

## Kentucky cave is small, but its attractions are big

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HORSE CAVE, Ky. — Along Interstate Highway 65 in Kentucky, heading south from Louisville, billboards are pleasantly scarce. But there are a few colorful signs that show a kangaroo vaulting across a striated sun. These point the way toward the Horse Cave Exit (No. 58) where you get off for Mammoth Onyx Cave (formerly Kentucky Caverns) and a zoo called Kentucky Down Under.

It's a lovely drive through gently rolling hills, past shelves of gray limestone and wide grassy fields spangled with wildflowers, graceful Queen Anne's lace, tall pink thistles, sky-blue cornflowers and masses of lavender vetch--lovely blossoms with an unlovely name.

But if we thought the drive down was lovely, we hadn't seen anything yet. It's as though Mother Nature knew that this particular cave, Mammoth Onyx Cave, could be only an eighth of a mile long, unlike other nearby cave systems that honeycomb the earth for miles, and she decided to shoot the works.

Imagine three "rooms" made of caramel-rich onyx with 20-foot-high ceilings vaulted like a Gothic cathedral, colored in a spectrum of iron oxide-pigmented hues as vibrant as a lingering sunset: rose, gold, yellow and burgundy.

A pathway, sometimes as wide as six feet, sometimes narrowing to a foot across, funnels visitors past surreal shapes like cow udders, gorilla heads, a chain of skulls, pigs' feet, bunches of bananas and haystacks.

Mammoth Onyx Cave, has been open to the public for more than 70 years. On our first visit, we had arranged to meet with owners Bill and Judy Austin. Bill grew up in these Kentucky hills--in fact, his grand-uncle, Dr. H.B. Thomas, had owned the cave for some 40 years before him. Judy is from Australia where the two met in the 1960s. When Dr. Thomas got ready to retire from the cave-tour business, the Austins bought it and the 800 surrounding acres and took over operations.

The cave, they explained, was discovered 200 years ago by a young girl named Martha Woodson. Her father, Capt. Charles Woodson, a soldier in the Revolutionary War, had been given the property it lies on as a land grant for his military services. At the time Kentucky was still wilderness.

One day in 1799, Martha was in the woods picking blackberries with her two brothers and stumbled over a strange hole in the ground from which cool air wafted. Curious, she climbed

partway down inside (the cave floor lies about 29 feet below the surface). She quickly realized the strange hole led to a rare subterranean world full of odd stone formations, but fearful of wandering there alone, she climbed out to tell her brothers of the discovery.

The three returned later with their father to explore it, and lamps in hand, discovered the passageway to be shaped like a corkscrew about 700 feet long, and certainly not like anything that could be seen above ground. But instead of opening their find to the world, the Woodsons simply used it to store potatoes and apples, and as a source of fresh water. The cave stayed in the family until 1921, when Dr. Thomas bought it, Bill said.

Interested in turning it into an attraction, he enlarged the opening, put up a building around it and added a chest-high stone wall to keep anyone from falling into the collapsed sinkhole that leads to the cave. He also installed a generator and an electrical system for underground light, added a stairway, smoothed the floors and pathways with slabs of rock from the surrounding hills, and turned the stunningly beautiful cave into a major tourist site in an area rife with caves. The cave opened to visitors in 1924.

"People come to southern Kentucky to see caves," said Bill. "But although Mammoth Cave, the granddaddy of `em all, is only a few miles away, we get more than 1,400 visitors every week."

Thomas also founded the American Cave and Karst Museum in the town of Horse Cave, 2 miles to the southeast. This first-rate museum is an excellent place to go to learn what karst land is and how caves are formed in it. But there are also knowledgeable folks at Mammoth Onyx Cave, such as Jim Yates, the manager of operations, who likes nothing better than explaining the geology of the area to visitors.

The slow process of forming caves in soluble rock, which is what defines karst land, begins with rain, Yates said. As rain falls, it absorbs a small amount of carbon dioxide, and gathers more from decaying vegetation as it moves through the soil, becoming a weak carbonic acid solution "like the fizz in a Coke," he said. As the solution seeps through cracks and crevices, it dissolves soluble rock and forms cavities and channels--cave passages.

Although caves are formed in a variety of ways, in the case of Mammoth Onyx Cave, the acid seeps through limestone, dissolving away calcium carbonate. This, in turn, drips into the cave where the carbon dioxide is given off. Water will no longer carry the minerals, so they are deposited in the form of tiny crystals--calcite, or cave onyx.

As watery drops hang from the ceiling, calcite is slowly deposited and a stalactite is formed, though it takes about 120 years for a cubic inch to grow. When a mineral-rich water droplet falls to the cave floor, a stalagmite builds up. Beads of moisture can also deposit onyx on cave walls in knobby clusters called cave coral. And water flowing slowly down cave walls or across inclines forms sculpture-smooth onyx called flowstone. Sinkholes occur when the acid solution has dissolved out a drainage network in the rock through which large quantities of water can travel underground.

Yates took us on a private tour of the cave--being somewhat claustrophobic I liked it better this way, as every other cave guide I've ever followed has seemed compelled, once we'd reached a certain point, to turn off all the lights. As if we didn't know it was dark in there!

Though the day was hot even for June in southern Kentucky, and you could have fried bacon on a car hood, it was delightfully cool inside the cave. No matter what time of year, the temperature there never ventures below 58 degrees or above 60.

As we walked deeper into the cave, Yates flipped switches to light the way ahead of us and turn off lights behind. Dimly, from outside, we could hear peacocks at the zoo shrieking like tormented cats. Because the humidity in the cave is high, right at 100 percent, with droplets falling continuously from the ceiling and water puddling on the floor, other creatures, especially snakes and frogs, often come inside, he said. (We didn't see any of these, but several albino cave crickets skittered away as we passed them.)

Walking along you pass a spectrum of surreal shapes--cave coral or "popcorn" dabbed on the walls like lumpy mocha-colored crawfish mounds, or dribbled gray sand on the beach; angular clusters like bound pigs' feet dangling from the ceiling; a four-foot tall golden haystack topped with a fierce-looking gorilla head; yellow banana-like lobes arcing from stalks; orange "sweet potatoes" sculpted from stone but looking supermarket fresh, all of these a millenium or more in the forming. Also here are toothpick-size gray or apricot-colored spindles called soda straws that sprout from the ceiling, and at 100 years old, are geologic youngsters by the cave's reckoning.

The path becomes a steep stairway, winds narrowly up and around thick Buddha-like shapes, and enters the aptly named Paradise Gardens, a world of orange soda straws growing like tiny fingers out of a ceiling so smooth it looks like melted wax, and gorgeous red-and-white-striped cave draperies with weighty folds. In the stalactite "gallery," stone ribs fan across the ceiling like the vaults in a cathedral. Here and there throughout, wire-thin plant roots have bored through calcite and dangle nearly to the floor.

In one room, called Woodson Hall after the girl who found it, a thick pillar has been formed from dozens of stalagmites that have fused together over the eons. A stone wall has been built for safety here around the "solutional sinkhole, the deepest point of the cave at 125 feet below the surface, where acid (in water) slowly continues to eat away dirt and rock," Yates explained.

"What does this remind you of?" he asked, pointing to an oddly hollowed-out formation high on one wall.

"A stack of skulls," I said. "Five perfect, red human skulls piled on top of each other."

Yates flipped a light switch and the gloom ahead of us was transformed as if by magic into a beautiful aquamarine pool, measuring some 30 feet by 8 feet, and 4 feet deep. You reach it by crossing a "hanging bridge" forged of thick shining onyx and suspended from the cave wall. Stalagmites formed over red clay, attaching to one side, after which water slowly washed away the clay.

Where the cave's end tapers near the surface, half a dozen steep steps climb toward a wide wooden door that swings creakily open into bright sunshine. The Austins pierced an exit here in 1992 to allow more tours to go through.

After an hour underground, walking in galleries of phantasmagoria beyond imagining, viewing bright-colored surreal shapes sculpted in darkness and hidden away like a pirate's treasure to dazzle and awe the finder, stepping out into a sunlit forest seemed remarkably ordinary.

## IF YOU GO

### GETTING THERE

To reach Mammoth Onyx Cave, take Interstate Highway 65 south of Louisville to the Horse Cave exit (No. 58) and follow signs. Parking is abundant and free.

### THE DETAILS

Mammoth Onyx Cave and Kentucky Down Under (see below) are open daily from 9 a.m. to 6 p.m. March 30 through May 24th; during the Summer (May 25<sup>th</sup> through August 23<sup>rd</sup>) is open from 9 a.m. to 8 p.m.CST, the rest of the year, only Mammoth Onyx Cave is open, 9 a.m. to 4 p.m. CST. "Summer" rates (one ticket good for admission to both attractions) are \$19.95 for adults, \$14.95 for ages 4-13, free under 3. Winter rates are \$14.95 for adults and \$9.95 ages 4-13. Mammoth Onyx Cave is not handicap accessible. Kentucky Down Under is handicap friendly.

For information: P.O. Box 10, Horse Cave, KY 42749; 270-786-1010 or [www.kdu.com](http://www.kdu.com).

Kentucky Down Under: This "Australian animal theme park" is home to dozens of critters from that far continent and sprawls across 75 acres adjoining Kentucky Mammoth Onyx Cave. Several miles of asphalt pathways lead visitors through the natural-looking habitat.

The zoo consists of more than 200 animals, including kangaroos, wallabies, blue-tongue skinks, bearded lizards, peacocks, kookaburras, lorikeets and other Australian species.

Visitors can watch sheep dogs displaying herding techniques; step inside the spacious flight cage of lorikeets (small birds similar to parakeets but colored bright red, blue and brown, as well as lime green and yellow) and wait for a swarm of the inquisitive birds to land on their head, shoulders and arms; or climb the few stairs to the Observation Deck for stunning views of the surrounding Kentucky countryside.

-- P.S.