

## 1 Did This Mysterious Ape-Human Once Live Alongside Our Ancestors?

2 A year and a half after **adding** a puzzling new member to the human family tree, a team of **researchers** working in South  
3 Africa have offered an **additional** twist: the **species** is far younger than its bizarrely primitive body would **suggest**, and  
4 may have shared the **landscape** with early *Homo sapiens*. **Recent** dating of the geology of Rising Star places *Homo*  
5 *naledi* in a period **roughly** 200,000-300,000 years ago, when **multiple** other hominin species were alive—**including**  
6 archaic forms of *Homo sapiens*. Today only one of those species still **survives** us. With a mix of primitive traits shared  
7 with australopithecines and more modern ones shared with *Homo*, *Homo naledi* was already a curious anomaly. Its recent  
8 age only deepens the mystery.

9 First **discovered** in 2013 by two cavers **exploring** the Rising Star cave system near Johannesburg, a stunning trove of  
10 hominin remains—the single richest fossil site of its kind ever found in Africa—**revealed** a tiny-brained species with  
11 shoulders and a torso like an ape’s, but with some unmistakably humanlike **features** as well. The species’ name: *Homo*  
12 *naledi*, after the Sesotho word for “star”. Now, the species’ star shines that much brighter. In papers published Tuesday  
13 in *eLife*, the team—led by University of the Witwatersrand paleoanthropologist Lee Berger—**provides** an age **range** for  
14 the remains first reported in 2015: between 236,000 and 335,000 years old. The team also describes a second chamber  
15 within Rising Star that **contains** yet-undated *H. naledi* remains.

16 If these dates hold, it could mean that while our own species was **evolving** from other, large-brained **ancestors**, a little-  
17 brained shadow lineage was hanging on from a much earlier period, perhaps two million years ago or more. The proposed  
18 age range for the fossils also **overlaps** with the early Middle Stone Age, fueling a provocative, though **unproven**,  
19 possibility: that the stone-tool record in South Africa from that time wasn’t just the handiwork of anatomically modern  
20 humans. “How do we know that the fossil **tools** we have so far connected to the rise of modern human **behavior** aren’t  
21 being made by *Homo naledi*?” says Berger, who is also a National Geographic explorer-in-residence. “You can imagine  
22 how disruptive that could be. When *Homo naledi* made its public debut in 2015, **several** key details about the species  
23 still lurked in the shadows. How was *H. naledi* **related** to other hominin species? Was it the “root *Homo*” at the **base** of  
24 our genus’s lineage, as **elements** of its body plan might suggest? And as National Geographic **reported** at the time, the  
25 **initial announcement** frustrated scientists because of what it was missing. “Without a date, these fossils are more  
26 curiosities than game-changers,” said William Jungers, a paleoanthropologist at the State University of New York, Stony  
27 Brook, in a 2015 interview. “Where they fit in the family tree will be influenced by their age—they’re a twig, looking  
28 for a trunk.”

29 Some **subsequent** studies tried to fill the **gap** by statistically **estimating** *H. naledi*’s age, based on the shape of its skull  
30 and teeth compared to those of other hominins. One placed the species at about two million years old, give or take; the  
31 other, a study by Simon Fraser University researcher Mana Dembo, suggested it was about 912,000 years old, plus or  
32 minus about a million years. But, all the while, Berger’s team was had a hunch that *H. naledi* was younger. “It’s been  
33 beautiful to watch, because as all these studies were being published, we felt it was going to be less than half a million  
34 years old,” says Paul Dirks, a geologist at Wits and James Cook University. **Nonetheless**, science **demand**s facts not  
35 feelings, so, after the fossils had been **described**, Dirks and 19 other scientists decided to throw the methodological  
36 kitchen sink at them, using six different dating methods to ascertain *H. naledi*’s age.

37 To start, they radiometrically dated some flowstones—**layers** of calcite laid down by running water—that had covered  
38 some of the *H. naledi* **remains**. Two labs independently showed that the flowstone was about 236,000 years old, meaning  
39 that the underlying *H. naledi* remains had to be older. Getting a maximum age proved trickier; no flowstone sandwiched  
40 the fossils from below. The team arrived at an oldest age—335,000 years old—by putting sediment grains and three *H.*  
41 *naledi* teeth through a battery of dating methods, including some based on the radiation dosage the materials had received  
42 after being “bathed” in the cave’s natural **background** radioactivity. “In the end, we have tremendous confidence in the  
43 results,” says John Hawks, a University of Wisconsin-Madison paleoanthropologist who’s part of the *H. naledi* team.  
44 Hawks and Berger discuss the dating, and the full story of discovering *H. naledi*, in the newly published National  
45 Geographic book *Almost Human*.

46 [Adapted from National Geographic](#)