

Progress report for:

*Epikarstic groundwater ecosystems in Illinois:
a sensitive but unstudied faunal element*

submitted to:

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by

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Survey

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Problem and research objectives

The epikarst is a zone perched above caves, thought to provide habitat for groundwater organisms. There is no information on epikarst groundwater ecosystems in Illinois. Our study carries out the first sampling for epikarst ecosystems in Illinois, by sampling drip water from the ceilings of caves in Monroe County, Illinois.

Methodology

Using screened drip collectors and a rain gauge, we have been collecting invertebrates from the epikarst, preserving them for study in the laboratory. In the lab, identify the animals using both dissecting and compound microscopes.

Principle findings and objectives

Thus far we have documented the presence of numerous groundwater organisms, primarily various species of copepods (Crustacea), but also amphipods and aquatic worms. After evaluation of the worms by a taxonomic expert, it has been determined that some of these individuals represent a new species. Presently, we are continuing our work with sample identification and are working closely with the taxonomic expert on a description of the new worm species.

Students who worked on the project

Scott D. Cinel, a graduate student in Entomology, is leading this project. He plans to get a PhD, but is currently working on his MS degree. Entomology graduate student (MS) Dan Swanson has also helped with this project.

Pending publication from this work

We anticipate that a peer-reviewed scientific publication will be produced out of this study. We are presently working on a draft manuscript. Graduate student Scott D. Cinel will be the first author, the paper will describe the epikarst community and analyze the relationships among samples, and the new species of worm will be described in the publication.