

Abstract

The site of Sterkfontein is rich in fossil deposits spanning different time periods from as early as 4 million years to as recent as 116, 000 years. Stratigraphy, taxonomy, taphonomy, archaeology and palaeoenvironmental analysis from various infills have been under constant review as new materials are recovered from the ongoing excavations. It is the recovery of numerous new fossils that prompted a need for a review into earlier hypotheses, interpretations and conclusions arrived at by earlier researchers on the Member 4 and the Jacovec Cavern infills.

New data indicates that the two infills, though spanning different time periods, share similarities but also display marked differences in taxonomy, taphonomy and palaeoenvironment. Taxonomically, the most striking difference between the two deposits is the higher frequency of taxa and species diversity within the Member 4 faunal assemblage than in the Jacovec Cavern faunal assemblage. There are nine bovid tribes represented in five subfamilies within Member 4 and six bovid tribes in three subfamilies within Jacovec Cavern. At least five primate species have been recovered from Member 4 while three primate species have been recovered from the Jacovec Cavern. Twelve carnivore species are represented in Member 4 while eleven are represented in Jacovec Cavern. Some categories of other fauna are limited to the Member 4 infill while others are limited to the Jacovec Cavern infill.

Taphonomically, both assemblages are characterized by low frequencies of bone modification. These low frequencies are a result of a culmination of various agents of accumulation and varieties and intensities of postdepositional processes that impacted on the original deposited assemblage prior to recovery. The faunal assemblage in Member 4 was accumulated into the cave through a combination of voiding carnivores, “death trap” and

natural death within the cave. The Jacovec Cavern fauna on the other hand was accumulated by carnivores, not in the cavern but on the surface above and within the vicinity of the cave entrance. Eventually fluvial action incorporated the surface materials, including faunal remains into the Jacovec Cavern.

Palaeoenvironmental reconstruction indicates a correlation of climatic conditions similar to that derived from analysis of terrigenous sediments off the coast of Africa. For Member 4, palaeoenvironmental reconstruction indicates the existence of a mix of forest and open savannah with more emphasis on woodland, while a mosaic of open grassland and dense forest, equivalent to today's tropical forest in Africa is suggested for the Jacovec Cavern.