/na	ab/na	ab/na	present	ab/na	ab/na
SKX 26113	ab/na	ab/na	ab/na	ab/na	present	present	ab/na
SKX 26138	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
SKX 26139	present	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na
SKX 26149	present	ab/na	ab/na	ab/na	present	ab/na	ab/na

Table 14. *continued.*

Catalogue	Periosteal				Right		
number	longitud.	oblique	transverse	n/a	longitud.	oblique	transverse
SKX 26624	present	ab/na	ab/na	ab/na	present	ab/na	ab/na
SKX 28076	present	ab/na	ab/na	ab/na	present	ab/na	ab/na
SKX 28487	present	present	present	ab/na	present	ab/na	ab/na
SKX 28828	present	ab/na	ab/na	ab/na	present	ab/na	ab/na
SKX 30052	present	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na
SKX 30141	present	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na
SKX 32582	present	ab/na	ab/na	ab/na	present	ab/na	ab/na
SKX 32897	present	ab/na	ab/na	ab/na	present	ab/na	ab/na
SKX 33654	present	ab/na	ab/na	ab/na	present	present	ab/na
SKX 35196	present	ab/na	ab/na	ab/na	present	ab/na	ab/na
SKX 37703	present	ab/na	present	ab/na	present	ab/na	ab/na
SKX 38041	present	ab/na	present	ab/na	ab/na	present	ab/na
SKX 38830	present	present	ab/na	ab/na	present	ab/na	ab/na
SKX 45806	present	ab/na	ab/na	ab/na	present	ab/na	ab/na
SKX 37052	present	present	ab/na	ab/na	present	ab/na	ab/na
SKX 1141	present	present	ab/na	ab/na	ab/na	ab/na	ab/na
SKX 47046	present	ab/na	present	ab/na	present	ab/na	present
SKX 8741	present	ab/na	present	ab/na	present	ab/na	ab/na
SKX 2787	ab/na	ab/na	ab/na	present	present	present	ab/na
SKX b	present	present	ab/na	ab/na	present	present	ab/na
SKX 39365	present	present	ab/na	ab/na	present	ab/na	ab/na
SKX 5847	ab/na	present	ab/na	ab/na	present	present	ab/na
SKX 47045	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
SKX 9123	present	present	ab/na	ab/na	ab/na	ab/na	ab/na
SKX 8954	present	present	ab/na	ab/na	present	ab/na	ab/na
SKX 29434	present	present	ab/na	ab/na	ab/na	ab/na	ab/na
SKX 30568	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
SKX 36969	present	present	ab/na	ab/na	present	ab/na	ab/na
SKX 19845	present	present	present	ab/na	ab/na	ab/na	ab/na
SKX SEM	present	present	present	ab/na	ab/na	present	ab/na
SKX 34370	present	present	ab/na	ab/na	present	ab/na	ab/na
SKX 39364	present	present	ab/na	ab/na	present	present	ab/na
SK 612	present	ab/na	ab/na	ab/na	present	ab/na	ab/na

longitud. = longitudinal.
n/a = not applicable (because obscured or broken).
ab/na = absent/not applicable.
The bold line distinguishes the sixteen new tools.

Table 14. *continued.*

Posterior					Left			
n/a	longitud.	oblique	transverse	n/a	longitud.	oblique	transverse	n/a
ab/na	present	present	present	ab/na	present	present	ab/na	ab/na
ab/na	present	present	ab/na	ab/na	present	present	ab/na	ab/na
ab/na	present	present	ab/na	ab/na	present	present	ab/na	ab/na
ab/na	present	present	present	ab/na	present	present	present	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	present	present	ab/na	ab/na	ab/na	present	ab/na	ab/na
ab/na	present	present	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	present	ab/na	ab/na
ab/na	present	present	ab/na	ab/na	present	present	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	present	ab/na	ab/na
ab/na	present	ab/na	present	ab/na	ab/na	ab/na	ab/na	ab/na
ab/na	ab/na	ab/na	ab/na	ab/na	present	present	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	ab/na	present	ab/na	ab/na
ab/na	present	present	ab/na	ab/na	present	ab/na	present	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
present	present	present	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na
present	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	ab/na	ab/na	ab/na	ab/na	present	present	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na
ab/na	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na
ab/na	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	ab/na	ab/na	ab/na	ab/na	ab/na	present	ab/na	ab/na
ab/na	present	present	present	ab/na	present	present	present	ab/na
ab/na	present	present	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na
ab/na	present	present	ab/na	ab/na	present	present	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	present	ab/na	ab/na
ab/na	ab/na	present	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	present	present	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na
ab/na	ab/na	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	present	present	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	present	present	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na	present
ab/na	present	ab/na	ab/na	ab/na	present	present	ab/na	ab/na
present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na	present
present	present	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na	present
ab/na	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na

Table 14. *continued.*

Posterior					Left			
n/a	longitud.	oblique	transverse	n/a	longitud.	oblique	transverse	n/a
ab/na	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	present	ab/na	present	ab/na	present	ab/na	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	present	ab/na	present	ab/na	ab/na	present	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	ab/na	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	ab/na	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	present	present	present	ab/na	ab/na	ab/na	ab/na	ab/na
ab/na	present	present	ab/na	ab/na	present	ab/na	ab/na	ab/na
ab/na	ab/na	ab/na	ab/na	present	present	present	present	ab/na
present	present	ab/na	ab/na	ab/na	present	present	ab/na	ab/na
present	present	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na	present
ab/na	present	ab/na	ab/na	ab/na	ab/na	ab/na	ab/na	present
present	present	present	ab/na	ab/na	ab/na	ab/na	ab/na	present
present	ab/na	ab/na	ab/na	present	present	ab/na	ab/na	ab/na
ab/na	present	present	present	ab/na	present	ab/na	ab/na	ab/na
present	ab/na	present	ab/na	ab/na	ab/na	ab/na	ab/na	present
ab/na	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na	present
ab/na	present	ab/na			present	present	ab/na	ab/na
ab/na	present	present	ab/na	ab/na	present	present	ab/na	ab/na
ab/na	present	ab/na	ab/na	ab/na	present	ab/na	ab/na	ab/na

Table 15. Surface modifications and distribution observed on the purported tools and pseudotools from reference collections studied.

Origin	Bone modifications	*n.*	Smoothing & polish		Striation type				Striation orientation			
					Tip		Body		Tip		Body	
			Tip	Body	Individual	Sets	Individual	Sets	Long.	Random	Long.	Random
Uitkomst, Gauteng Province, S.A.	Porcupine*	1	1			1		1		1		1
Bacon Hole Cave, Wales	Hyaena trampling*	10	10		1	1	2		2			10
Homeb water hole, Namibia	Trampling*	6	6	5	1	1		5		1		6
Erfkroon A, Free State, S.A.	Flood plain context*	1	1									
Erfkroon B, Free State, S.A.	River gravel context*	1	1									
Duinefontein 2, Cape Province, S.A.	Trampling & Wind erosion*	5	5	5	1	2	1	3		2		5
Brain's experiment	Digging soil	2	2	2	2					2		
Sterkfontein	Archaeological	1	1		1				1			
Swartkrans (Brain & Shipman 1993)	Archaeological	68	66	2	66				66	2		
Swartkrans (new tools)	Archaeological	16	16	1	16		1		16			1

* = probable modifying agent.
Long. = longitudinal

Table 16. Contemporaneous early hominid sites in South Africa and their associated tool industries.

Site	Age	Associated Hominids	Stone tool Industries	Bone tools (*n*)	Reference
Swartkrans	1.8-1.5 Mya	*A. robustus; Homo erectus*	Developed Oldowan/Early Acheulean	84	1;2
Sterkfontein	2.0-1.4 Mya	*P. robustus; Homo habilis; Homo ergaster*	Oldowan/Early Acheulean	1	3; 4; 5; 6; 7
Kromdraai	2.0-1.5 Mya	*Australopithecus robustus*	Developed Oldowan/Early Acheulean	0	8
Drimolen	2.5-1.6 Mya	*Paranthropus robustus; Homo* sp.	2 flakes; 1 core	23	9; 2

1 = Clark 1993; 2 = Field 1999; 3 = Clarke 1985; 4 = Clarke 1988; 5 = Clarke 1994; 6 = Kuman 1994; 7 = Kuman & Clarke 1999; 8 = Kuman *et al*. 1997; 9 = Keyser 1998.