

Introduction

Ennis Cave, Stone County, Arkansas, has long been one of the better-known "secret" caves of the area. Manganese mining prospecting about 1905 failed an attempt to exploit the limited deposits in the first 500 feet of cave. The mining did succeed, however, in sinking a 40-foot shaft in the rim of the sinkhole entrance, creating a funnel for hillside debris that plugs the narrow, pit-like opening from time to time. Large timbers, originally meant to stabilize the shaft, now hang precariously like an aerial log jam.

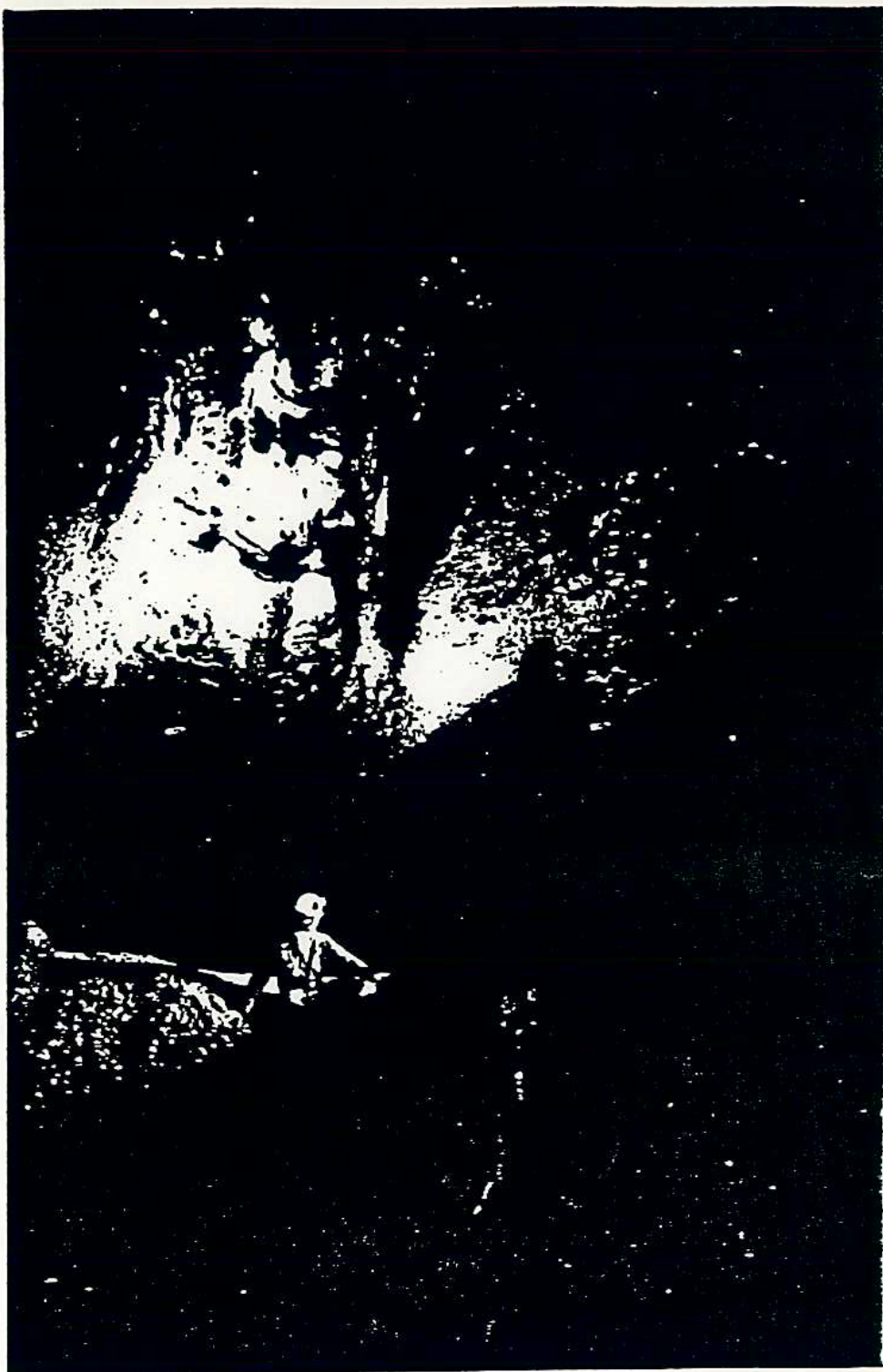
It is perhaps this impressively intimidating entrance sink that has limited the entry of less determined, casual visitors. While vandalism has occurred, it is not on the severe scale of other local, readily accessible caves.

Early explorations by MMV in '59 and '60 were commissioned by a St. Louis realtor representing one of the absentee owners. Since then many caving groups have visited Ennis, taking advantage of a sort of "open door" policy in which permission is neither sought, confirmed or denied. The land — unused scrubwoods — is neither fenced nor posted.

Attracted by the pleasant caving conditions, the unusual solution sculpture, and the intricate pattern of passages, an informal group of S.W. Missouri NSS members decided, in the Fall of '72, to map the cave. The project is headed up by Robert L. Taylor, NSS7133, assisted by Mike Warshauer, NSS4428, and Susan Warshauer, NSS11008. Much assistance has been given by Lon Odell, NSS7606, and his sons, members of Heart of the Ozarks Grotto, Springfield, (non-NSS affiliated) and School of the Ozarks "Troglophiles," Point Lookout (same).

The MMV made a confidential report to the realtor, because of the delicate nature of one or two remote chambers, but due to limited time, was able to make only a sparsely detailed map of about 5500 feet of main passage. There are indications of efforts by the now-deactivated Memphis Grotto to map the cave in '63, but the results are not known. We would be interested in hearing more about those earlier endeavors.

The aim of the present mappers is to produce a highly accurate, highly detailed map to serve as a base for speleogenetic interpretation and to enable the expansion of known cave, if possible. The mapping is done with a handheld



"Wingless Victory." A remnant partition marks the route up and out of the Main Passage junction. All photos in this article are by Robert L. Taylor, NSS7133.

Suunto KB 14 compass, a Suunto Clinometer, and a 100-ft. stabilized fiberglass tape. Vertical angles are read at every station. Mapping is done almost always by the same team of three, partially accounting for the tedious progress, but resulting in a uniform standard of in-cave sketching and accuracy. Closure of a 1600-foot loop resulted in an error of two feet. The map is being plotted at 20 feet/inch, but will be reduced later.

Discovery has so far been limited. Only a small percentage of the total surveyed passage (18,100 feet) was virgin (about 3000 feet). A by-product of the careful sketching required by the Missouri Speleological Survey standard of mapping has been the observation of a number of minerals: calcite, aragonite of the anthodite form, gypsum, limonite, manganese, and galena or possibly pyrite. Present too, in widely separated areas,

are some outstanding (literally) cephalopod fossils almost free of their bed-rock ceiling.

Description

From the eight-foot-deep slit below the sink (formerly a 12-15 foot drop, but now almost filled by debris), a complex of easily traveled, joint-controlled passages are oriented generally NE-SW. These vary in height from about five feet to well over 40 feet, and are dry for the most part. These downstream canyons lead to an end of easy walking after an aggregate length of perhaps 2200 feet, and deteriorate into low, wet crawls that have not been carefully checked by this group.

At a level about 15 feet lower than the southwest oriented entrance series is

the dry streambed of the voluminous upstream main passage. Trending west, probably along bedding planes, this varies greatly in shape, but averages 30 feet wide and 25 feet high and runs about 1100 feet to a massive breakdown area. Of particular interest are the smooth, undulating walls and deep deposits of stream cobbles reaching 15 to 20 feet up toward a phreatically pocketed ceiling. The main passage is normally very dry, but has been known to act as a flood overflow on rare occasions.

About halfway back is a duck-under to a parallel system on the north, named the "Maze" by MMV. Four passages radiate from the first large 70-foot-diameter room, but most of the over-3000-foot length lies to the west. The Maze is unusually pleasant to explore, with attrac-

tive banded bedding in higher areas; unusual, strata-controlled, rounded phreatic domed ceilings, and dry, sometimes sandy banks on which to walk. In spite of its name, the Maze has almost no reconnecting loops.

One major loop, however, intersects the ceiling of the Breakdown Room, the largest in the cave. A 20-foot drop leads from the Maze level to a breakdown slab floor, but is never used, because the long route around takes but a few minutes.

The Breakdown Room, 200 feet by 120 feet, by 35 feet high seems to represent the intersection of several levels, complicated perhaps by gypsum wedging. Most visitors skirt the breakdown to the south, intent upon visiting the cave's major feature, the Waterfall Room (Dome Room). A muddy complex of

small winding canyons leads to a level 30 feet higher than the main passage. A large short passage continues over breakdown and small pits to the overlook — 55 feet above the floor of the dome.

About 40 feet by 60 feet by more than 80 feet high, the Waterfall Room is unlike anything else in the cave. Normally just a light shower, the falls enlarge rapidly after heavy rain into a torrent of pounding water that is frightening in its intensity. The dome is well decorated, but the outstanding feature is a huge speleothem compounded of drapery and columns extending from the 65-foot level to within 25 feet of the floor. Awkward little passages corkscrew down to the lower floor. Short difficult pitches lead up the far wall to exposed ledges. A small walkway goes



Rib-vaulted phreatic passage. This undulating, sinuous effect is typical in the upstream Main Passage.



Lon Odell beneath 80-foot waterfall in Ennis Cave.

150 feet to intersect the Gypsum Room — actually a truncated extension of the distant Maze level. A few small, hard-to-photograph gypsum flowers decorate the upper walls of this sizeable room. There were once a few better examples, but heavy, careless traffic has eliminated them. Further travel is stopped by flowstone seals at both ends.

In July '74, Robert Taylor was poking around in an intricate breakdown maze

previously entered by the author and dubbed the "Nervous Breakdown." The walls, floor and ceiling consist of a variety of sizes of breakdown, some solidly wedged, some quite loose. Typical of Ennis Cave, apparent dead-ends reopen. An obscure crawl led Bob into a room where another set of footprints appeared from some upper level. Beyond this was Avenue "E," 800 feet of dry, wide passage, with a few short stoopways and

one crawl — all virgin. Fifteen feet below lies a smaller complex of winding crawls and stoops — a few rooms, and below that, another 15–20 feet down was a stream level — with the biggest flow of water in the cave. This part has not been completely checked, due to the discouraging nature of the short segments of very muddy streamway which are isolated from each other by siphons or passage too low to penetrate.

On a subsequent survey trip, over 800 feet of passage discovered by Lon Odell and son Allen and "lost" for 3–4 years, was relocated and found to completely cross over Avenue E. This was found to have one of the largest chambers in the cave, the Cairn Room, 120 by 80 by 4-to-25 feet high, with a few short but sometimes complex intermediate levels with small areas of unusual beauty. The present route into this room requires a complex and devious route through breakdown mazes for entry.

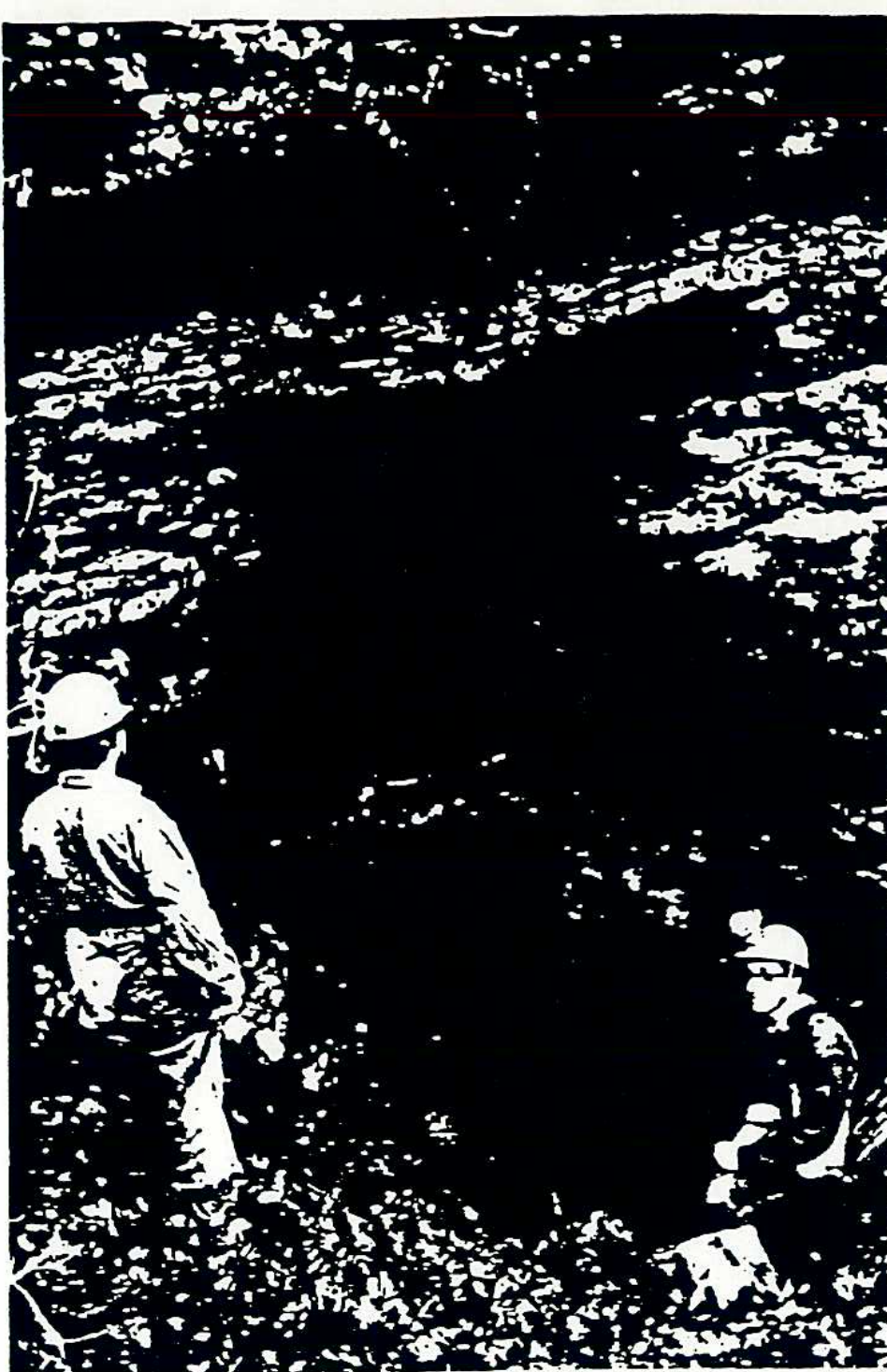
Avenue E is marked by two enlargements of the passage — the Orgy Gorge area, at a great bend or elbow in the passage where it almost turns parallel to itself; and the Final Formation Room, a squarish chamber over 100 feet across, studded with massive, mud-colored stalagmites up to eight feet high.

Below the Final Formation Room, reached by slimy slopes and slippery chimneys, the intermediate "Skid Row" level connects the upper "E" passage with a gross mud area above the stream, the Elephant Runs (*). The floor of this room is a series of funnel-like pits connecting one slimy slope to another. Below is a swiftly running stream emerging from a nearly blocked crack. Just beyond is a pool two feet deep, that, sadly, siphons after 20 feet. Little hope remains in pushing this area. Efforts must be redirected toward examining old "dead-ends" and in digging at numerous filled leads.

(*) A name which does not allude to the size of the room, but rather, the gastric condition of the elephant.

Current Status of Ennis Cave Study

As of February 15, 1975, surveyed length is 19,525 feet (uncorrected data) with a bit more to go. The cave's length will probably just reach four miles. The long-anticipated collapse of the entrance sink has occurred. Robert Matthews of Northeast Arkansas Grotto relates that on February 16, members of the grotto entered the cave on a sightseeing trip. Earlier in the day, School of the Ozarks Troglolithes Melanie Wiggs and Kathy Wright (vice-chairwoman and editor of the *Underground Leader*, respectively)



Mike and Susan Warshauer shown at the entrance to Ennis Cave, Arkansas. Note the rotten timbering in the shaft above the canyon-like slot. (The shaft extends upward behind the ledge to an opening about fifteen feet higher.) The rock shown is the St. Joe member of the Boone (cherty limestone) Formation. Most of the cave, however, is developed below this in the St. Clair and Fernvale limestones. It is this cherty material, and hillside waste, that cause the periodic plugging of the narrow slit below. Flooding, too, occurs from time to time when the Waterfall Room outlet cannot handle the increased flow and water backs up into the Main Passage.

entered to take water samples and noticed fresh debris at the base of the entrance crawl. They completed their trip without incident.

The N.E. Arkansas party explored the cave, then returned to the mine area only to find the crawlway almost blocked with wet gravel, mud, small blocks and the well-known car body. From the essence of Bob Matthews' letter, the group was not as alarmed as excited. With some careful and judicious excava-

tion they were able to clear the obstruction and squeeze out.

Until volunteers reopen and make safe this only entrance, groups planning excursions to Ennis should make other plans. Apparently the entrance is in very unstable condition. We plan on contacting the absentee owner of the entrance in regard to installing a protective culvert and perhaps a gate.

North American Biospeleology Newsletter

The Biology Section has recently reactivated the *North American Biospeleology Newsletter*, under the editorship of John E. Cooper, Director of Research and Collections, North Carolina State Museum of Natural History, 101 Halifax Street, Raleigh, North Carolina 27611. The Museum will publish the newsletter for the NSS.

Coop is looking for news items concerning biospeleological activities, so drop him a line at the above address and let him know what's going on with your group or institution.

A Reminder to All Artists!!!

Don't forget to bring your crafts to the annual Crafts Salon at the NSS Convention this year in Angels Camp, California. Crafts will be set up as you bring them, exhibited all during the week, and judged on Wednesday afternoon.

There are no media or size restrictions (except that no natural cave materials be used) so just about anything you can make that relates to caves and caving is eligible. Entry fee is \$1.00 for up to four entries. (You can enter more.)

This newest addition to the Art and Photo Salon can only be a success if you bring your projects and enter them. Let's make this year the first for a great annual crafts salon!

Kathy Nelson
Arts and Crafts Salon

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