

# Researchers investigate mysterious stone spheres in Costa Rica

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John Hoopes, University of Kansas associate professor of anthropology and director of the Global Indigenous Nations Studies Program, recently returned from a trip to Costa Rica where he and colleagues evaluated ancient stone spheres for UNESCO, the United Nations cultural organization that might grant the spheres World Heritage Status. Credit: Courtesy of John Hoopes

The ancient stone spheres of Costa Rica were made world-famous by the opening sequence of "Raiders of the Lost Ark," when a mockup of one of the mysterious relics nearly crushed Indiana Jones.

So perhaps John Hoopes is the closest thing at the University of Kansas

to the movie action hero.

Hoopes, associate professor of anthropology and director of the Global Indigenous Nations Studies Program, recently returned from a trip to [Costa Rica](#) where he and colleagues evaluated the stone balls for UNESCO, the United Nations cultural organization that might grant the spheres World Heritage Status.

His report will help determine if sites linked to the massive orbs will be designated for preservation and promotion because of their "outstanding value to humanity."

Hoopes, who researches ancient cultures of Central and South America, is one of the world's foremost experts on the Costa Rican spheres. He explained that although the stone spheres are very old, international interest in them is still growing.

"The earliest reports of the stones come from the late 19th century, but they weren't really reported scientifically until the 1930s — so they're a relatively recent discovery," Hoopes said. "They remained unknown until the United Fruit Company began clearing land for banana plantations in southern Costa Rica."

According to Hoopes, around 300 balls are known to exist, with the largest weighing 16 tons and measuring eight feet in diameter. Many of these are clustered in Costa Rica's Diquis Delta region. Some remain pristine in the original places of discovery, but many others have been relocated or damaged due to erosion, fires and vandalism.

The KU researcher said that scientists believe the stones were first created around 600 A.D., with most dating to after 1,000 A.D. but before the Spanish conquest.

"We date the spheres by pottery styles and radiocarbon dates associated with archeological deposits found with the stone spheres," Hoopes said. "One of the problems with this methodology is that it tells you the latest use of the sphere but it doesn't tell you when it was made. These objects can be used for centuries and are still sitting where they are after a thousand years. So it's very difficult to say exactly when they were made."

Speculation and pseudoscience have plagued general understanding of the stone spheres. For instance, publications have claimed that the balls are associated with the "lost" continent of Atlantis. Others have asserted that the balls are navigational aids or relics related to Stonehenge or the massive heads on Easter Island.

"Myths are really based on a lot of very rampant speculation about imaginary ancient civilizations or visits from extraterrestrials," Hoopes said.

In reality, archaeological excavations in the 1940s found the stone balls to be linked with pottery and materials typical of pre-Columbian cultures of southern Costa Rica.

"We really don't know why they were made," Hoopes said. "The people who made them didn't leave any written records. We're left to archeological data to try to reconstruct the context. The culture of the people who made them became extinct shortly after the Spanish conquest. So, there are no myths or legends or other stories that are told by the indigenous people of Costa Rica about why they made these spheres."

Hoopes has created a popular Web page to knock down some of the misconceptions about the spheres. He said the stones' creation, while vague, certainly had nothing to do with lost cities or space ships.

"We think the main technique that was used was pecking and grinding and hammering with stones," said Hoopes. "There are some spheres that have been found that still have the marks of the blows on them from hammer stones. We think that that's how they were formed, by hammering on big rocks and sculpting them into a spherical shape."

Provided by University of Kansas

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