

Cave Paintings in Indonesia Redraw Picture of Earliest Art

The dating discovery recasts ancient cave art as a continent-spanning human practice.



Cave paintings on the Indonesian island of Sulawesi were found more than 50 years ago, but until now the dates of origin were not known. The art shown here has not been dated, but is stylistically similar to other art in the area now found to be around 40,000 years old.

Photograph by Maxime Aubert, Griffith University, Australia

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[National Geographic](#)

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A hand painted in an Indonesian caves dates to at least 39,900 years ago, making it among the oldest such images in the world, archaeologists reported Wednesday in a study that rewrites the history of art.

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The discovery on the island of [Sulawesi](#) vastly expands the geography of the first cave artists, who were long thought to have appeared in prehistoric Europe around that time. [Reported in the journal *Nature*](#), the cave art includes stencils of hands and a painting of a babirusa, or "pig-deer," which may be the world's oldest figurative art. (Related: ["Mysteries of Prehistoric Rock Art Probed."](#))

"Overwhelmingly depicted in Europe and Sulawesi were large, and often dangerous, mammal species that possibly played major roles in the belief systems of these people," archaeologist and study leader [Maxime Aubert](#) of Griffith University in Queensland, Australia.

The finds from the Maros cave sites on Sulawesi raise the possibility that such art predates the exodus of modern humans from Africa 60,000 or more years ago. (Related: ["The Human Journey: Migration Routes."](#))

"I predict that even older examples of cave art will be discovered on Sulawesi, and in mainland Asia, and ultimately in our African homeland," says human origins expert [Chris Stringer](#) of the Natural History Museum in London, who was not on the study team.



Photograph by Maxime Aubert, Griffith University



The oldest dated hand stencil in the world (upper right) and possibly the oldest figurative depiction in cave art—a female babirusa (a hoglike animal also called a pig-deer)—were found in Leang Timpuseng cave in Sulawesi, an island east of Borneo.
NGM ART. Source: M. Aubert, et al., 2014, *Nature*.

Oldest Art

Since the 1950s, scholars have reported hundreds of hand stencils and images of animals in caves on Sulawesi, which were assumed prehistoric but thought to be no more than 12,000 years old, dating to a hunter-gatherer migration to the island. (Related: "[Hands Across Time: Exploring the Rock Art of Borneo](#).")

In the new study, the researchers investigated mineral layers less than 0.4 inches (10 millimeters) thick covering images in seven caves, and in some cases sandwiching them. Trace amounts of radioactive uranium in these mineral layers reveal when water carried the minerals over the cave wall. Finding the ages of these deposits narrows down the time when the images were painted. (Related: ["Radiocarbon Dating."](#))

The age discovered for the oldest hand stencil in the cave—39,900 years old—is therefore merely the minimum age of the minerals coating the image, meaning the art could be thousands of years older.

A red disk painted in Spain's [El Castillo cave](#) is at least 40,800 years old according to the same dating method, making it the oldest known cave art, and a hand stencil there is 37,300 years old. The Sulawesi cave paintings rival these finds in age and appear to belong to a tradition that persisted there as recently as 17,000 years ago.

"We've been shown here that our views have been too 'Euro-centric' about the origins of cave painting," says archaeologist [Alistair Pike](#) of the University of Southampton in the United Kingdom. "Absolutely this changes our views, and is going to make us ask a lot of questions about the causes rather than the origins of cave art."



The Panel of Hands in El Castillo cave in northern Spain contains a red disk, center, that is dated to be older than 40,800 years, making it the oldest cave art in Europe. The hands and red disks were made by blowing or spitting paint onto the wall.

Photograph by João Zilhão, ICREA/University of Barcelona

Out of Africa?

In 1880, prehistoric paintings found inside Spain's [cave of Altamira](#) galvanized experts and began the study of cave paintings. Hundreds more such sites have turned up in Europe in the past century.

As site after site was found in Europe, the view emerged that modern people must have arrived there from Africa and undergone a cultural shift as they competed with [Neanderthals](#) for prey and for caves. (Related: "[Newly Discovered Engraving May Revise Picture of Neanderthal Intelligence.](#)")

Instead, the newly discovered cave painting suggests that art may have been universal among early modern people, including those who left Africa and traveled across southern Arabia to Indonesia and Australia within the past 50,000 years. (Related: "[Migration to Australia.](#)")

Cave art may have left Africa with early modern humans, the study authors suggest, or possibly it sprang up independently among different groups. The earliest examples of other kinds of art are even older, such as decorative perforated shell beads and pigments that date to more than 75,000 years ago.

"Certainly making hand stencils seems a universal human practice," Pike says. Hands are seen in caves and archaeological sites worldwide, even [one in Argentina](#) dating to 9,000 years ago. "Children love to make handprints, even today."

Or art may have served as a kind of social glue. Modern humans migrating out of Africa and facing new habitats, predators, and competition might have needed to travel in larger groups, spurring a need for art as part of the cultural fabric. "One way to display rituals and symbols is with cave art," he says.