

## Porc Epic Cave

Summary: Porc Epic cave has many features that are important to our understanding of the behavior of MSA/MP peoples in Africa. The cave contained obsidian and basalt artifacts. There weren't any sources of basalt or obsidian in the immediate vicinity of the cave leading us to believe that the inhabitants probably ranged over a large geographic area. There was a fragmented jaw bone thought to have neanderthaloid characteristics. Stone artifacts with heat damage from fire were found. Red and yellow ochre which also exhibiting fire damage was found along with hard, red haematite and hard dense specular iron. A cast of a fossil ammonite was found that had been completely replaced with pigment producing materials.

Excavation: The original excavation of this cave took place in 1929 by Pere Teilhard de Chardin. Another excavation took place again in 1933 by Teilhard de Chardin and Paul Wernet. In 1974 another excavation took place by J. Desmond Clark and Kenneth D. Williamson. In 74' a 1m x 6m trench was dug through an area of the original excavation. The excavation area was pretty small and one might think this would lead to a biased conclusion. The 74' excavation resembled the backfill of 33' to such an extent that a general conclusion of what people were doing at this site can be drawn. The ratio of different types of artifacts resembled almost exactly that of 33'.

Dates: A sample of a stalagmite core from the cave was dated by  $^{14}\text{C}$  and ionium methods but produced disappointing results. A new type of dating method called obsidian hydration dating was performed on three separate obsidian artifacts from the cave. "Hydration dating makes it possible to determine a calendar year date for the artifact directly through knowledge of the chemical composition of the artifact and of the air temperature in the general vicinity of the site. Obsidian normally undergoes

strain due to the inter diffusion of hydronium ions with mobile alkali ions during the hydration process" (Clark, Williamson). I'm not sure what all that means other than there is a way to calculate the age of an artifact by looking at some type of strain pattern on it and calculating regional annual temperature. The average temperature for Porc Epic cave is an important part of the calculation. Estimated dates from the hydration process were 61,000 to 77,500 b.p. Glacial periods would slow down the hydration process and the dates calculated from the hydration dating could possibly be 20,000 years earlier than the dates given. I would say the site dates are definitely controversial. It seems that the type of obsidian and the ability to estimate the average temperature of the MSA both throw a bit of uncertainty into the dating process.

**Activity Areas:** 90% of the ochre found at the site had evidence of fire damage, possibly the people were trying to change the color of the ochre. Fire fractured chert was found. The high percentage of calcined and cracked bone suggests a practice of bringing back meat or joints of a kill to the cave. The bone was then possibly broken into small pieces by hammering and crushing joints with the meat still on them. The bone and meat was then thought to have possibly been grilled or dried over the fire. The current environment and location of the site along with other features such as the relatively small depth of the remains suggest that Porc Epic was used as a seasonal hunting camp. The view from the cave enables one to look out over the lower lying areas in two different directions. The regions water resources attract a large variety of game in the dry season. As the rain returns the game move back out of the immediate vicinity. This site seems as if it would have been an excellent seasonal hunting site. Faunal remains from the site still need to be evaluated for evidence of seasonality.

## Works Cited

Clark. J. Desmond, and Williamson Kenneth D. Porc Epic Cave