

# Early human fossil find questions evolution theories

Homo naledi lived at same time as homo sapiens Site of bones deep in caves may suggest their 'burial'

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When fossil hunters unveiled the remains of a mysterious and archaic new species of human found deep in a South African cave two years ago, the scientific community was stunned. Since then, bodies of the long-lost family members have piled up.



In work published yesterday in the journal eLife, the team reveals how high that pile has become. They now have the remnants of at least 18 Homo naledi, as the species is named. The latest haul of bones, found in a cave 100 metres from the first, includes a nearly complete adult skull.

Tests on the material found the bones to be between 335,000 and 236,000 years old, making them far younger than many scientists had expected. "It means that this species of primitive hominid was actually around at the same time as Homo sapiens," said Lee Berger, of Witwatersrand University in Johannesburg.

Remarkably, the bones show few signs of disease or stress from poor development, suggesting that Homo naledi may have been the dominant species in the area at the time. "They are the healthiest dead things you'll ever see," said Berger.

Homo naledi stood about 150cm tall fully grown and weighed about 45kg. But it has an extraordinary mix of ancient and modern features: a small brain and curved fingers adapted for climbing but wrists, hands, legs and feet more like those found on Neanderthals or modern humans. If the dating is accurate, Homo naledi may have emerged in Africa about 2m years ago but held on to some of its more ancient features even as modern humans evolved.

Chris Stringer, of London's Natural History Museum, who was not involved in the research, said: "This is astonishingly young for a species that still displays primitive characteristics found in fossils about 2m years old."

The age of the bones, and their discovery in the Rising Star caves at the Cradle of Humankind world heritage site near Johannesburg, has led Berger to speculate that some ancient stone tools found in the region may have wrongly been attributed to Homo sapiens instead of Homo naledi.

No stone tools have ever been found with Homo naledi bones but Stringer does not rule it out. "It seems highly likely that its handiwork is present in the archaeological record of southern Africa but currently unattributed," he said.

Another question raised by the remains is how they got to their final resting place. Berger does not believe they got there by accident. "The discovery of this second chamber adds to the idea that Homo naledi deliberately disposed of its dead in the deep underground chamber," he said. "I can't see any other way." To do so, he suspects, they were also able to control fire.

Others are less confident. Stringer said he and other experts doubted that Homo naledi, with a brain size of a gorilla's, was capable of such complex behavior. "Perhaps further exploration will reveal other, closer entrances or sink holes which were temporarily open, through which the remains could have been introduced by accidental or natural processes?" he said.

Jessica Thompson, of Emory University in Atlanta, says the bones prove human evolution was not a linear progression from one species to another humans. "It's much more complicated," she said.

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