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Archaeologists Uncover Earliest Evidence of Modern Humans in Southeast Asia

The fossils from a cave in Laos, which date to between 68,000 and 86,000 years ago, challenge several ideas about early human migration



Will Sullivan - Daily Correspondent

June 14, 2023



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Researchers take sediment samples in the excavation pit in the Tam Pà Ling cave in Laos, where two newly uncovered human bones—part of a skull and a shin bone—were found. Kira Westaway, Macquarie University

Fossils unearthed in Laos are rewriting the history of ancient human migration. The two new discoveries—a piece of skull and a shin bone—suggest modern humans arrived in mainland Southeast Asia much earlier than thought.

Scientists had previously estimated that early humans spread out from Africa between 50,000 and 60,000 years ago and reached places like Southeast Asia shortly after. But the newly discovered fossils, described Tuesday in the journal *Nature Communications*, date to between 68,000 and 86,000 years ago.

“I can’t overestimate the importance of having another point on our map for early modern humans in Southeast Asia,” Miriam Stark, an anthropological archaeologist at the University of Hawaii at Mānoa who did not contribute to the research, tells *Nature News*’ Jude Coleman. “Understanding Southeast Asia is critical to understanding the world’s deep history.”

The site of these new finds, a cave called Tam Pà Ling, has yielded discoveries of prehistoric human remains since 2009. These fossils—

which, until now, all dated to between 46,000 and 70,000 years ago— included jawbones, skull fragments and a toe bone. The new discoveries might push that date back by several thousand years.

“At this point we have seven fossils from the site that we’ve identified as definitively human,” Laura Shackelford, a co-author of the paper and a paleoanthropologist at the University of Illinois Urbana-Champaign, tells Anna Salleh of the Australian Broadcasting Corporation (ABC).

Since the area is a protected World Heritage site, the researchers couldn’t date the new fossils directly, as that could damage them, per the ABC. Instead, the team relied on a combination of two strategies to make their estimate: dating mammalian teeth found in the same layer of sediment and using luminescence dating. Luminescence dating determines how much time has passed since minerals in the sediment, such as quartz or feldspar, were last heated or exposed to light, according to CNN’s Katie Hunt.

With this analysis, the skull bone dated to between 67,000 and 73,000 years ago, while the shin bone dated to between 68,000 and 86,000 years ago.

“In mainland Southeast Asia, this is the first time we’ve got such old specimens,” Fabrice Demeter, a co-author of the new study and paleoanthropologist at the University of Copenhagen in Denmark, tells New Scientist’s Chen Ly.

Andy Herries, a geochronologist at La Trobe University in Australia who

did not contribute to the work, tells the ABC, “the dating of the site is excellent and consists of multiple corroborating dating methods.” He tells the publication that while the shin bone could have come from a species of human other than *Homo sapiens*, the skull bone was “more compelling evidence.”

The bones are challenging ideas of early human migration in other ways, too. While some research had suggested that early humans on the move would have kept to the coasts, the cave is located in a highly elevated, forested area far from the shore.

Researchers are still questioning whether these earliest known humans in Southeast Asia have descendants alive today. The groups that made these earlier migrations may have died out, as Kira Westaway, a co-author of the study and geochronologist at Macquarie University in Australia, tells CNN.

“Since we now have fossils that go back closer to 80,000 years, it tells us that there were multiple migrations out of Africa,” Shackelford tells *New Scientist*. And some of these could have been “failed migrations,” according to the ABC.

But Armand Mijares, an archaeologist at the University of the Philippines Diliman who was not involved in the study, tells *Nature News* that more evidence is needed to confirm that these early humans migrated through the region, as opposed to evolving from local populations.

Other fossil finds from around the world have also complicated the

narrative of a human migration out of Africa roughly 50,000 years ago. Scientists have dated fossils from caves in Greece and Israel to 210,000 and 180,000 years ago, respectively, and in China, a number of early human fossils have been dated to between 70,000 and 127,000 years ago, though these dates are more uncertain.

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Will Sullivan is a science writer based in Washington, D.C. His work has appeared in *Inside Science* and *NOVA Next*.

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