Microbiology

Name

Instructor

Institution

Location

Date of Submission

Discuss the importance of studying cave microbiology, beyond trying to understand the ecology and geology of a cave system

The study of cave microbiology focuses with the microscopic life that lives in the caves. On the other hand, the microscopic life has for many years been categorized into Monera which is one of the five kingdoms of live and a broad category that comprises of any microscopic organism that does not have a nucleus (Barton, 2006). This paper focuses on the topic of studying cave microbiology and its importance other than understanding the ecology and geology of a cave system.

One of the benefits of studying cave microbiology is that it provides an in-depth understanding of how the bacterial communities in the cave get their energy from different means. Even though the bacteria communities studied resides in the caves, the knowledge that is gained by having an understanding on how bacterial communities acquire energy in various means can be applied in other fields such as geography, chemistry, and medicine since the study of cave microbiology would result to one having a better understanding of how aromatic compounds are broken down, how gases are fixed and how reduced metals within the rocks are oxidized.

Another importance of studying cave microbiology besides trying to understand the ecology and geology of a cave system is that it offers archeology insights into past events and in particular the way ancient man used to live. Indeed, it is a known fact that caves have been used for shelter purposes in the ancient times as well as areas where human beings could preserve various items. In that view, the study of cave

microbiology would result to a better understanding of the aspects of the materials that are found in the cave and what they are made of. Such studies could be useful as they may shed light on some of the materials that could be used in building houses or in preserving various products (Barton, Taylor, and Pace, 2006).

Finally, another importance of studying cave microbiology besides trying to understand the ecology and geology of a cave system is that the study makes it possible to forecast the formation of sinkholes (Farkas, 2013). Indeed, over the years, sinkholes have been a major issue all over the world. However, the fact that sinkholes are to a certain extent considered to be similar to caves implies that by studying the formation of caves, one would be well positioned to have a better understanding of how sinkholes are formed thus making it possible to have a clear opinion on some of measures that can be avoided to avoid sinkholes.

References

Barton, A. H. (2006). Introduction to cave microbiology: a review for the non-specialist. *Journal of Cave and Karst Studies*, v. 68, no. 2, p. 43–54.

Barton, H. A.,Taylor, M. R., Pace, N. R. (2004). Molecular phylogenetic analysis of a bacterial community from an oligotrophic cave environment. *Geomicrobiol. J.*21(1):11–20

Farkas, K. (2013). *University of Akron geology and microbiology students conduct research in remote caves.* Retrieved from: http://www.cleveland.com/metro/index.ssf/2013/08/university_of_akron_geology_st.html