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ARCHAEOLOGICAL RESEARCH ALONG THE SOUTH-EASTERN CAPE COAST PART 2, CAVES AND SHELTERS: KABELJOUS RIVER SHELTER 1 AND ASSOCIATED STONE TOOL INDUSTRIES

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ABSTRACT

Research along the Cape St Francis coast during the early 1980s identified two types of pre-pottery open-air shell middens from the associated stone tool assemblages. The first type was those with a microlithic silcrete stone tool assemblage and the second type those with macrolithic flaked cobble quartzite stone tools. Initially, the quartzite assemblage was referred to informally as the Kabeljous Industry because the relationship between the two different assemblages was not clear. Excavations at Kabeljous Shelter 1 during 1984 indicated that a Kabeljous Industry 'replaced' the Wilton microlithic Industry at the site at ca 2500 BP. This paper discusses the excavations at Kabeljous Shelter 1 and the associated stone tool industries of the Cape St Francis coastal region.

INTRODUCTION

Research along the Cape St Francis coast between 1981 and 1984, identified two types of open-air shell middens, namely, those with a microlithic silcrete stone tool assemblage similar to the Wilton Industry (but lacking segments) found in the adjacent Cape Mountains and a macrolithic flaked cobble quartzite assemblage with large backed flakes as the most prominent 'formal' stone tools type (Binneman 1985, 1996, 2001, 2005). The latter stone tool assemblages was informally labelled and referred to as the Kabeljous Industry - it was decided to name the quartzite stone tool assemblage after the shelter with the same name as a tribute to the contribution Dr John Hewitt made towards archaeological research in the Eastern Cape (Binneman 1996). Rudner (1968:536) referred to these stone tools as "A Late Mossel Bay industry (?) with giant crescents". However, a series of radiocarbon dates from middens associated with "giant crescents" indicated that they date from the middle to late Holocene and were contemporary with the microlithic Wilton Industry of the region (Binneman 2005:51, table 2). This came as a slight surprise because the association between the microlithic Wilton Industry and the macrolithic quartzite industry was unclear at this early stage of the research project.

After most of the open-air shell midden data was processed, the second phase of the coastal project, namely, the cave and shelter investigation was initiated during 1984. The aim with this phase was not only to complement the open-air phase of the coastal research in terms of larger samples of well-preserved cultural material and a time sequence, but also to contrast the data with sites in the adjacent Cape Mountains.

This paper discusses the investigation of Kabeljous River Shelter and the associated stone tool assemblages found at the site. It is suggested that the cobble quartzite assemblages found along the Eastern Cape coast be recognised as a formal Late Holocene Later Stone Age stone tool industry. The research methodology which were applied during the south-eastern Cape project and the results from the open-air shell middens along the Cape St Francis coast were discussed in two previous publications (Binneman 2001, 2005), and should be consulted for the terminology used in this publication.

BACKGROUND

The archaeological work conducted during the 1920s by two amateur archaeologists, J. Hewitt and F. FitzSimons (both Directors of major Eastern Cape Museums), in the Tsitsikamma region, provided the backdrop for the formulation (and testing) of models for the Cape St Francis research project. A discussion of their archaeological research in the region will be published in the near future.

In 1925 Hewitt excavated a trench along most of the back wall of Kabeljous River Shelter 1 and an area estimated to be about four square metres in the nearby Kabeljous River Shelter 2. Kabeljous River Shelter 1 was re-excavated by the author in 1984.

There is little information on Hewitt's excavations at the Kabeljous Shelters and only a few artefacts were kept. Hewitt was surprised that the deposits were "comparatively shallow: the greatest depth found in the floor was only five feet" (approximately 1.5 m, but he does not mention at which shelter), and reported that the 'pigmy' implements which he observed at Wilton Large Rock Shelter were absent from the Kabeljous River Shelters. According to Hewitt there was no "stratification in the material" and those from the lower levels were similar to those from the surface. All the implements, with a few exceptions, were manufactured from sandstone. The exceptions were a few quartz flakes from the sub-surface and lower levels, which were similar to ones he found at Wilton. Hewitt attributed the "scarcity of true pygmy implements", to the fact that there is a shortage of suitable fine-grained raw materials such as surface-quartzite (silcrete) and lydianite (hornfels) in the area.

It is unclear why Hewitt did not find 'pigmy' implements in the excavation at the Kabeljous Shelters, not even at a depth of five feet. It is possible that his trench along the rear wall in Shelter 1 did not reach bedrock and therefore never reached the Wilton layers. There is no information on the excavation in Shelter 2 and one can only speculate that he either did not excavate deep enough to encountered the 'pigmy' implements, or as in the case of Klasies River Cave 1 and 5 (rear excavation), they were also absent (Binneman 1996, 1997).

Hewitt also reported on the recovery of twelve skeletons from the shelters, but no information is available on burial position or at what depth they were found. One of the skeletons, an adult female, yielded a considerable quantity of ostrich eggshell beads. According to Hewitt her skull and two others skulls were "different from those of typical Strandloopers" and resembled those from Spitzkop Cave near Grahamstown, while only one skull resembled that of a typical 'Strandlooper'.

It is clear that Hewitt experienced difficulty in explaining the stone tool assemblage at the Kabeljous River Shelters. On the one hand he was not sure if the material could be assigned to a "single culture", and on the other he speculated that if "two or more cultures" were responsible for the material, then "they must have been practically contemporaneous". Although Hewitt (1925:452) was more concerned with explaining the cultural material than with the human remains, he was convinced that, "The skeletal discoveries in the coastal rock-shelters offer a more reliable clue to the identity of the implement makers".

According to Hewitt, all the skulls from this region displayed distinct Strandlooper characteristics, and on this evidence two types could be identified. The first type was of 'mixed origin' (coastal skulls) and larger than the smaller 'purer stock' type skulls.

From this and other information and drawing on his vast experience, knowledge and observations of human skeletal remains from the Eastern Cape, Hewitt formulated a "working hypothesis": On the basis of the size of the skulls, Hewitt speculated that the large skulls were those of 'Hottentots' (Khoi), who were also responsible for the large quartzite stone artefacts and the smaller ones that of 'Bushmen', who were responsible for the 'pigmy' culture of the inland sites. "But it should be noted that the difference between the two classes of implements is chiefly in the matter of size".

FitzSimons (1921, 1923, 1926), probably encouraged by the discovery of the so-called 'Boskop Man' (Haughton 1917; Dart 1923) near Potchefstroom in 1913, conducted extensive work along the Tsitsikamma coast between Knysna and Cape St Francis. He paid little attention to the cultural material in general, and directed his energy and interest to finding skeletal remains.

The exact number of sites excavated by FitzSimons is not known and all of the sites have not yet been located (Schauder 1963; Turner 1970; Robinson 1977). It is also not clear how many human skeletons were exhumed by FitzSimons and his teams, but he reported 51 from Witchers Cave (FitzSimons 1926:814). Nevertheless, he recognised that the human remains from different depths of his excavations were also different in stature. This was confirmed by a small number of the remains sent to the Department of Anatomy at the University of the Witwatersrand for analysis (Dart 1923; Laing 1924; Gear, H.S. 1925, 1926; Laing & Gear, H.S. 1929; Wells & Gear, J.H. 1931).

Both Laing and H.S. Gear agreed with Dart's (1923) view that the remains from the lower levels at Whitcher's Cave resembled the "primitive" features of the Boskop type. The remains were "heavier" and more "rugged" than those from the upper levels, which were regarded as a mix between the Boskop type and Bushman (San). Laing (1924:537) regarded, "The Strandlooper as a fusion between pure Bushman and Boskop types".

Wells and J.H. Gear (1931) on the other hand, while agreeing that the lower remains showed affinities with "Bush and Boskopoid", added that there were also Mongoloid elements present. Furthermore, the later remains apart from Bush, Boskopoid, and Mongoloid, also displayed Australoid and 'Bantu' elements. According to Wells and Gear the Bantu elements were possibly introduced by 'Hottentots' who had contact with them. However, they added that "there is no positive archaeological evidence of the presence of Hottentots in Whitchers Cave". The Mongoloid influence came via Chinese contact with the East Africa and group termed "Chinese Hottentots" who lived in the Kei River Valley.

Notwithstanding all these different interpretations and theories, FitzSimons (1926:816) formulated his own, somewhat 'romantic' hypothesis:

> Here then, far up in the Outinequa range of mountains was a horde of primitive folk, who lived until comparatively recent times in a manner not different from the earliest Cave Dwellers of Europe. There are reasons for believing that they were the survivors of the ancient and original Cave Dwellers of Europe who, when pressed south by hordes of stronger and better equipped men, moved onward, keeping always to the coast because their sole means of subsistence was obtained from the sea, and eventually reaching South Africa. There are also reasons for believing that they found the caves and rock shelters inhabited by still more primitive, but taller, bigger-boned and thick skulled people who did not accumulate midden material in their rocky homes nor buried their dead there. These immigrant hordes of coast-dwelling Bushmen were now using bows and poisoned arrows, and the original occupants of the rock shelters were only armed with crude stone weapons. The discovery of the fragmentary remains of a massive-boned race, akin to the Boskop man, in some of the rock shelters at Zitzikama on the lower levels of the midden floors, opens up a wide field for speculation. In Knysna and its neighbourhood palaeoliths of large size are so abundant that we must, perforce acknowledge that a race of big and brawny men once existed there. These were possibly individuals of the race who fashioned the large

stone implements, which are scattered so profusely over the country and especially on the river terraces. The inland Bushmen, pressed south by a stronger and superior people, drove these primitive and poorly armed cave men before them, and the remnant found sanctuary in the forests of Knysna and Zitzitkama.. Here a few hordes survived, and fed on shell fish and the animal and vegetable products of the forests.

The coastal Bushmen on their arrival, finding people already in possession of some of the rock shelters, overcome them by force, and the survivors subsequently live peaceably with their conquerors, or perhaps, they simply blended peacefully with the newcomers, and, being few in numbers, were soon absorbed, the only evidence of the blend being a slight increase in stature, and variations in the size and shape of the skulls of the coastal Bushmen.

All the remains of this big-boned people were found in the lower midden levels at varying distances from the rock floor. On the same levels, however, I found the remains of coastal Bushmen. This would seem to give colour to the hypothesis that the bigger people were the original occupants, and that at least some of them continued to live on in the shelters with the new-comers. By the time the last of the pure-bred original people died, an appreciable layer of midden material would have accumulated on the floor, and in this they were buried. This hypothesis would at least account for the bones of the bigger Boskopoid people being found side by side with those of the coast Bushmen. Ultimately caught between oncoming Kafirs from the eastern side of Africa, and the Hottentots on the west, these human survivals of the distant past vanished from the earth, leaving abundant evidence of the nature of the life they led.

Unfortunately, unlike Hewitt, FitzSimons never paid much attention to the stone tools assemblages from the sites which he excavated, and we therefore have no knowledge of the stone tool sequences and if they were similar to that which Hewitt discovered at the Kabeljous River Shelters. Whatever the case, both researchers were of the opinion that there were different populations (distinguished on the size of the human skeletal remains) in the region who were responsible for different cultural remains.

Recent research (Pfeiffer & Sealy 2006; Stynder 2006) has confirmed the observations made by FitzSimons and Hewitt regarding different skull and body sizes of Holocene human remains in the Tsitsikamma region. With the assistance of modern technology such as radiocarbon dating these researchers have established that there was a brief decline in stature and skull size between 4000 and 3000 BP, but an increased again after this date, accelerated after ca. 2000 BP. Although it is not clear what caused this phenomenon, Pfeiffer and Sealy (2006:8) suggested that the reason may be "diet rather than disease, with chronic and/or cyclical insufficiency of nutrients being most probable". This argument is supported by Stynder (2006).

By 1985 the research on the open-air shell middens along the Cape St Francis coast indicated that there were two distinctive midden types prior to 1800 BP, namely those dominated by Wilton type microlithic stone tools and those dominated by a large quartzite cobble stone tool industry (Binneman 1985, 1996). The analysis of the excavations at Kabeljous Shelter 1 and Klasies River Caves 1 and 5 was well underway when Inskeep (1987) published his research from Nelson's Bay Cave. The results indicated that after 3300 BP the microlithic stone tool industry was replaced by a heavy duty quartzite tool industry at the site.

KABELJOUS RIVER SHELTER 1

The shelters (KRS1 & 2) are located approximately 4 km from the Kabeljous River Mouth (Fig. 1), some 80 m above sea level and 20 m above the valley floor. The shelters are cut into conglomerates and were probably created during the high sea level stands of the Plio-Pleistocene. Terraces at 100 m and 60 m are prominent in the area (Butzer & Helgren 1972). Kabeljous River Shelter 1 faces southwest and is approximately 30 m wide along the drip line, between 5 m and 6 m deep and the roof some 6 m high at the entrance (Fig. 2). The entrance of the shelter is well concealed by trees and dense growth of creepers.

EXCAVATION, STRATIGRAPHY AND DATING

Apart from the trenches dug by Hewitt, large erosion hollows are also present along the drip line, exposing cultural and food remains. Two square metres were excavated in Kabeljous River Shelter 1 to bedrock at a depth of 1,20 m. A few potsherds were found on the surface, but none were recovered during the excavation.

A total of 23 layers and other features were identified during the excavations (Fig. 3). These were divided into 13 units, which are described here, from the surface to the bottom.

Unit OLA (oxidized and leached ash)

The top unit consists of a series of interlocking soft and hard ash of different colours. At the front of the excavation soft grey ash (SGA) with loosely packed shells are overlain by hard red brown, grey and pink ash (RBA). These horizons may represent redistributed ash stained by iron humates. This feature contains mainly fragments of burned shell and bone. The remains of a small round fire place (RBA/AF) were found on the edge of RBA, extending into the unexcavated adjoining square.

At the back of the excavation, a thick hard white ash (HWA) lies on top of RBA. This large ash feature probably represents the remains of a series of fires, hardened by peculating water. The bottom of HWA consists of an under burn of soft, powdery, orange, pink and red brown soil.

Unit DSM (*Donax serra* midden)

This unit consists of a relatively thick layer of loosely packed shell, mostly *D. serra* in a matrix of coarse grained ashy soil.

Unit PSM (*Perna perna* shell midden)

In the front portion of the excavation this unit is composed of a loosely packed *P. perna* dominated midden which graded

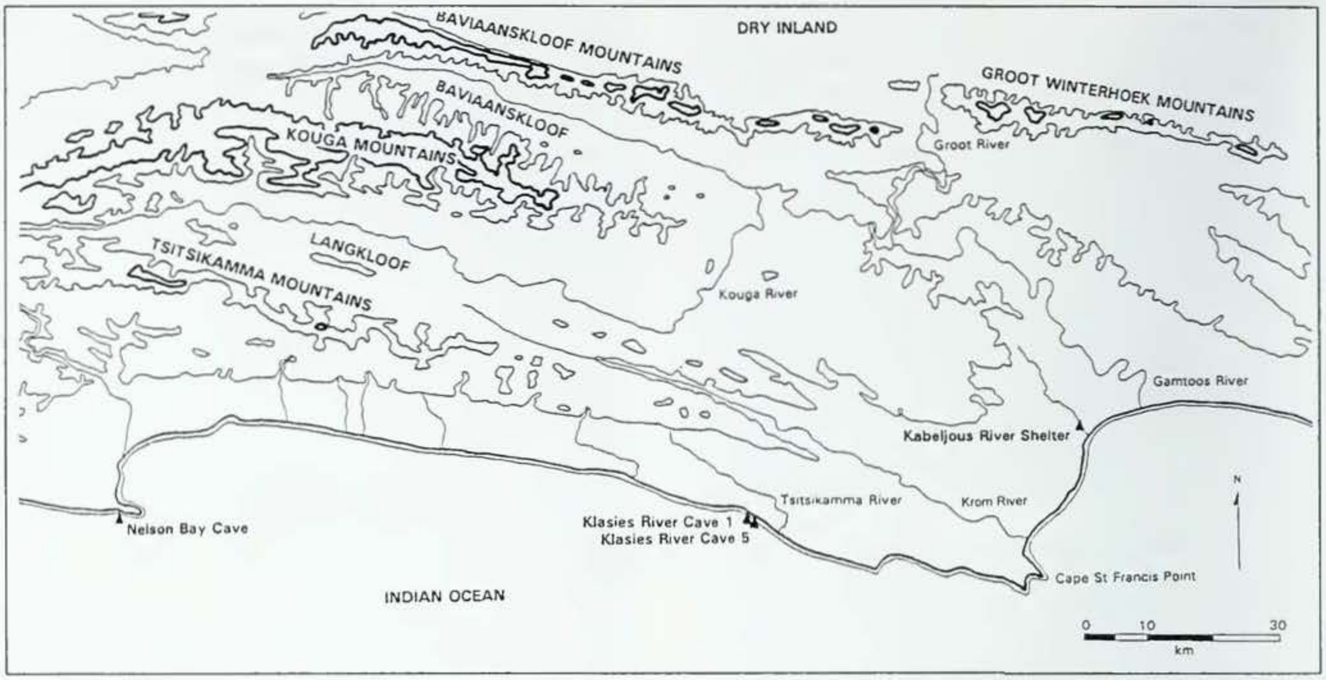

Fig. 1. Location of Kabeljous River Shelter and other major coastal sites mentioned in the text.

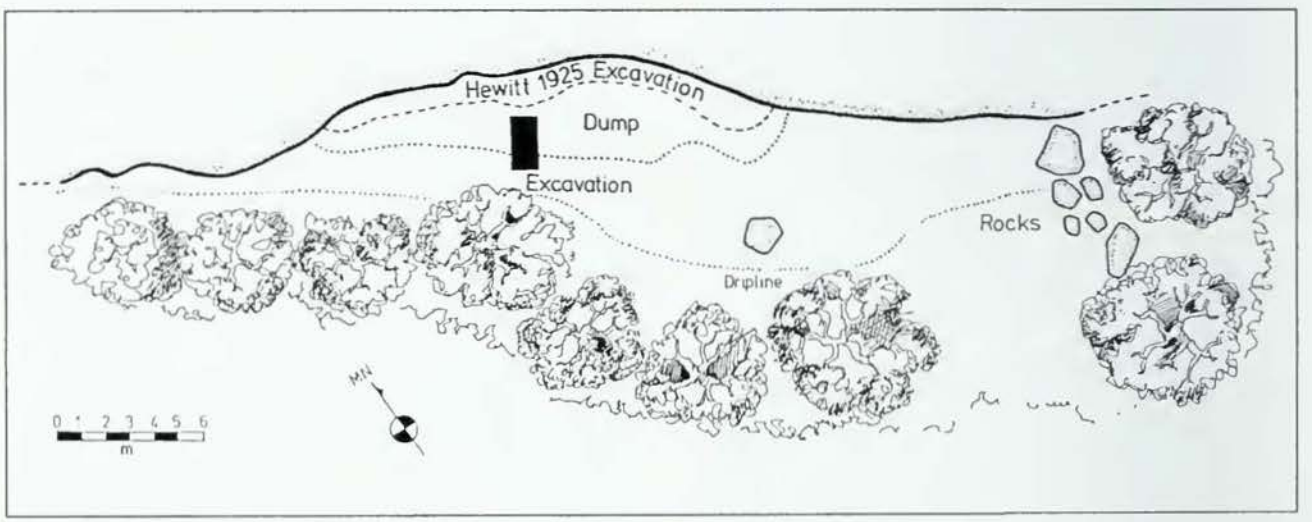

Fig. 2. Plan of Kabeljous River Shelter 1.

into a soft grey and coarse-grained, orange coloured soil towards the rear.

Unit RGA (Red brown and grey ash)

The top part of this unit consists of reddish ashy deposits with occasional patches of white ash and loosely packed (GA/PS). The bottom part is composed of soft grey ash with patches of white ash (SGA).

Unit ORA (Oxidized red brown ash)

This unit is composed of a loosely packed *P perna* rich shell lens filled in by red and dark brown ashy soil. A rough quartzite lithic industry (Kabeljous Industry) replaces the microlithic industry found in the underlying units. A radiocarbon date of 2450 ± 60 BP (Pta-4614) has been obtained for this unit.

Unit CAF (Carbonised and ash floors)

This multi-layered unit is built-up of a series of thin lenses of carbonised organic material, white, grey, brown and red ash. This unit marks the end of the microlithic component at the site.

Unit CFC (Carbonised floors and crushed shell)

A characteristic of this unit is the high degree of fragmentation of the shell remains which are tightly packed in black carbonised organic material and dark brown ashy soil.

Unit GCS (Grey ashy deposits and crushed shell)

A thin brown ashy parting separates this unit from the overlying CFC unit. The shell in this unit is also highly fragmented and is packed in a grey ashy deposit.

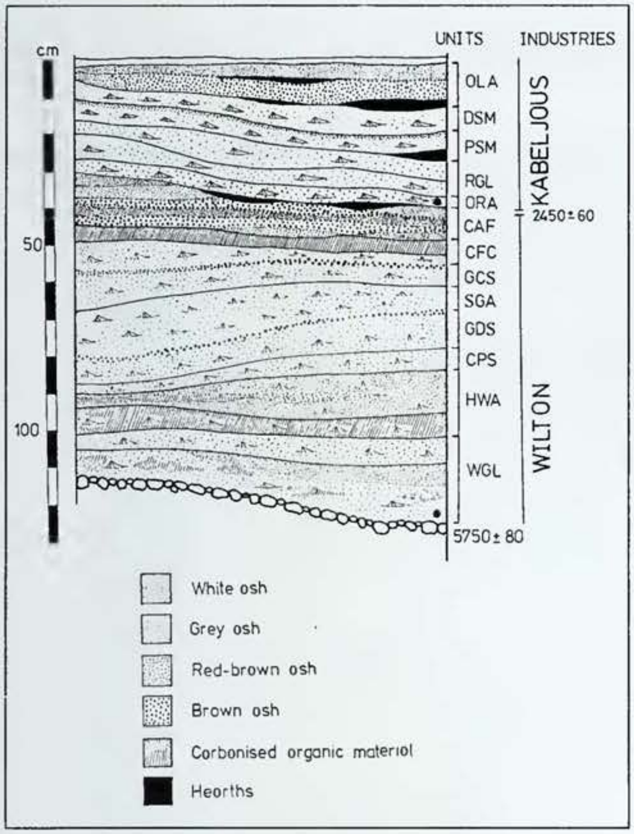

Fig. 3. Section drawing of the excavations at Kabeljous River Shelter 1.

Unit SGA (Soft grey ash)

The shell remains of this unit are in excellent condition, loosely packed in soft grey ash. A thin red brown ashy parting with fragmented *P. perna shell* (RB/CS) separates this unit from the overlying unit.

Unit GDS (Grey ash and *D. serra* midden)

This unit consists of a *D. serra* dominated midden filled in by grey ashy soil and is separated from the overlying unit by a thin brown ashy parting.

Unit CPS (Crushed *Perna* shell)

This unit is also composed of highly fragmented *P. perna* shell filled in with grey ashy soil.

Unit HWA (Hard white ash)

Underlying CPS is a unit which consists of stone hard white leached ash with patches of soft dark grey and black carbonised organic material and a lens of fragmented shell (HWA/CS).

Unit WLG (Hard white leached and soft grey ash)

This unit rest on bedrock and is composed of a shell lens filled in with soft grey ashy soil (SGA/PS) and hard white leached ash with patches of soft carbonised organic material (HWA/GAS). A typical Wilton microlithic stone tool industry manufactured of crystal quartz (similar to that found in the adjacent Cape Mountains) marked the bottom units. This unit has been radiocarbon dated to 5750 ± 80 BP (Pta-4061).

SUBSISTENCE AND DIET

Mammal remains

There are no significant differences between the Wilton and Kabeljous units in the range of species represented (J. Brink, pers. comm.). The faunal remains are dominated by small to large medium terrestrial mammals (Table 1). This may suggest that the occupants in both industries captured most of species by hunting and to a lesser degree by trapping. Among the large animals represented are two individuals of *Syncerus caffer* and *Taurotragus oryx,* one of each in both the Wilton and Kabeljous units. One *Equus* sp. is also present in the Wilton units. Only four mammal species present in the Wilton units are not represented in the Kabeljous units (could be due to small samples), and include *Procavia capensis, Equus* sp., *Potamahoerus* sp. and *Pelea capreolus* However, none of these species suggest any major environ-mental changes from the present day undulating grassy hills and densely wooded valleys in the immediate vicinity of the shelter. This is supported by the presence of the remains of *Raphicerus* sp., *Redunca fulvorufula, Alcelaphus buselapus, Taurotragus oryx* and *Syncerus caffer.* The remains of several carnivores are recorded (four larger carnivores in the Wilton units and two small carnivores in the Kabeljous units), but it is doubtful whether these animals were hunted for their meat and they probably represent causal takings.

Marine mammals (4 seal) played an insignificant role in the diet and entered the cave only occasionally (one in the Kabeljous units and three in the Wilton units).

Shellfish

Two species account for the bulk of the shellfish remains (Table 2). *P. perna* was the dominant species collected (frequency percentage and meat mass percentage), except for units DSM (Kabeljous units) and GDS (Wilton units) where they are outnumbered by *D. serra.* In the Kabeljous units *P. perna* account for 45,7% of the meat mass percentage and *D. serra* 37,3% followed by *T. sarmaticus* with only 14,1%. The situation is much the same for the Wilton units. *P. perna* (53,4%) represents a marginally higher meat mass percentage than in the Kabeljous units. Both *D. serra* with 35,6% and *T. sarmaticus* with 8,7% are represented by slightly lower meat mass percentages.

Although *P. perna* outnumbers *D. serra* in most units, the reverse is often true when meat mass was taken into consideration. For example, in unit GCS *P. perna* accounts for 70% of the total frequency of shellfish collected, but only 44% of the total meat mass. *D. serra* on the other hand, only accounts for 23% of the total frequency, but 48% of the total meat mass. This is also the case in units OLA and CPS. In unit HWA however, *T. sarmaticus* provids the second highest meat mass even though it only accounted for 5% of the total frequency of shellfish collected.

The very low frequency, and often total absence of species from the lower balanoid zone (*i.e., Scutellastra. cochlear* and *S. argenvillei*) may indicate that people did not collect shellfish at spring tides when these species are exposed and easily accessible, or that these species were simply ignored for some reason. As illustrated in Table 1 (Binneman 2001:82), the large *Scutellastra* spp., although they contain relatively

Table 1. Minimum numbers of individuals and density per volume: mammals, marine birds and fish as represented at Kabeljous River Shelter 1.

	Kabeljous units						Wilton units								
	OLA	DSM	PSM	RGA	ORA	TOTAL	CAF	CFC	GCS	SGA	GDS	CPS	HWA	WGL	TOTAL
MAMMALS															
Hamo sapiens								1							1
Hyaena sp							1								1
Felis sp													1		1
Small carnivore				1		1									
Large carnivore														1	1
Arctacephalus pusillus		1				1		2	1						3
Pracavia capensis									1				1		2
Equus sp											1				1
Celhalapus monticola									1	2					3
Ptamachoerus sp															3
Oreatragus oreotragus			1		1	2	3								7
Raphicerus melanotis					1	2	2	1	2	1				1	3
Raphicerus sp.	1							1	1				1		4
Pelea caprealus						1	3		1						6
Redunca fulvarufula			1			2	1		1		1	2		1	3
Alcelaphus buselapus					2	1	3								1
Sylvicapra grimmia					1	1							1		1
Tauratragus aryx			1			1	1								
Syncerus caffer			1												
Bovidae - general															
small	3	1		2	1	7	1	2		1		1	1		6
small medium	1	2	2		1	6	4	2			1		1	1	9
large medium	4	1	2	1	2	10	3	1		1	1	1		1	8
large	2			1		3	1				1	1	1	1	5
TOTAL	**11**	**5**	**8**	**5**	**9**	**38**	**23**	**10**	**8**	**5**	**5**	**5**	**7**	**6**	**69**
REPTILES (tortoise)															
Homapus areolatus	13	5	8	4	5	35	2	5	11	7	3	1	4	7	40
Chesina angulata	1		1	1		3	1	3	4	1	1	1		1	12
Pelmedusa subrufa (turtle)														1	1
TOTAL	**14**	**5**	**9**	**5**	**5**	**38**	**3**	**8**	**15**	**8**	**4**	**2**	**4**	**9**	**53**
MARINE BIRDS															
Phalacracarax carba lucidus							1	1							2
Spheniscus demersus							1			1	1	1		1	5
Larsus dominicanus							?1					1			1
Unidentified	1		1					1		2					3
TOTAL	**1**		**1**				**3**	**2**		**3**	**1**	**2**		**1**	**12**

high meat mass per individual, are not the most economical species to collect in terms of total weight (shell and meat) *versus* meat mass return. Therefore, it is possible that the occupants of Kabeljous Shelter collected and transported only those shellfish species back to the shelter which provided them with the most economical return from the total weight collected. However, this is not true in the case of *T. sarmaticus* and *Oxystele* spp. On the other hand, *T. sarmaticus* contain the second highest meat mass per individual species (Table 2) and therefore would have been a logical choice if shellfish were collected on the basis of size alone. The pecentage frequencies of both *T. sarmaticus* and *Oxystele* spp. is very low throughout the sequence and would not have made a substantial difference to the total collecting weight if not collected. *Oxystele* spp. on the other hand, may have been the contribution of children or collected in small quantities as variety to the shellfish diet (Meehan 1982). The ratio between total shellfish weight collected per volume and the actual edible shellfish meat mass per volume range from 32,2% (unit OLA) to 44,2% (unit GSC). The difference in the mean edible shellfish meat mass per volume for the two industries is 1,3% (Wilton 38,2% and Kabeljous 36,9%). This indicates that the Wilton groups were marginally more economical in the shellfish (higher meat mass per total weight) collected and transported to the shelter than the Kabeljous groups. In other words, the Wilton groups collected and transported slightly less shell weight back to the shelter.

What ever the reason for the low frequencies of species from the lower balanoid zone, it is proposed that in general those species which were abundant and easy to collect with a relatively high meat mass per individual (such as *P. perna* and *D. serra*) were collected. These two species are also amongst the most economical species when the percentage edible meat mass *versus* total shellfish weight are considered (*P. perna* 35% and *D. serra* 42%) (Table 2). In the absence and/or scarcity of the big three (*S. capensis*, *H. spadicea* and *H. midae*), these two species are the logical choice. However, the presence of *S. tabularis*, *S. barbara*, *H. spadicea* and *T. sarmaticus* nevertheless indicate that these relatively large meat mass per individual species were collected when encountered irrespective of total weight and percentage meat mass return.

Marine fish

The marine fish remains were analysed by C. Poggenpoel

Table 2. Shellfish frequency percentage per species and percentage meat mass contribution from Kabeljous Shelter 1: Kabeljous units.

	OLA				DSM				PSM			
	f	f %	mm/gr	mm %	f	f %	mm/gr	mm %	f	f %	mm/gr	mm %
Perna perna	452	50,9	1717,6	37,0	241	32,8	915,8	14,3	855	71,9	3847,5	58.8
Donax serra	154	17,3	1817,2	39,1	362	49,3	4887,0	76,3	167	14,0	1870,4	28.6
Scutellastra argenvillei	11	1,2			1	0,1						
Scutellastra barbara	6	0,7			1	0,1			6	0,6		
Scutellastra cochlear	15	1,7			9	1,2			4	0,3		
Scutellastra longicosta	36	4,1	54,0	1,2	26	3,5			16	1,3		
Cymbula miniata					1	0,3						
Cymbula oculus	5	0,6			1	0,1			1	0,1		
Scutellastra tabularis	3	0,3			1	0,1			3	0,3		
Haliotis midae												
Haliotis spadicea	2	0,2			7	1,0	133,0	2,1	8	0,7	244,8	3.7
Oxystele spp.	92	10,4	73,6	1,6	40	5,4			55	4,6		
Turbo sarmaticus	99	11,2	980,1	21,1	42	5,7	470,4	7,3	68	5,7	578,0	8,8
Burnupena spp.	4	0,5							3	0,3		
Dinoplax gigas	9	1,0			3	0,4			4	0,3		
TOTAL	888	100,1	4642,5	100,0	735	100,0	6406,2	100.0	1190	100,1	6540,7	99,9

	OLA	DSM	PSM
Buckets sampled	27	10	14
Buckets analysed	4	2	4
Meat mass/volume	1160,6	3203,1	1635,2
Total collecting mass	3602,5	7828,7	4391,8
% meat mass of total mass/volume	**32,2**	**40,9**	**37,2**

Only those shellfish species which contributed relatively high meat mass are considered.

	RGA				ORA				TOTAL			
	f	f %	mm/gr	mm %	f	f %	mm/gr	mm %	f	f %	mm/gr	mm %
Perna perna	403	60,7	1934,4	54,4	1038	65,0	5605,2	58,9	2989	58,90	14020,5	45,73
Donax serra	119	17,9	1261,4	35,5	211	13,2	1603,6	16,9	1013	19,96	11439,6	37,31
Scutellastra argenvillei									12	0,24		
Scutellastra barbara	1	0,2			6	0,4			20	0,39		0,18
Scutellastra cochlear	13	2.0			29	1,8			70	1,38		
Scutellastra longicosta	11	1.7			57	3,6			146	2,88	54,0	0,48
Cymbula miniata									1	0,02		2,01
Cymbula oculus	6	0,9			5	0,3			18	0,35		
Scutellastra tabularis	6	0,9	145,8	4,0	6	0,4			19	0,37	145,8	
Haliotis midae					1	0,1			1	0,02		
Haliotis spadicea	4	0,6			11	0,7	239,8	2,5	32	0,63	617,6	3,7
Oxystele spp.	69	10,4			101	6,3			357	7,03	73,6	
Turbo sarmaticus	27	4,1	216,0	6,1	118	7,4	2065,0	21,7	354	6,98	4309,5	8,8
Burnupena spp.	1	0,2							8	0,16		
Dinoplax gigas	4	0,6			15	0,9			35	0,69		
TOTAL	644	100,2	3557,6	100,0	1598	100,1	9513,6	100,0	5075	100,00	30660,6	99,9

	RGA	ORA		
Buckets sampled:	11	14	Total buckets excavated:	76
Buckets analysed:	4	5	Total buckets analysed:	19
Meat mass/vol:	889,4	1902,7	Mean meat mass/volume:	1613,7
Total collecting mass:	2511,1	5098,4	Mean collecting mass/vol:	4377,7
% meat mass of total mass/vol:	**35,4**	**37,3**	% mm of total mass/vol:	**36,9**

Only those shellfish species which contributed relatively high meat mass are considered.

Table 2. continues. Shellfish frequency percentage per species and percentage meat mass contribution from Kabeljous Shelter 1: Wilton units.

	CAF				CFC				GSC			
	f	**f %**	**mm/gr**	**mm %**	**f**	**f %**	**mm/gr**	**mm %**	**f**	**f %**	**mm/gr**	**mm %**
Perna perna	338	62,1	1757,6	76,5	167	73,0	1002,0	57,1	816	69,7	3427,2	44,2
Donax serra	36	6,7	334,8	14,5	29	12,7	464,1	26,5	268	22,9	3778,8	48,8
Scutellastra argenvillei					8	3,5	112,2	6,4				
Scutellastra barbara	6	1,1			2	0,9			1	0,1		
Scutellastra cochlear	6	1,1			2	0,9			6	0,5		
Scutellastra longicosta	78	14,3	85,5	3,7	4	1,8			17	1,5		
Cymbula miniata					1	0,4						
Cymbula oculus	10	1,8							2	0,2		
Scutellastra tabularis	5	0,9			1	0,4			2	0,2		
Oxystele spp.	51	9,4			3	1,3			23	2,0		
Turbo sarmaticus	12	2,2	120,0	5,2	11	4,8	175,1	10,0	35	3,0	542,5	7,0
Burnupena spp.					1	0,4						
Dinoplax gigas	2	0,4							1	0,1		
TOTAL	544	100,0	2298,2	99,9	229	100,1	1753,4	100,0	1171	100,2	7748,5	100,0

	CAF	CFC	GSC
Buckets sampled	20	19	25
Buckets analysed	4	1	4
Meat mass/volume	574,6	1753,4	1937,1
Total collecting mass	1761,5	4442,2	4386,2
% meat mass of total mass/volume	**32,6**	**39,5**	**44,2**

Only those shellfish species which contributed relatively high meat mass are considered.

	SGA				GDS				CPS			
	f	**f %**	**mm/gr**	**mm %**	**f**	**f %**	**mm/gr**	**mm %**	**f**	**f %**	**mm/gr**	**mm %**
Perna perna	452	63,3	2983,2	52,3	88	24,9	554,4	15,1	216	55,2	1252,8	45,2
Donax serra	130	18,2	1755,0	38,8	220	62,2	2970,0	80,7	103	26,3	1328,7	48,0
Scutellastra argenvillei												
Scutellastra barbara	2	0,3			1	0,3						
Scutellastra cochlear	16	2,2							1	0,3		
Scutellastra longicosta	24	3,4			1	0,3			7	1,8		
Cymbula miniata					3	0,9						
Cymbula oculus	4	0,6							2	0,5		
Scutellastra tabularis	3	0,4										
Haliotis spadicea	22	3,1	501,6	8,8	3	0,9			8	2,1		
Oxystele spp.	32	4,5			29	8,2	69,6	1,9	44	11,3		
Turbo sarmaticus	28	3,9	462,0	8,1	9	2,5	85.5	2.3	9	2.3	187.2	6.8
Dinoplax gigas	1	0,1							2	0,4		
TOTAL	714	100,0	5701,8	100,0	354	100,2	3679.5	100,0	391	100,2	2768.7	100,0

	SGA	GDS	CPS
Buckets sampled	15	11	8
Buckets analised	4	2	1
Meat mass/volume	1425,3	1839,8	2768,7
Total collecting mass	3932,3	4700,9	6926,5
% meat mass of total mass/volume	**36,2**	**39,1**	**40,0**

Only those shellfish species which contributed relatively high meat mass are considered

Table 2. continues. Shellfish frequency percentage per species and percentage meat mass contribution from Kabeljous Shelter 1: Wilton units.

	HWA				WGL				TOTAL			
	f	f %	mm/gr	mm %	f	f %	mm/gr	mm %	f	f %	mm/gr	mm %
Perna perna	626	78,4	3942,8	70,2	460	83,0	2760,0	78,3	3163	66,52	17681,0	53,43
Donax serra	52	6,5	728,0	13,0	32	5,8	416,1	11,8	870	18,29	11775,5	35,59
Scutellastra argenvillei	2	0,3							10	0,21	112,2	0,34
Scutellastra barbara	1	0,1			2	0,4			13	0,27		
Scutellastra cochlear					7	1,3			33	0,69		
Scutellastra longicosta	7	0,9			1	0,2			145	3,05	85,5	0,26
Cymbula miniata	1	0,1			1	0,2			6	0,15		
Cymbula oculus	2	0,3							21	0,44		
Scutellastra tabularis					1	0,2			12	0,25		
Haliotis midae					6	1,1			1	0,02		
Haliotis spadicea	7	0,9			30	5,4			46	0,96	501,6	1,52
Oxystele spp.	60	7,5			12	2,2	348,0	9,8	272	5,72	69,6	0,21
Turbo sarmaticus	39	4,9	943,8	16,8					155	3,25	2864,1	8,66
Burnupena spp.									1	0,02		
Solen capensis					1	0,2			1	0,02		
Dinoplax gigas	1	0,1			1	0,2			6	0,15		
TOTAL	798	100,0	5615,6	100,0	554	100,2	3524,1	99,9	4755	100,2	33089,8	100,01

	HWA	WGL		
Buckets sampled	24	25	Total buckets excavated:	147
Buckets analysed	3	2	Total buckets analysed:	21
Meat mass/volume	1871,9	1762,1	Mean meat mass/volume:	1575,7
Total collecting mass	5005,2	5290,2	Total collecting mass/vol.:	4127,9
% meat mass of total mass/volume	**37,4**	**33,3**	% mm of total mass/vol:	**38,2**

Only those shellfish species which contributed relatively high meat mass are considered.

and the detailed results will be published with the data from the other coastal sites in the near future. Of the twelve spesies of fish recovered from Kabeljous River Shelter 1, *Liza richardsonii* ("haarder"/southern mullet) comprised 44,6%, followed by *Rhabdorargus holubi* (Cape stumpnose), 20,7% and *Lithognathus lithognathus* (white steenbras) 18,2%. According to Poggenpoel (pers. comm) the mean mullet size from the shelter is smaller than those recovered from middens KR/M1A & 1B and KR/M2A & 2B (Binneman 2005) at the mouth of the Kabeljous River estuary (the shelter is some four kilometres from the coast). This may suggest that the fish were taken from different habitat. It is also unclear what methods were used to catch such small fish.

Marine birds

The excavation yielded the remains of only 14 birds which probably represent the occasional find on the beach and are therefore not considered of any importance in the general diet (Table 1).

Reptile (tortoise) remains

Kabeljous River Shelter 1 is the only site in the research area that yielded substantial quantities of tortoise remains (Table 1). The numbers are too low to reach any definite conclusions, but it seems that the site was probably occupied during summer.

Of the 91 tortoises recovered from the excavation, 75 were *Homopus areolatus* (padlopertjie) and 15 were *Chersina angulata* (rooipens). One turtle (*Pelmedusa subrufa*) was also found. Both tortoises are endemic to the Eastern Cape. *H. areolatus* occurs mainly along the southern Cape coast of South Africa, but local climatic, topographical and vegetation conditions have enabled the species to extend its inland distribution into the Cape Eastern Midlands as far as Cradock. It seems to be absent from the Karoo areas with a rainfall of less than 250 mm per annum and altitudes of less than 900 m (Greig & Burdett 1976:256). *C. angulata* occurs along to the coast from East London to the Orange River mouth. In the Eastern Cape it is usually found in sour grassveld associated with coastal forests and a rainfall of between 600 mm and 700 mm. The species is known to occur also in areas where the annual rainfall is less than 100 mm (Greig & Burdett 1976:253).

Remains of other reptiles, mainly snakes were recovered, but have not been identified.

CULTURAL REMAINS

THE LITHIC INDUSTRIES

As reported previously (Binneman 1985, 1996, 2001, 2005), research along the Cape St Francis coast identified two types of stone tool assemblages, namely, a microlithic Wilton Industry similar to the Wilton type Industry found in the adjacent Cape Mountains and a macrolithic flaked cobble quartzite assemblage with large segments/backed flakes as prominent 'formal' stone tool types. These stone

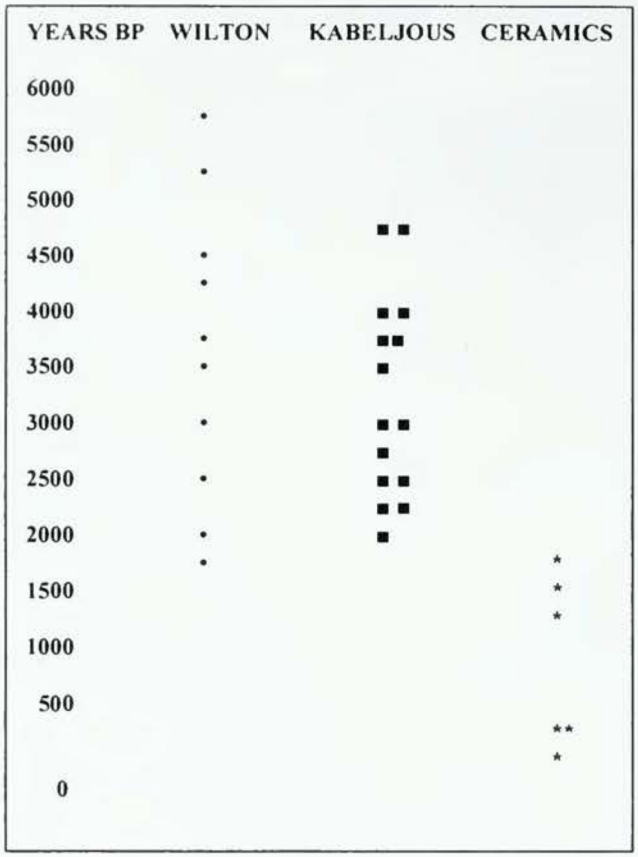

Fig. 4. Radiocarbon dates from the Cape St Francis coastal region for the different industries.

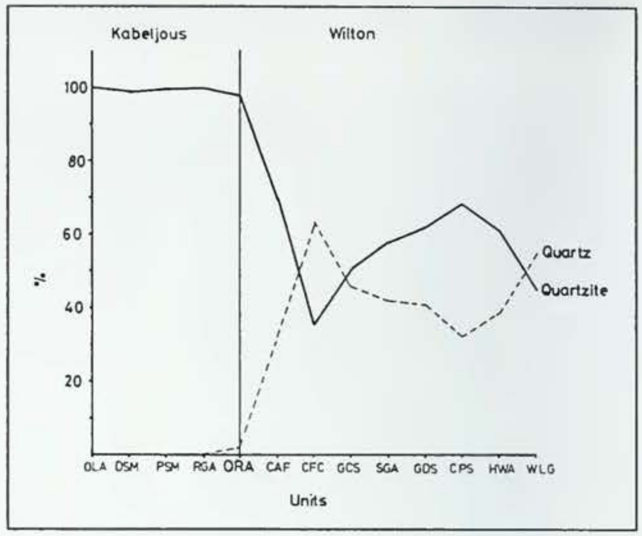

Fig. 5. Raw material percentage frequencies at Kabeljous River Shelter 1.

tool assemblages previously informally labelled and referred to as the Wilton Industry and he Kabeljous Industry and, were contemporaneous along the coast (Fig. 4).

The Wilton Industry

The microlithic Wilton stone tool industry from the lower units at Kabeljous River Shelter 1 is similar to that found at adjacent inland sites, for example, The Havens Cave and Groot Kommandokloof Shelter (Binneman 1997, 1999) and Wilton Large Rock Shelter (Hewitt 1921; Deacon 1972) and Melkhoutboon Cave (Hewitt 1931; Deacon 1976) further a field in the Cape Mountain region and therefore needs no further discussion.

The majority of the formal tools were manufactured from crystal quartz and crystals themselves are common in the Wilton units. Apart from quartzite, other raw materials are virtually absent (see Binneman 1996 for more information).

The Kabeljous Industry

Currently, there are four major sites along the Eastern Cape coast, Kabeljous River Shelter 1, Klasies River Caves 1 and 5 and Nelson's Bay Cave where cobble quartzite stone tools are known to occur. It is only at Klasies River Cave 1 and 5B (rear excavation) where it is not found overlying a typical Wilton microlithic industry.

It is evident from Table 3 that a significant change in the lithic content at Kabeljous River Shelter 1 occurred after unit CAF. At approximately 2450 years ago (unit OLA), the microlithic element disappears from the sequence and only a rough quartzite flake and cobble industry is present in the upper units. This is a relatively late date for the industry in comparison with the date of approximately 4500 BP at Klasies River Cave 1.

It is clear from Figure 5 that the percentage frequencies of quartz and quartzite follow opposite trends through time. Quartz crystals were not found in the Kabeljous units. In the earlier units quartzite gradually increases to become the dominating raw material (68%) in unit CPS. Quartz on the other hand declines gradually to only 32%. Thereafter quartzite declines to only 36% in unit CFC while quartz increases to 64%. After unit CFC quartzite increases dramatically and become the only raw material used in units RGA and OLA. At the same time quartz decreases dramatically and become insignificant as a raw material.

The Kabeljous quartzite toolkit can be described as a 'recycled industry', because virtually all the stone artefacts were manufactured from previously used artefacts, such as lower and upper grindstones, rubbers and hammer stones. It would suggest that the tool makers seldom travelled to collect cobbles from the nearest source, but rather used artefacts that were available on site. It is also interesting to note that artefacts such as lower grindstones and rubbers which were used as cores are traditionally regarded as women's tools.

The heavy duty cobble tools are divided into three groups:

1. Cobble core tools and other utilised tools

These are artefacts such as grindstones, rubbers and hammer stones which have been systematically flaked to obtain flakes for other purposes (Fig. 6). Typologically these would be classified as cores and are found occasionally in all other Later Stone Age Industries. At sites classified as belonging to the Kabeljous Industry, these tools are numerous and hundreds were observed in the St Francis Bay Dune Fields Areas (Binneman 2005, fig. 2, p. 55). Close examination shows that these tools could have been used as adzes (core adzes) and possibly also as scrapers (core scrapers). These tools were probably not deliberately designed to perform any function, but were used opportunistically or when at hand. Most of these

Table 3. Frequencies and percentage frequencies of stone artefacts from Kabeljous River Shelter 1.

	Kabeljous units						Wilton units								
	OLA	DSM	PSM	RGA	ORA	TOTAL	CAF	CFC	GCS	SGA	GDS	CPS	HWA	WGL	TOTAL
WASTE															
Chips															
Total	185	209	446	200	59	1099	250	455	287	59	304	458	707	867	3387
Chips as % of Total waste	23,4	36,1	40,0	42,6	13,8	32,5	38,1	32,8	28,9	14,5	34,0	34,7	47,3	42,5	36,8
Chunks															
Total	2	-	3	-	4	9	9	65	14	15	6	2	1	-	108
Chunks as % of Total waste	0,3	-	0,3	-	0,9	0,3	1,4	4,7	1,5	1,5	0,2	0,1	0,7	-	1,2
Cores															
Total	-	-	2	3	-	5	-	1	-	-	2	6	4	25	38
Cores as % of Total waste	-	-	0,2	0,6	-	0,1	-	0,1	-	-	0,2	0,5	0,3	1,2	0,4
Core Reduced Pieces															
Total	-	1	2	-	2	5	9	39	28	12	18	15	17	43	181
CPR as % of Total waste	-	0,2	0,2	-	0,5	0,1	1,4	2,8	2,8	2,9	2,0	1,1	1,1	2,1	2,0
Flakes															
Total	604	369	661	266	363	2263	389	828	663	331	578	838	758	1103	5488
Flakes as % of Total waste	76,4	63,8	59,3	56,7	84,4	66,9	59,2	59,7	66,8	81,1	63,9	63,6	50,7	54,1	59,6
Total waste	**791**	**579**	**1114**	**469**	**428**	**3381**	**657**	**1388**	**993**	**408**	**904**	**1318**	**1496**	**2038**	**9202**
Total waste as % of GRAND TOTAL	98,0	97,8	98,9	98,9	97,7	98,4	98,9	98,7	98,7	98,6	97,0	99,1	99,6	98,1	98,6
UTILIZED															
Cores	-	-	-	-	-	-	-	3	2	-	3	-	-	-	8
Rubber/cores	-	-	-	-	-	-	-	-	-	-	-	2	-	-	2
Hammerst/rub/cores	-	-	-	-	-	-	-	-	-	1	1	1	-	-	3
Rubbers	3	-	-	1	-	4	-	-	-	-	-	1	-	-	1
Hammerst/rubbers	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Grindstones	-	-	1	-	-	1	-	-	-	-	-	2	-	-	2
Hammer stones	-	-	2	-	-	2	-	-	-	-	-	-	-	-	-
Flakes	2	-	1	2	4	9	1	3	1	1	4	2	2	8	22
Total	6	-	4	3	4	17	1	6	3	2	8	8	2	8	38
Utilized as % of GRAND TOTAL	0,7	-	0,7	0,3	0,8	0,5	0,2	0,4	0,3	0,5	1,2	0,4	0,1	0,4	0,4
FORMAL TOOLS															
COBBLE TOOLS															
Large scrapers	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-
Cobble scrapers	-	-	2	-	1	3	-	-	-	-	-	-	-	-	-
Rubber/scrapers	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Adzes	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-
Cobble adzes	4	4	3	1	2	14	-	2	-	-	-	1	-	2	5
Rubber adzes	1	3	1	-	1	6	-	-	-	-	-	-	-	-	-
Hammer/adzes	-	3	2	-	-	6	-	-	-	-	-	-	-	1	1
Ham/rub/adzes	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Large segments	1	1	-	-	-	2	-	-	-	-	-	-	-	-	-
Misc Retouched	3	-	-	-	-	3	-	-	-	-	-	-	-	-	-
Reamers	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-
Small scrapers	-	-	-	-	-	-	3	7	8	3	10	5	2	28	66
Adzes	-	-	-	-	-	-	2	-	-	-	-	-	-	-	2
Borers	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
Segments	-	-	-	-	-	-	2	6	7	1	2	11	2	11	42
Backed flakes	-	-	-	-	-	-	-	2	1	1	2	1	2	1	10
Bored stones	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
Misc retouched	-	-	-	1	-	1	-	-	-	-	1	-	-	-	1
Total	10	13	8	2	6	39	8	15	17	5	15	18	6	40	123
Formal tools as % of GRAND TOTAL	1,2	2,2	0,7	0,4	1,4	1,1	1,2	1,1	1,7	1,2	1,6	1,3	0,4	2,0	1,3
GRAND TOTAL	**807**	**592**	**1126**	**474**	**438**	**3437**	**666**	**1412**	**1013**	**415**	**934**	**1341**	**1504**	**2089**	**9368**
OTHER								31							
Ochre	19	30	96	118	26	189	40	39	7	17	19	24	22	26	186
Shale	1	2	14	13	17	47	5	-	112	25	31	40	22	14	288
Crystals	-	-	-	-	-	-	-	-	2	4	19	23	8	24	80

artefacts had multiple functions before they were converted into cores, such as grindstones, rubbers and hammer stones. A high number also display ochre and/or charcoal stains.

Other utilised tools include milled edged pebbles, bored stones, rubbers, rubber/hammer stones, hammer stones, battered pieces, core reduced pieces and utilised flakes.

2. Formal cobble tools

These are mainly rubbers and hammer stones which have been systematically/purposefully flaked to display one or more

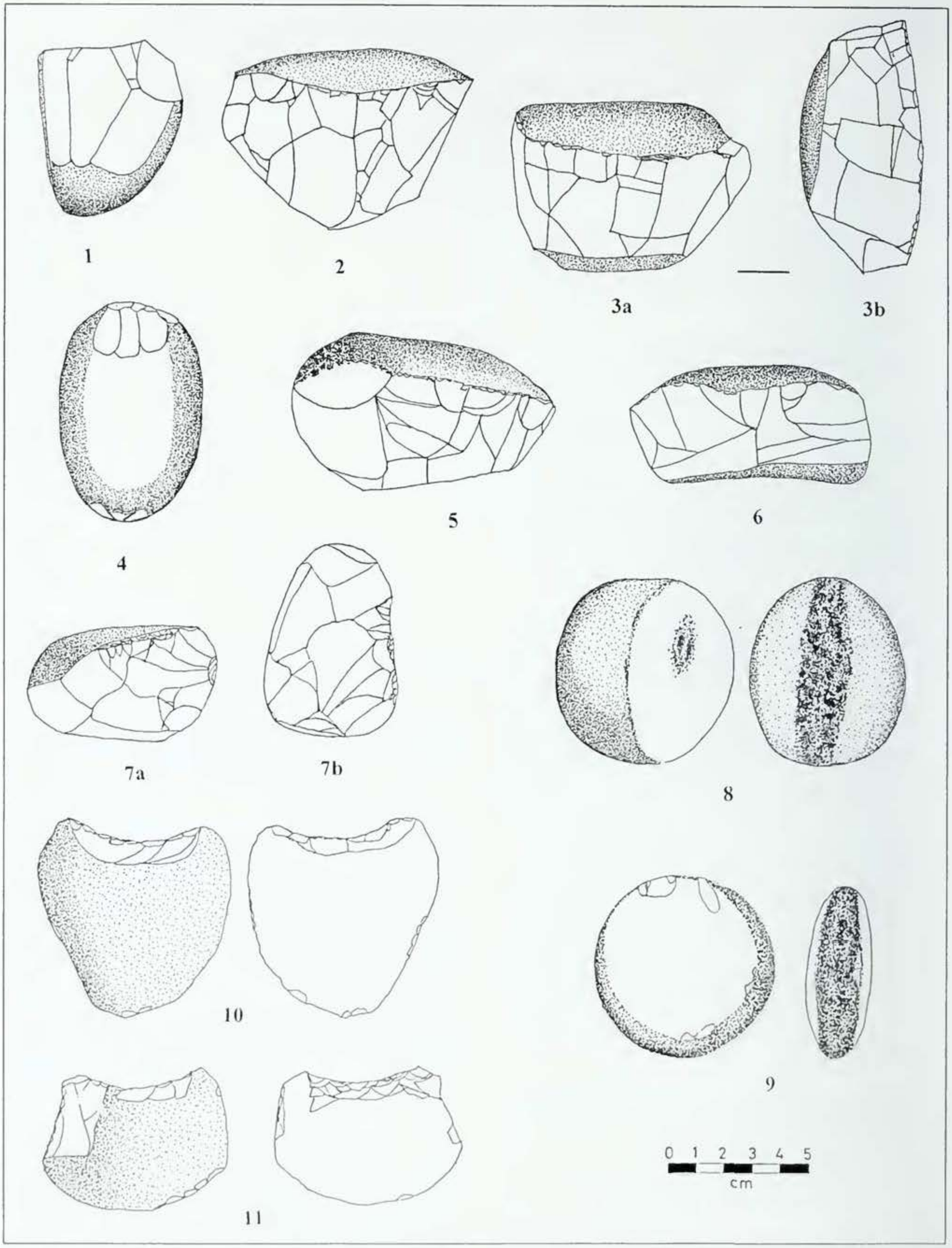

Fig. 6. Sample of utilized cobble core tools: 1. flaked rubber, 2. flaked upper grindstone, 3a. flaked upper grindstone, b. side view displaying a possible used edge, 4. rubber used as a hammer stone, 5. upper grindstone used as a hammer stone, 6. flaked lower grindstone, 7a. flaked rubber, b. side view displaying a possible used edge, 8. rubber used as a hammer stone, 9. Milled edge pebble, 10 and 11. battered pieces.

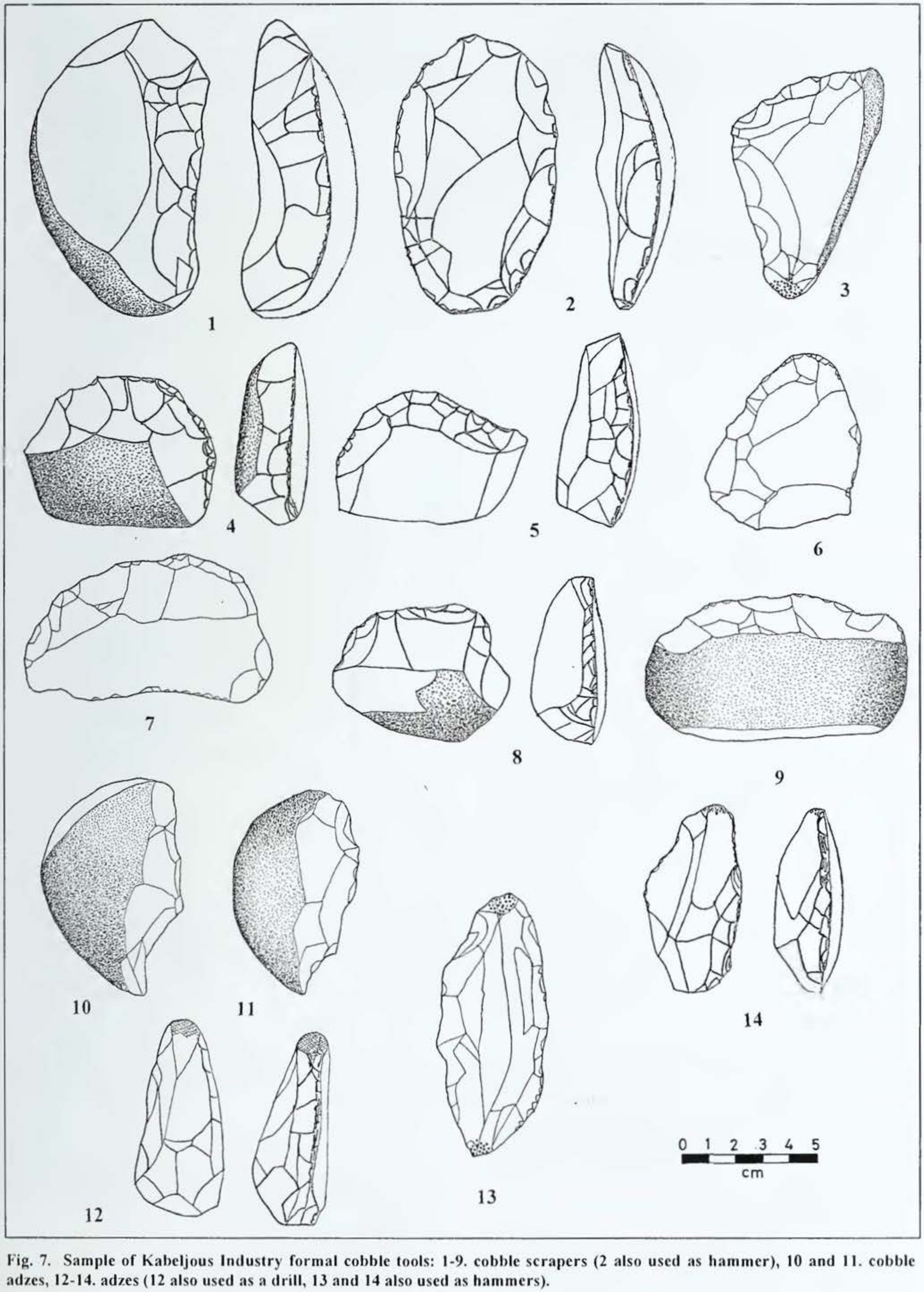

Fig. 7. Sample of Kabeljous Industry formal cobble tools: 1-9. cobble scrapers (2 also used as hammer), 10 and 11. cobble adzes, 12-14. adzes (12 also used as a drill, 13 and 14 also used as hammers).

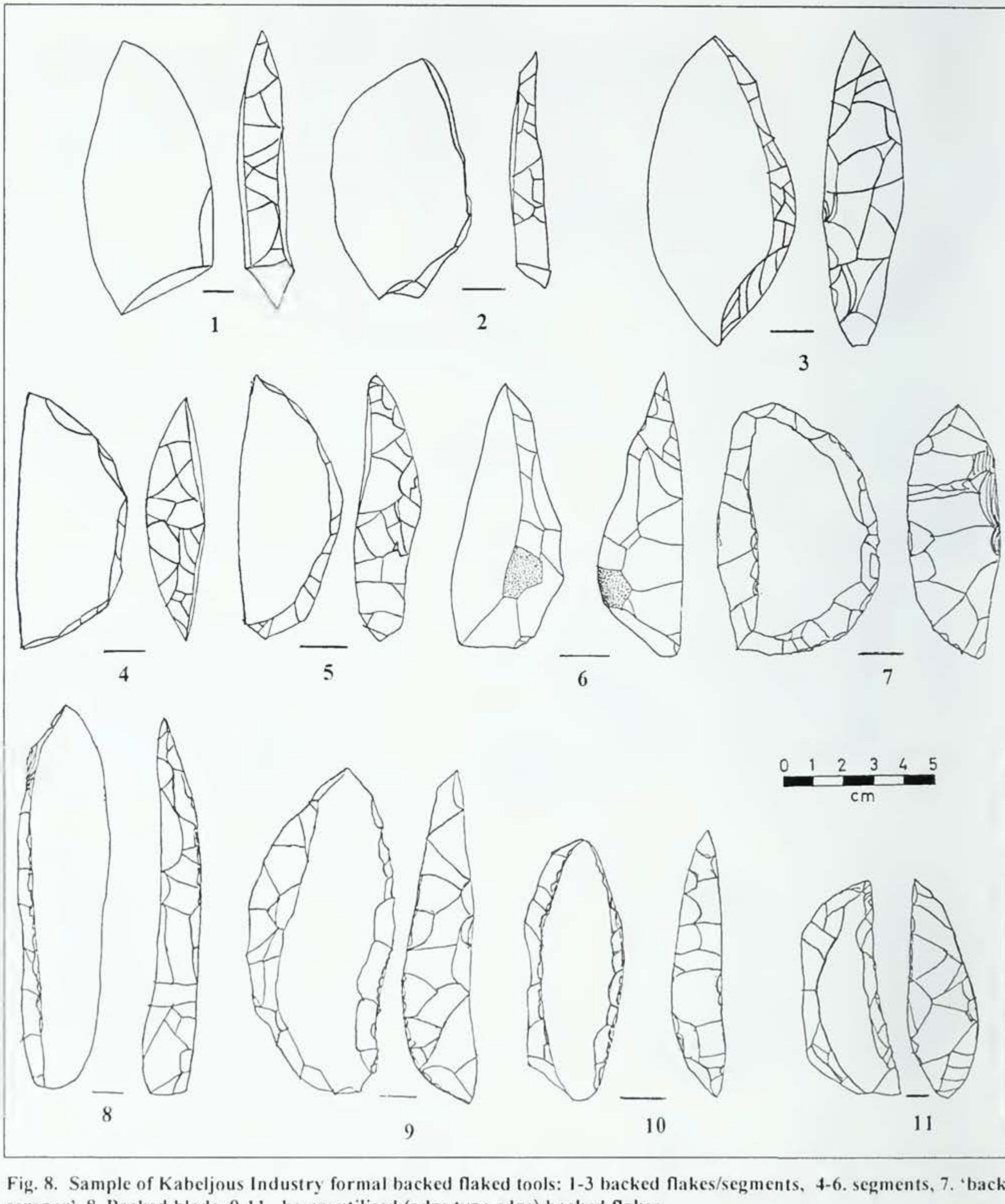

Fig. 8. Sample of Kabeljous Industry formal backed flaked tools: 1-3 backed flakes/segments, 4-6. segments, 7. 'backed scraper', 8. Backed blade, 9-11. heavy utilised (adze type edge) backed flakes.

working edges similar to that of the Wilton types, for example adzes, and scrapers. (Fig. 7). The only difference is that these tools are much larger.

3. Formal backed flake tools

The backed stone tool category includes a variety of types (Fig. 8), such as backed flakes (uneven cord), segments (straight cord), 'backed scrapers' (typical circular scraping edge), 'backed adzes' (typical step flaked and edges) and backed blades. The backed flaked tools often display well-utilised and/or retouched edges, which may indicate that these tools were exposed to heavy duty activities.

Other lithic material

Ochre and shale pieces were well represented throughout the sequence, but ground (pencils?) and flaked pieces were

Table 4. Frequencies of worked shell and bone from the Kabeljous River Shelter 1.

	Kabeljous units						Wilton units								
	OLA	DSM	PSM	RGA	ORA	TOTAL	CAF	CFC	GCS	SGA	GDS	CPS	HWA	WGL	TOTAL
MARINE SHELL															
Nassarius kraussianus															
Shell	1					1			1		1			1	3
Beads	4		3			7			1				1	1	3
Donax serra															
Pendants		2	2	3		7		3	10	15	15	14	5	4	66
Scrapers	3	4	3	5	8	23	4	5	20	13	6	8	7	4	67
Pend/scrapers								2	2	2		2		5	13
Bullia digitalis															
Beads	1					1									
Thias squasmosa															
Beads														1	1
TOTAL	**9**	6	**8**	**8**	**8**	39	**4**	**10**	**34**	**30**	**22**	**24**	**13**	**16**	**153**
OSTRICH EGGSHELL															
Fragments	1					1	1						1		2
Roughouts	2					2	1								1
Beads	1	1				2		6		4	2	1	31	51	95
Pendants		1				1									
Openings															
TOTAL	**4**	**2**				6	**2**	**6**		**4**	**2**	**1**	**32**	**52**	**99**
BONE															
Points												1		1	2
Awls	2					2									
TOTAL	**2**					**2**						**1**		**1**	**2**
GRAND TOTAL	**15**	**8**	**8**	**8**	**8**	**45**	**6**	**16**	**34**	**34**	**23**	**26**	**44**	**68**	**249**

Unworked marine shell and ostrich eggshell are not included in the Grand Total.

only found in the Kabeljous units (Table 3).

Non-lithic artefacts

Apart from a few pot shards on the surface, no pottery was found in the excavation.

Marine shell

Donax serra pendants and 'scrapers' were well represented throughout the sequence (Table 4) (Fig. 9). The combination of the two types, pendant/scrapers, was only present in the Wilton units. The functions of these artefacts are not known, but it is possible that the 'scrapers' were used to clean fish, and that the pendants were possibly used as dancing rattles during ceremonial activities (Inskeep 1987). Although *N. kraussianus* beads and shells are present in very low numbers, they are found in the time period when these ornaments were absent from the inland sites (H.J. Deacon 1976; J. Deacon 1982).

Ostrich eggshell

Ostrich eggshell beads were numerous in the bottom two units (WLG and HWA), but subsequently drop off sharply, and were virtually absent in the Kabeljous units (Table 4). Although a relatively high frequency of ostrich eggshell beads was present in the Wilton units, only one roughout was found.

Bone artefacts

Few bone artefacts were found (Fig. 8). These included four bone points (only in the Wilton units) and two bone awls (only in the Kabeljous units) (Table 4).

DISCUSSION

The data from Kabeljous River Shelter 1 has made an important contribution towards constructing a model for the south-eastern Cape coast. However, it is not the aim of this paper to propose or to discuss this model here, but only to highlight a few of the interesting aspects. A comprehensive discussion will be published elsewhere (see Binneman 1996).

As discussed at the beginning of the paper, the ideas and speculations around two different, but contemporaneous stone tool industries and different size human remains from the same region, has been in the literature for a long time. During the 1920s, FitzSimons and Hewitt observed differences in the stature and skull size of the human remains they exhumed from different depths of their excavations in the Tsitsikamma region. Unfortunately they did not have the benefits of modern technology such as radiocarbon dating to assist them in their interpretations. Notwithstanding, these observations were confirmed some 80 years later (Pfeiffer & Sealy 2006; Stynder, 2006). On the basis of these observations and his

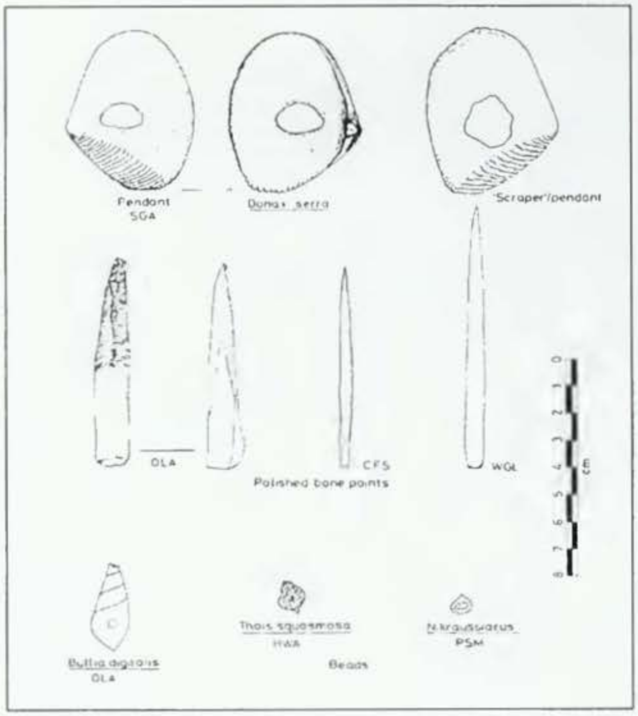

Fig. 9. Marine ornaments and bone artefacts from Kabeljous River Shelter 1.

work at the Kabeljous River Shelters, Hewitt suggested that there were also two different stone tool industries, "practically contemporaneous", and speculated that the large skulls were that of 'Hottentots' (Khoi), who were also responsible for the large quartzite stone artefacts and the smaller ones that of 'Bushmen', who were responsible for the 'pigmy' culture of the inland sites. The research at Kabeljous Shelter 1 and further along the Cape St Francis coast have now also confirmed Hewitt's speculation about contemporaneous stone tool industries.

One aim of this paper was to propose that the Kabeljous stone tool assemblage as described above, is recognised as a formal coastal industry within the Late Holocene, contemporaneous with the adjacent inland Wilton Industry. The reason for this is that the cobble quartzite stone tools, which are present at open-air shell middens and in caves and shelters along the south-eastern Cape coast, do not reflect a Wilton Industry without microliths (a coastal Wilton as some researchers refer to them), nor do they represent an 'adaptation' (different activities) to a coastal environment (Sampson 1974). As discussed above, the industry is not an 'informal' collection of stone tools, but has its own range of tool classes, which include utilised and 'formal tools', in many ways similar to Wilton types, only much larger. The fact that there are no marked differences regarding the procurement of food resources (i.e. hunting, capturing and collecting) between the two industries, would suggest that the type of stone tools played no significant role in these activities. In other words, this proposal further questions the general assumption that backed implements were used as arrowheads, which equates to hunting. Furthermore, the proposal also suggests that in order for groups to live permanently or semi-permanently along the coast they do not necessarily need a microlithic toolkit, or that the Kabeljous Industry was a mere 'adaptation' to coastal conditions.

One would have expected that the Kabeljous groups, who were the permanent residents of the coast, would have exploited a larger mean shellfish meat mass per volume than the visiting Wilton groups. This may suggest that the groups that occupied the site in both units were more or less of the same size. However, what seems to be important here is that the distance between the shelter and the coast lends preference to certain species. The shortest direct route to the nearest rocky shore from Kabeljous River Shelter 1 is approx-imately 4 km. The low frequency of *Oxystele* spp. (only 11% or less) throughout the sequence indicates that small species (relatively low meat mass per size and total weight) have been ignored in general. It is possible that *Oxystele* spp. were only collected to provide variety in the diet, or they may be the contribution of children (see Meehan 1982).

Other food remains present in the shelter, such as mammal bone, fish and tortoise show no significant differences in the subsistence activities between the Wilton and Kabeljous units. Unfortunately no plant remains have been preserved and the role of these resources will never be known. The role of tortoise in the diet is not regarded as significant. No meat mass data is available, but the live mass (including eggs) of *Chersina angulata* is between 600 and 800 gram and for *Homopus areolatus* between 100 and 150 gram (B. Branch, per. comm.), which does not provide much meat. People may not have eaten the whole tortoise, because ethnographic observations among the Nama-speaking people of Namaqualand reveals that these people may only eat the eggs or select to eat certain parts such as the liver. In other words, the collecting of tortoises may have been cultural-specific (L. Webley, pers. comm).

The lithic assemblages from Kabeljous River Shelter 1 indicates that two distinct groups occupied the cave through time. From ca 5800 BP to 2500 BP a quartz microlithic Wilton Industry was present after which it was 'replaced' by the quartzite Kabeljous Industry. This observation compliments the research done by Inskeep (1987) at Nelson's Bave Cave. Changes in raw material frequency indicate that the groups who occupied the shelter from unit ORA did not move beyond the coastal plain to collect fine grain raw materials nor did they acquire it from visiting inland groups.

It has been suggested (Binneman 1985, Binneman 1996; Henderson & Binneman 1997) that the Wilton Industry represents inland groups who visited the coast regularly/ seasonally for short periods of time to supplement their diet with marine resources. They carried the silcrete and quartz crystals with them from the adjacent mountains and left them behind on the middens and in the caves and shelters. Interestingly, the dominating raw material at Kabeljous River Shelter 1 is quartz, while others such as silcrete are virtually absent. The opposite is true for the Wilton open-air shell middens west of the Krom River (Binneman 2005) (Fig. 1). Following Deacon (1976), this would suggest that that the Krom River may have been a physical boundary between two group territories, signalled by different raw material use.

Sometime between 5000 and 4000 BP some of these groups started to settle permanently along the coast. They practised the strategy of only using local quartzite cobbles for the manufacture of stone tools. Other raw materials such as quartz and silcrete were not collected from the surrounding hills or acquired from other sources. In other words, quartzite did not replace quartz as a raw material, but rather that quartz was 'dropped' as a raw material together with the microlithic component. In most cases previously used or on site implements (rubbers and lower grindstones) were used to manufacture other tools.

The 'abandonment' of the microlithic and quartz raw material elements in favour of a macrolithic quartzite one, may suggest that the latter played an important role in the 'creation of a new set' of identity markers utilized by the coastal groups to signal their territories to visiting inland groups. The dramatic decline of ostrich eggshell beads, an important cultural item in the Wilton layers, after ORA, is more evidence to support this suggestion.

The interesting aspect is that although the Wilton disappeared from the shelter, it continued to occur on open-air shell middens until approximately 1800 BP. This archaeological evidence would suggest that the coastal groups did not practise an exclusive system, but rather an inclusive system. The latter, which can be regarded as a low-cost and effective territorial maintenance strategy, is opposite to an unproductive exclusive high-cost and risk boundary defence strategy. However, based on the results of isotope analyses of archaeological human remains from the southern Cape, Sealy (2006:582) proposed that people there "... lived in exclusive, demarcated territories with clearly defined boundaries." These and other aspects regarding group interaction will be discussed in more detail elsewhere.

Apart from the open-air shell middens, the Kabeljous Industry have been found at least five major sites (no conclusive information is available for other sites, *i.e.* Coldstream Cave (see Wilson & Van Rijssen 1990) and Forest Hall Shelter (see Wilson 1988)) which include, Klasies River Cave 1 and 5 (Binneman in prep.), Nelson's Bay Cave and Matjes River Rock Shelter. At Klasies River Cave 5A (entrance excavation) and at Nelson's Bay Cave the Kabeljous Industry overlies a Wilton Industry, but at Klasies River Cave 1 and 5B (rear excavation) the Wilton is absent (Binneman 1996; Henderson & Binneman 1997).

It can be speculated that the 'replacement' of Wilton microlithic stone tools by the Kabeljous Industry signalled the transformation of the Wilton Industry into a quartzite industry, for example, similar to when the Robberg Industry was replaced by the Albany Industry. The past 120 000 years are also characterised by 'rhythmic episodes' of change/ transformation between fine-grained microlithic stone tool industries to macrolithic quartzite industries, for example, quartzite MSA → silcrete MSA (Still Bay) → quartzite MSA → silcrete MSA (Howieson's Poort) → quartzite MSA → silcrete LSA (Robberg)) → quartzite LSA (Albany) → silcrete LSA (Wilton)) → quartzite LSA (Kabeljous). It can be speculated further that if these episodes were generally similar in character, then the archaeological record of the past 6000 years along the Cape St Francis and the adjacent Cape Mountains, provide us with an excellent 'window' for interpreting these events (Binneman 1996). Unfortunately, the arrival of the first European settlers disrupted the final stages of the transformation period.

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