Rose Cottage Cave Paleoenvironment

Rose Cottage Cave is located in the eastern Free State, a short distance from Ladybrand in southern Africa. Presently, this is a sub-humid area which receives rainfall in the summer as well as some winter precipitation. The landscape consists mostly of grassland plains, with patches of bush and thicket on the rocky hillslopes (Wadley). This has not always been the case, however. Evidence from excavations demonstrates that there were vegetation and climatic changes through time in this area during the Pleistocene and Holocene. Additionally, micromammalian samples taken from the site provide clues as to the former conditions of the area. Through studying the paleo-environment of Rose Cottage Cave, evidence can be found about the former inhabitants of the area, and may give hints about the lives they led, including eating habits and cultural advances. Also, the study of the paleo-environment of Rose Cottage Cave in particular has been noted for its importance due to the fact that it is located in an area that is underrepresented in its number of micromammalian samples.

One useful means by which to study the paleo-environment of Rose Cottage Cave has been charcoal analysis. Charcoal, the burnt wood left from the fires of the cave’s occupants, has been identified to climate, vegetation, and species change from the late Pleistocene to the Holocene (Wadley). Alpine macchia was common in the late Pleistocene, whereas thicket woodland began appearing on hillsides in the Holocene. However, the most prominent vegetation type was grass. Also, charcoal analysis from levels DB2 and DB levels demonstrates that conditions were much cooler and moister during the early and middle Pleistocene time period. The younger late Pleistocene level LB, however, shows occupation during warmer and drier conditions. These late Pleistocene conditions appear to be common to other sites in the same ecological zone, such as the Phuthiatsana-ea-Thaba Bosiu Basin (Wadley).
Micromammalian samples taken from the site can also be used as evidence for the vegetation and climate change. In addition, discovering what types of animal life were prominent during these earlier time periods is useful knowledge in and of itself, as it may provide limited information about the eating and hunting habits of the inhabitants. Most micromammalian evidence suggests that open grasslands were prominent, with denser vegetation on the hillsides during the late Pleistocene and Holocene (Avery). Specifically, analyses have shown that the different plant communities of these time periods hosted different animal communities as well. Faunal analysis, another determinant of vegetation and animal species, shows that large and medium-sized bovids existed in the late Pleistocene period in Rose Cottage Cave (Wadley). Also of interest is the appearance of the species of a house rat and mouse, which indicates the presence of settled farmers in that region during the Holocene period.

Investigators of the site should be extremely careful when attempting to infer any kind of eating or hunting habits about the former inhabitants of the area simply from the discovery of the existence of certain animals or plant species, however. For example, although bovids were common in the Pleistocene, it should not be directly inferred that the inhabitants hunted these antelope based on their existence alone. Basic knowledge of plant and animal species at the site must be integrated with information from other artifacts at the site, including tools and wear on bone fragments. Only through the synthesis of all the available information can inferences about the habits of the former inhabitants be made in the most accurate way possible.

Once all the available evidence from a site has been integrated, however, investigators can begin conjecturing the extent to which the former inhabitants may have had culture, or even if they could be classified as having “modern” behavior. For example, if evidence of plant and animal species which are non-native to the area is found, inferences may be drawn about the
mental capabilities of those living there. It may demonstrate that the inhabitants were willing to travel distances to find new materials that suited their needs, or that they were able to recognize the utilitarian or aesthetic value of different kinds of materials. In Rose Cottage Cave, for example, shards of ceramics have been discovered, some consisting of materials which, through analysis, have been shown to be non-native to the area (Grant, et al). Without having first determined the clay and grasses indigenous to the area, this would have gone unnoticed, leaving out an important part of the culture of the people in the area.

Determining the paleo-environment of a site is absolutely essential in order to gain the most accurate knowledge possible about the former inhabitants of the area. Information about the climate, vegetation, and animal species that were prominent during the Pleistocene and Holocene periods at Rose Cottage Cave is crucial when trying to determine the kinds of culture the inhabitants may have had. Although archaeologists must be thorough and somewhat skeptical when attempting to find the link between environment and culture, knowledge of the plants, animals and climate that the inhabitants were surrounded with is the best possible known method of inferring their mental and cultural capabilities once integrated with all the other evidence from the site. Knowledge of the paleo-environment is the critical first step in trying to understand whether the former inhabitants of the area should be considered to have behaved in “modern” ways.

Sources
