

Klasies Foodways

Location

Name of Site: Klasies River or Klasies River Mouth

Species: Early Modern Humans

Stone Tool Traditions: Klasies River, Mossel Bay (convergent Levallois), Howiesons Poort

Period: Middle Stone Age

Date of Occupation: 125,000–55,000 years ago

Configuration: Five caves and two rock shelters

Medium: Naturally eroded into the sandstone cliff

Location: 1.5 mi (2.5 km) stretch of the Tsitsikamma coast of South Africa facing the Indian Ocean

Offbeat Fact: Evidence that our ancient human ancestors were cannibals

(Source: Britannica)

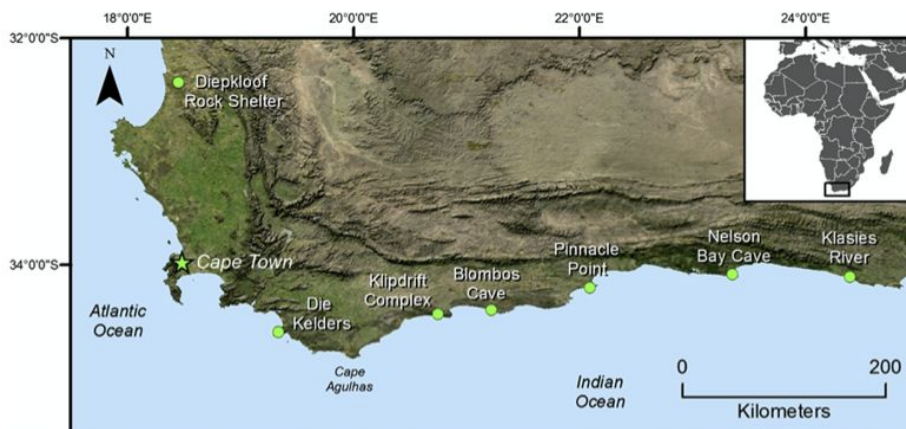


Figure 1. Klasies River main site one of the key MSA sites on the Cape Coast of South Africa (Image: Magnus Haaland and reproduced with his kind permission).

Source: (Larbey et al., 2019)

“The Klasies River main site (34 060 2900 S, 24 230 2400 E) is located on the Tsitsikamma coast between Port Elizabeth and Plettenberg Bay (Fig. 1). The complex of caves and shelters that comprise the Klasies River main saite is a well-documented Middle Stone Age (MSA) site in South Africa. The MSA occupation sequence spans at least 60,000 years, with further Later Stone Age deposits (Singer and Wymer, 1982).” (Larbey et al., 2019)

Diet

“During the Middle Stone Age occupation of Klasies River the diets of hunter-gatherers included significant amounts of verte- brate and shellfish (Klein, 1976; Thackeray, 1988; Van Pletzen, 2000). That starchy plants featured as part of the diet of the hunter-gatherers at Klasies had been anticipated by Deacon “A survey of remains of food plants from archaeological contexts in South Africa shows that geophytes, primarily corms and bulbs, were a major food resource.” (Deacon, 1993: 86). Geophyte gathering has been documented directly from well-preserved

contexts dating to 30,000 years ago and indirectly through the context and association of carbonised remains in sites dating to the beginning of the Late Pleistocene more than 100,000 years ago (Deacon, 1993).” (Larbey et al., 2019)

“Roots and tubers are abundant in this varied biome and could have provided a consistent year-round source of energy” (Bergh et al., 2014; De Vynck et al., 2016; Singels et al., 2016).

“Research within the Cape region found that, while marine resources might be seasonally limited by storms and tides and terrestrial resources impacted by high rainfall and periods of high aridity, roots and tubers provided a reliable year-round food source (Singels et al., 2016). Fallback foods, however, cannot be responsible for one of the largest selective sweeps in the human genome. The significance of the early human starch diet must have come from the benefits of a reliable energy source.” (Larbey et al., 2019)

“The lack of evidence for fishing, the absence of remains of flying birds and the fact that shellfish species were not farmed down are among the evidence cited by Klein (1989) to show that the Middle Stone Age people inhabiting Klasies River were not capable of utilizing the resources of the local environment fully as their Holocene Later Stone Age counterparts. Differences of this kind probably have more to do with the ranking of resources rather than with innate abilities.” (Brauer and Smith, 1992)

“The presence of parenchyma in hearths, although not identified to species, together with heated shell and heated bone would suggest that multiple foods were being cooked. We can infer that the early human hunter-gatherers of Klasies River were consuming cooked starchy plants as early as ~120 kya in MIS 5e, which continued during MIS 4.” (Larbey et al., 2019)

“The microscopic data suggest that the hominids had relatively unrestricted access to the choicest parts of bovids in all size classes. The carnivore damage signature is ephemeral; it does not support assertions that large carcasses were carnivore-ravaged before their appropriation by hominids or that carnivores contributed a meaningful number of smaller bovids to the faunal assemblage. The data therefore lead to the conclusion that hominids were the sole, regular accumulators of bovids in all size classes. That many of those bovids were obtained by active hunting is suggested by the tip of a stone point embedded in a cervical vertebra of the extinct giant buffalo, *Pelorovis antiquus*.” (Milo, 1998)

“The KRM hominids were apparently active hunters who produced composite tools and who planned and executed complex tasks within a social framework.” (Milo, 1998)

The lack of resource use between the Middle and Later Stone Age people may reflect differences in population density linked to environmental conditions rather than differences in the capacity for behavior.

Cooking

“Potential early evidence for cooking includes burned bones found at Wonderwerk Cave, South Africa, dated to 1 mya (Berna et al., 2012). Cooking is attested 800,000 years ago at Gesher Benot Ya'aqov (Alperson-Afil, 2008; Alperson-Afil and Goren-Inbar, 2010; Hardy et al., 2015; Melamed et al., 2016) by the discovery of charred plant and animal remains, in association with lithics. Repeated use of hearths at Qesem Cave, Israel, 300e400,000 years ago suggests a deep history of fire control, use and cooking (Shahack-Gross et al., 2014; Barkai et al., 2017).

“The ability to make fire at will and thus to cook is evident at Klasies and may have been an enduring feature of human life at the site” (Deacon and Wurz, 2005; Bentsen and Wurz, 2017; Wurz et al., 2018).

“Experimental and ethnographic studies indicate that the overall shape and size of hearths can be related to the amount of fuel used and whether the hearth is cleared of ashes and debris between burnings (Mallol et al., 2007; Bentsen, 2013). Many of the Klasies hearths exhibit layers of charred material overlain by white sediment that is consistent in appearance with ashes. Laterally extensive layers of blackened sediment and botanical remains were also documented at the site.”

Tools

“Analysis of animal remains found at the site reveals some of the earliest evidence of humans' making use of marine resources such as shellfish.”

“While Middle Stone Age (MSA) assemblage associated with those people are described as anatomically modern, there is ongoing debate about when they were also behaviourally modern.^[6] There is a marked difference between the Paleolithic stone technology used in the earliest layers from 125,000 years ago, and the superior MST blades of the 70,000-year-old Howiesons Poort period that used raw material which had been 'mined' 20 kilometres inland. There is also a differentiation between the Paleolithic food detritus that accumulated underfoot inside the caves 125,000 years ago and the ejection of such detritus from the cave into external middens by the occupants of ca. 75,000 years ago, suggesting the development of rudimentary "housekeeping" by that time.” (Wiki, 2020)

“The bone tools from Klasies River can also be interpreted as conventions. They indicate complex innovative thinking- the three heavily notched bones all bear the same characteristic modifications and use-wear and this represents convention of making and using bone in a certain way. The thin equidistant lines engraved on the bone fragment from the Howiesons Poort levels in all probability evidence symbolic intention (d'Errico & Henshilwood 2007). Innovative conventionalized behaviour in terms of stone tool manufacture and bone tools can be inferred from Klasies River cultural remains” (Wurz, 2008)

Morphology

“The morphology of the Klasies people can be documented from teeth, several partial mandibles along with a single more complete lower jaw (Lam et al., 1996), cranial fragments (Smith, 1992; Grine et al., 1998), the proximal portion of an ulna (Churchill et al., 1996), and the few other postcranial remains unearthed as of 1989.” (Rightmire et al., 2005)

“The fossils support earlier suggestions concerning a relatively high level of sexual dimorphism in the African Middle Stone Age population.” (Rightmire et al., 2005)

“For example, facets on the distal tibia associated with squatting and kneeling are present in early anatomically modern humans.” (Raichlen et al., 2020)

“Comparison of the Klasies individual to recent San suggests greater similarities. Averages for stature measured in San groups living before 1915 are 1559mm for males and 1481mm for females. Mean figures increase slightly for groups measured in later years (after 1950), apparently reflecting a “secular trend” (Tobias, 1962). Here, the stature calculated treating the KRM first metatarsal as male is close to that for San. If the MSA human is instead a female, her predicted stature is somewhat greater than that of modern San females. The KRM second metatarsal is very large, and it is not surprising that stature based on this specimen exceeds that of modern South Africans. If the bone is treated as a male, the stature predicted by the Byers et al. (1989) formula for whites and blacks is 1816 mm. In the (very unlikely) event that the Klasies metatarsal is female, the appropriate estimate is 1795 mm. The male figure is greater than South African (male) averages by ca. 150 mm to 190 mm. The difference in relation to San populations is still more striking. Stature predicted for the KRM individual exceeds averages for living San males by ca. 250 mm to 260 mm. Of course such estimates are subject to substantial error, but it is clear that this second MSA human is very tall relative to both LSA groups and recent San.” (Rightmire et al., 2005)

“The denizens of Klasies possessed prominent chins, modern faces, and limb bones like those of modern humans.” (Wiki, 2020)

Overall, there is very little evidence for the linking of Klasies specimens with any extant regional morphology, suggesting they may have been isolated for quite some time.

Cannibalism

“The fragmentary nature of all the Late Pleistocene human material from the main site as well as evidence for burning and the presence of cut marks on some fragments is consistent with White’s (1987) suggestion that cannibalism was practised. One of the maxillary fragments from the LBS is burnt. The two finds which come from a very localized area may be the product of the same episode of cannibalism.” (Brauer and Smith, 1992)

Of Note: Deacon (1989) suggests the population was under stress with intercommunity violence that selected for the large males - explaining both the cannibalism and dimorphism.

Social Structure

“some attributes of the butchering patterning hint that the Klasies hominids formed socially mediated task groups to accomplish labour-intensive tasks. These results challenge the general perception that modern morphology pre-dated modern behaviour and the specific assertion that the KRM hominids were behaviourally very primitive.” (Milo, 1998)

“Mammal fauna from the main site provoked debate on the relative importance of scavenging versus hunting and this has been linked to arguments about food sharing and base camp living. The evidence from the main site for food sharing and base camp living is the sheer quantity of shell fish brought to the site to be consumed and the patterned way the empty shells have been disposed of in midden heaps on the living floors.” (Brauer and Smith, 1992)

Behavior

The evidence from Klasies River and other Middle Stone Age site reflects the adaptations of highly flexible hunter gatherer show manipulated their material culture according to their needs but also according to a symbolic web that structured the choices they made. Innovative conventionalized behaviors can be observed at Klasies River from 110 ka ago, but modern or symbolic behaviors could be expected much earlier.” (Wurz, 2008)

Art

“At the Klasies River Mouth, presence of paints in the deposits has been reported (Singer & Wymer 1982:117). This may have signaled the beginning of rock art as evidenced by Apollo Cave 11 in South Africa where the deposits date to about 40000BP as well as central Tanzania, where Anati (1983) has estimated the earliest rock paintings to be as old as 40000 years.” (Brauer and Smith, 1992)

References:

Brauer, G. and Smith, F., 1992. Continuity Or Replacement. Rotterdam: A.A. Balkema.

Encyclopedia Britannica. 2020. Klasies | Anthropological And Archaeological Site, South Africa. [online] Available at: <<https://www.britannica.com/place/Klasies>> [Accessed 4 September 2020].

Larbey, Cynthia, et al. “Cooked Starchy Food in Hearths ca. 120 Kya and 65 Kya (MIS 5e and MIS 4) from Klasies River Cave, South Africa.” *Journal of Human Evolution*, vol. 131, Elsevier BV, June 2019, pp. 210–227. Crossref, doi:10.1016/j.jhevol.2019.03.015.

Milo, Richard G. “Evidence for Hominid Predation at Klasies River Mouth, South Africa, and Its Implications for the Behaviour of Early Modern Humans.” *Journal of Archaeological Science*, vol. 25, no. 2, Elsevier BV, Feb. 1998, pp. 99–133. Crossref, doi:10.1006/jasc.1997.0233.

Raichlen, David A., et al. “Sitting, Squatting, and the Evolutionary Biology of Human Inactivity.” *Proceedings of the National Academy of Sciences*, vol. 117, no. 13, Proceedings of the National Academy of Sciences, Mar. 2020, pp. 7115–7121. Crossref, doi:10.1073/pnas.1911868117.

Rightmire, G. Philip, et al. "Human Foot Bones from Klasies River Main Site, South Africa." *Journal of Human Evolution*, vol. 50, no. 1, Elsevier BV, Jan. 2006, pp. 96–103. Crossref, doi:10.1016/j.jhevol.2005.08.010.

Wikipedia contributors. "Klasies River Caves." *Wikipedia, The Free Encyclopedia*. Wikipedia, The Free Encyclopedia, 18 Feb. 2020. Web. 4 Sep. 2020.

Wurz, Sarah. (2008). *Modern behaviour at Klasies River*. Goodwin Series. 10. 150-156. 10.2307/40650026.