

Limburger Cheese Attracts New Species To Pit Traps at Oregon Caves

Compared to most surface environments, caves tend to be low energy/low food environments. They usually lack much wind, light, freeze-thaws, or organics; thus it is fragile minerals and species with low metabolisms that normally thrive underground. Foot traffic, lights, clothing lint, tunnels, and vandalism are high/energy/food impacts on caves. Visitors or altered airflow bring in skin flakes, dust, spores, or detergent-rich lint, all of which foster exotic plant growth.

In Oregon Caves, Carlsbad Caverns, and probably many other commercialized caves, exotic animal communities have developed on lint deposits and exotic plants. Studies in Carlsbad Caverns and Mammoth Cave indicate that an unnatural increase in food causes the "paradox of enrichment," where surface-adapted insects move in and outcompete smaller and slower moving cave-adapted insects. The extinction rate from these impacts depends in part on whether caves are evolutionary "islands" or whether most of the recruitment of species occurs from small cracks surrounding the cave. Finding out which of these biogeography models best applies to cave communities is a hot topic of current biospeleological research.

Year-round baselines are needed to understand the evolution of cave communities and human caused impacts on them. Unfortunately, until a few months ago, all that was known about Oregon Caves' fauna were records such as "small white spider seen in Neptune's Grotto." The first macroinvertebrate survey of Oregon Caves began in late August 1992. Eighteen pit traps were placed in the cave to help determine the effects of cave entrances, humidity, and nearness to the cave trail on cave populations and species composition.

The use of limburger cheese as an attractant already has yielded some 20 species, at least 2 of which are undescribed and are among the most restricted endemics in the Park System. The first endemic is in the genus *Speoseya*, a millipede genus known by only 2 other specimens. The second is a water mite which probably is parasitic on an unknown animal. The traps are sampled and reset every 20 days. This will continue until summer 1992, when the program will be tied to a 5-months-long Earthwatch project.

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