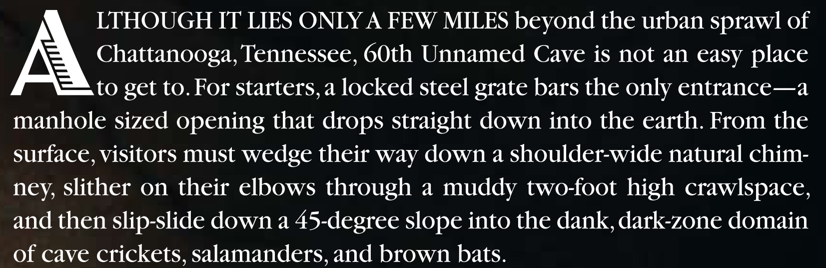
Ancient Cavers

There are myriad caves in the southeastern Unites States' Cumberland Plateau. Archaeologists are finding that some of these caves were used by the Mississippians and other peoples for centuries.

By Mike Toner



ALTHOUGH IT LIES ONLY A FEW MILES beyond the urban sprawl of Chattanooga, Tennessee, 60th Unnamed Cave is not an easy place to get to. For starters, a locked steel grate bars the only entrance—a manhole sized opening that drops straight down into the earth. From the surface, visitors must wedge their way down a shoulder-wide natural chimney, slither on their elbows through a muddy two-foot high crawlspace, and then slip-slide down a 45-degree slope into the dank, dark-zone domain of cave crickets, salamanders, and brown bats.

Once inside, however, the cramped entryway opens into a series of vaulted chambers and passageways that stretch for three miles beneath the Tennessee countryside. Judging from the dates, names, and racial epithets on the walls, people have been squeezing through the entrance to explore, party, and vandalize this cave for over a century. Within the last year, however, archaeologists discovered that people have been leaving their marks on these smooth limestone walls for a lot longer than that.

It is the antiquity of those marks—700-year old charcoal pictographs showing shaman figures, symbols of religious power—that brings Jan Simek, archaeologist and president of the University of Tennessee, and members of the university's Cave Archaeology Research Team (CART) into this subterranean labyrinth on a rainy Easter weekend.

"Look at this one," says Simek, after negotiating a jumble of slippery rock slabs that have fallen from the cave ceiling over the centuries. He casts the beam of his headlamp toward a spot on the wall just above eye level. "This sunburst with what looks like a cross or a bird in the middle is a classic Mississippian symbol. And over here on the left, the images are fainter, but you can still make out a face with two eyes and a bear paw, perhaps a hand print, all done in charcoal. From radiocarbon dates on charcoal we've found here, we know this cave was used around A.D. 1300. It's just amazing that these images have lasted for so long."

Alan Cressler, a veteran caver and long-time member of Simek's research team, discovered the pictographs in 2008. "I had been in the cave a number of years ago, but didn't notice anything but the graffiti," he recalls.

Marion Smith, of the Cave Archaeological Research Team, explores Devilstep Hollow Cave in Tennessee. Radiocarbon dates from the cave indicate the engravings of weapons and birds that adorn the ceiling were made by Mississippians in the 13th century.

ALAN CRESSLER

"I wasn't expecting to find anything, but then I noticed this circle with what looked like a cross in it. On closer inspection, it was a sun with a figure of a bird. That's when I really got excited because I knew it was the real deal."

The dates and the iconographic styling of the pictographs in 60th Unnamed Cave—named with a code Simek uses to conceal its real identity—place them squarely in the cultural pale of the Mississippian era, which occurred from A.D. 1000 to 1650.

A few decades ago, archaeologists could not have imagined such an association. Mississippian culture, which dominated much of the Midwest and Southeast between 800 and 1600, was known for flat-topped temple mounds, large towns, and agriculture—not for painted caves deep in the earth. Mississippian and earlier cultures were known to have used open air caves and rock shelters, but it wasn't until the 1970s that archaeologists began to realize that dark-zone caves—those where no light from the outside ever penetrates—were an integral part of the region's archaeological record, too.

Pioneering research begun by archaeologist Patty Jo Watson in the 1960s in Mammoth and Salts Cave in Kentucky provided unequivocal evidence that prehistoric people, lighting their way with slow-burning bundles of river cane, explored and mined some caves for thousands of years. They also buried their dead there. In several caves, these ancient cavers left charred torches, footwear, and stone tools miles from the nearest entrance. Charcoal stoke marks—the spots where they stubbed cane torches to make them burn brighter—reveal their underground travels.

They left other types of evidence as well. "The fecal remains we find in these caves provide excellent evidence for prehistoric diet," says Watson. "We have some samples that are 5,000 years old. We get ribald remarks about it, but it's wonderful stuff for research and there is a lot of it to study." Among the remnants of what the ancient cavers ate are beetle wings, salamander and turkey bones, and fragments of sunflower, maygrass, sumpweed, and other seed-bearing plants.

Cave environments can make for remarkable preservation. Inside Jaguar Cave in north-central Tennessee, she and her colleagues found 274 well preserved footprints that had been left in soft mud more than 4,500 years ago. "There is no doubt these people had the technology to go where they wanted to underground, to stay as long as they wanted, and leave when they wanted," Watson says.

Her early work clearly documented what she calls "pragmatic" uses of dark cave resources. No one, however, expected such caves to be decorated, so no one looked for pictographs. Watson, now professor emeritus at Washington University in St. Louis, acknowledges that she herself passed a panel of ancient pictographs in Mammoth Cave a number of times without paying attention to them. Thousands of other cave visitors did too.

THEN, IN 1980, TWO AMATEUR CAVERS, undeterred by a tight crawlway and knee-deep water, entered a little-known cave in eastern Tennessee and were

ALAN CRESSLER

A turtle effigy impressed into damp clay in Mud Glyph Cave in Tennessee. A small fragment of burned river cane extracted from the eye of the turtle was radiocarbon dated to A.D. 1260.

This footprint found in Jaguar Cave in Tennessee is approximately 4,500 years old.

DAVID SOCKY

stunned to discover an extensive gallery of animal images, human figures, and geometric designs inscribed on the mud-coated walls. University of Tennessee archaeologist Charles Faulkner was skeptical when the cavers brought him pictures of their discovery, but his skepticism disappeared upon visiting the cave.

"At first I just wasn't convinced that they were authentic," Faulkner recalls. "But the complete absence of modern graffiti and the patina of the glyphs on the wall persuaded me that they were clearly of some age." Dozens of radiocarbon dates of burned torch remains on the cave floor established that the mud glyphs were created around A.D. 1200.

Once archaeologists started scrutinizing the walls of this—now known as Mud Glyph Cave—and other caves, new discoveries followed. In 1995, Simek founded CART to systematically survey dark zone caves in Tennessee and adjoining states. So far, CART has documented 250 caves with "some evidence of prehistoric human use," including nearly 70 that contain art. But Simek suspects that the team has barely scratched the surface of the underground archaeological record. "In the course of our survey we have visited just over 1,000 caves in Tennessee alone," he says. But that number represents only a little over 10 percent of the 9,000 caves recorded by the Tennessee Cave Survey, an avocational group that seeks and documents caves in the state. He surmises that ancient peoples may have explored as many as 800 caves in Tennessee.

"You only see what you look for," says George Crothers, director of the William S. Webb Museum of Anthropology at the University of Kentucky, who has recorded at least five decorated caves in Kentucky. "The more we look, the more of them we are finding."

It's not work for the faint hearted. "Caves are dark, close, often wet, and sometimes dangerous," says Simek. "The greatest real danger is panic, but these are not the kinds of places that archaeologists are used to working in." Sarah Blankenship, a member of the team who specializes in analysis of the pigments used in cave art, concurs. "We were heading in to one cave around dusk one evening to check the report of a burial," she recalls. "In one passage, I noticed a lot of bat guano on the ground. Then I heard what sounded like a herd of elephants coming down the passage and suddenly there were bats flying everywhere, all headed out of the cave to feed."

Most of the region's cave art dates to the Mississippian period. (A cave near Knoxville contains much older images that date to around 4000 B.C.) Simek stoops to cast the light of his headlamp on a low-lying rock face deep in 60th Unnamed Cave. "This is clearly a pack of dogs, which are quite rare in prehistoric art. You can see their short, erect ears and long tails curving over the back of the animals," he says. "And over here, around the corner on another face of the rock, is what they're chasing—a very different kind of quadruped with a body and a long tail that does not resemble any living creature."

For the most part, these images, according to Simek, "can be deconstructed into individual icons—pictures produced using one of three techniques: painting with mineral

A woodpecker pictograph drawn with carbon-based pigment in Devilstep Hollow Cave during the Mississippian period.

pigments, engraving them into limestone, or incising them into mud. But in some of the larger and richer art sites, we have long had the sense we were seeing art assemblages that were more than simple images scattered like graffiti through the dark recesses of these caves."

Some caves reflect what he calls "compositional patterning on a cave-wide scale," meaning the individual images, taken together, form a composition. In Devilstep Hollow Cave—called 11th Unnamed Cave until it was purchased by the state of Tennessee—the team has mapped 22 charcoal pictographs, engraved petroglyphs, and a small panel of mud glyphs "arrayed through the dark zone in a patterned fashion." The images include an axe with a human face, a bird effigy with human arms, weeping eyes, and a topknot, and a six-foot long fish-like monster with a forked tail and long sharp teeth. "The imagery becomes ever stranger, perhaps even transcendental, the deeper you go into the cave," Simek says.

The team was initially puzzled by the presence of renderings of several large disembodied heads, images that in other caves have been closely associated with human burials. The archaeologists found no burials in the cave, but they later discovered a 1905 newspaper article in which a local caver described shelves in the cave "covered with skeletons in vast proportions." Despite the bizarre array of otherworldly images, however, the gallery is anchored at either end with realistically rendered woodpeckers. The crested bird, recognizable as either a pileated or ivory billed woodpecker, is a recurring motif on Mississippian shell gorgets and pottery throughout the Southeast.

A similar pattern appears in 18th Unnamed Cave in northern Alabama, which contains more than 122 petroglyphs that Simek describes as "some of the most detailed and finely executed images anywhere in the Southeast." Mixed in with enigmatic circles, boxes, and chevrons, suns and stars, there are also a few dozen animals, a fish

Endangered Caves

Cave researchers are dismayed by the array of threats to the underground archaeological record. For example, looters discovered Picture Cave, with its exquisitely rendered charcoal pictographs that date to around A.D. 1025, before archaeologists did. "The images are spectacular, but by the time we learned of the cave's existence, it had been repeatedly ransacked by looters and artifact hunters," says archaeologist Carol Diaz-Granados, of Washington University. The cave, located in east central Missouri, is now protected.

Some caves are owned by federal or state governments and are protected by various preservation laws. But the great majority of caves are on private property and beyond the reach of preservation laws. Nonetheless, Jan Simek notes that all of the private owners that he's dealt with appreciate the importance of the caves and do what they can to protect them. "We've built gates in some" to keep looters out, Simek says.

Ironically, the caves sometimes require protection from people with the best of intentions. In 2005, appalled by the accumulation of modern graffiti on 60th Unnamed Cave's sculpted walls and the litter on its floors, local cavers approached the owner and offered to thoroughly clean the cave, restoring a more natural look to the labyrinth. With the landowner's enthusiastic support, volunteers spent two weekends scrubbing more than 300 feet of cave passages with solvents and wire brushes, unaware that they were scouring away ancient as well

This Mississippian rattlesnake pictograph in a Tennessee cave was defaced by modern graffiti.

ALAN CRESSLER

as modern art. Simek is certain that some glyphs were completely obliterated. Others were partially destroyed. Thirty or so survived, despite the best efforts of the cave cleaners.

To avoid any future tragedies, he and Alan Cressler have embarked on an effort to alert cavers of the threat they can pose to the art. "The scientific and historical value of 60th Unnamed Cave has been greatly diminished by this unintended destruction," he and Cressler wrote in *NSS News*, the magazine of the National Speleological Society. "Cave art is one of the significant prehistoric treasures of our continent, but because it is fragile, and often difficult to identify, we must take every precaution that it is not destroyed." *—Mike Toner*

A modern caver negotiates canyon passages in lower levels of Mammoth Cave that were traversed by Early Woodland people 2,000 to 3,000 years ago.

ROGER BRUCKER

turning into a turkey, a turkey with serpent-like characteristics, and more otherworldly beings. And yet the array begins and ends with images of ordinary turkeys.

Birds, in fact, are the most common animals depicted in the caves. Simek says birds represent the Mississippian ceremonial emphasis on "transformational" creatures, because they are at home in the air and on land. Turtles, who live in the water as well as on land, are also transformational. There are mythical animals too—snakes with legs and human figures with the wings and beaked noses—some of them reminiscent of the ritual Mississippian birdman icon. All of the images have religious connotations, and collectively they form compositions whose theme, Simek believes, is the passage to the underworld.

Archaeologists Jay Franklin and Sarah Sherwood excavate cave deposits in 12th Unnamed Cave, in Tennessee. They found artifacts and features that indicate elaborate ritual activities were associated with making cave art.

ALAN CRESSLER

THOUGH WATSON AND OTHERS have accumulated ample evidence that prehistoric people exploited the caves' resources—mining chert for stone tools, minerals for medicinal and ceremonial purposes, and gypsum for coloring, while also using them as repositories for their dead—most of the painted caves show little evidence of such things. "Art caves appear to have been used primarily for ceremonial purposes, perhaps for complex ritual pilgrimages," says Simek. Ceremonial use implies that the decorated cave walls are more than the idle scratching of prehistoric graffiti artists, and consequently Simek thinks these caves represent a valuable new resource for archaeology.

Many anthropologists believe that Mississippian culture, like most early populations, embraced the notion of a layered universe consisting of the world above, this world, and the world below, where humans went to be reborn. "Some argue that Mississippian religion was primarily concerned with the celestial realm, the cosmos, and the firmament," says Simek. "But that view is based only on the analysis of iconography from exterior contexts and their elite burials. Our data indicate that their cosmological landscape was more complex and multidimensional. We think the underground world was an integral part of Mississippian ritual and ceremony. The caves represent a ceremonial regime that may be as complicated as those observed for above-ground Mississippian contexts."

As the number of known cave sites grows, Simek believes he sees a pattern that reflects Mississippian culture as much as the great earthen mounds they built above ground. Nearly all of the art caves he has found—both the dark-zone caves as well as rock shelters—occur along the western escarpment of the Cumberland Plateau, the broad, densely forested highland that stretches across 600 miles of eastern Kentucky, Tennessee, Georgia, and Alabama. Because the plateau is dissected by numerous valleys and ravines, the mouths of the caves face in all directions. But Simek says virtually all of the known art caves have south-facing mouths. Most of the rockshelters are at higher elevations and their glyphs are painted with red pigments, usually a slurry of iron oxides and water. Nearly all of the dark cave entrances are some 400 feet lower than the rockshelters' and the majority of their art is rendered in black pigment, made from a charcoal and water slurry.

"We're still in the conjecture stage on this," Simek says. "But there are caves all over the Cumberland Plateau, and these people were making choices about which ones they chose for their art. It was not a natural landscape to them. It was a religious one and they were imposing their cosmology on the landscape—open-air caves above, dark caves below. They used red, the color of life, to decorate the open caves, and black, the color of death, below." He notes that most Native American belief systems include the heavens, the earth and the underworld. "To them," he adds, "the Cumberland Plateau was itself a great mound—the universe expressed in three dimensions."

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