

A-State students research species in Mammoth Cave

BY ALDEMARO ROMERO
SPECIAL TO THE SUN

Mammoth Cave in Kentucky is the world's largest cave. With 360 miles of known passages and many more yet to be discovered and explored, this cave has been the focus of research for scientists from all over the world since the 19th century.

A group of Arkansas State University students recently participated in a field experience in which they joined researchers of the Mammoth Cave National Park. They collected information that is potentially vital for the conservation of the biological resources of that important component of our natural heritage.

Both graduate and undergraduate students spent an entire day in several parts of this cave counting creatures such as cave crickets. The students were taking the course "Biospeleology: Life in Darkness," which is offered every other year at A-State. Their study should help to understand the conservation status of the



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A group of Arkansas State University students, faculty and Mammoth Cave National Park researchers is shown during a recent research visit to the cave.

species that inhabit this underground marvel.

Cave crickets are important for resource managers at Mammoth Cave for a variety of reasons. Most of the bat population that brought in organic material to the cave in the form of guano has diminished considerably in the last few decades, so cave crickets represent a significant source of organic material on which several other species of cave crea-

tures feed.

Among the cave creatures that feed on cave cricket guano and eggs are cave beetles.

Research questions

One of the research questions addressed by Mammoth Cave scientists is whether fences or doors impact cricket populations, even though they are designed to keep people from

Cave RESEARCH |

A group of Arkansas State University students recently participated in a field experiment focusing on cave creatures in Kentucky's Mammoth Cave, which consists of 360 miles of known passages.

disturbing the cave environment. It is believed that if the populations of cave crickets were to diminish, that would generate a negative cascade effect on other cave species. Many cave species are classified as threatened or endangered because their populations tend to be small and have a very restricted distribution.

Climate changes may also affect the ability of these crickets to find the food they need outside caves.

With the data collected by the ASU students and other researchers, the National Park Service will develop a long-term monitoring plan aimed at assessing the cave cricket population structure and dynamics in order to proceed with the best man-

agement strategies to protect this resource.

Among the data gathered were not only the number of individuals of different species inhabiting the cave, but also other parameters such as cave air temperature and humidity.

During their time at Mammoth Cave, ASU students were also able to observe a number of cave organisms such as bats, wild rats, salamanders, beetles, spiders and pseudoscorpions, among others.

This is not the first time that ASU students participate in this kind of study. Because students go into areas of the cave that are not open to the general public because of their fragility, they also see parts of the cave that are not really exposed to humans' environmental effects on a daily basis.

For more information, contact the ASU Department of Biological Sciences at biology@astate.edu.

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