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Humanity’s oldest known cave art has been discovered in Sulawesi

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New research reveals that the oldest known cave art, dating back at least 67,800 years, has been discovered in Sulawesi, Indonesia. This groundbreaking finding challenges previous notions about the origins of human creativity and symbolic expression.

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When we think of the world's oldest art, Europe usually comes to mind, with famous cave paintings in France and Spain often seen as evidence this was the birthplace of symbolic human culture. But new evidence from Indonesia dramatically reshapes this picture.

Our research, published today in the journal Nature, reveals people living in what is now eastern Indonesia were producing rock art significantly earlier than previously demonstrated.

These artists were not only among the world's first image-makers, they were also likely part of the population that would eventually give rise to the ancestors of Indigenous Australians and Papuans.

A hand stencil from deep time

The discovery comes from limestone caves on the island of Sulawesi. Here, faint red hand stencils, created by blowing pigment over a hand pressed against the rock, are visible on

cave walls beneath layers of mineral deposits.

By analysing very small amounts of uranium in the mineral layers, we could work out when those layers formed. Because the minerals formed on top of the paintings, they tell us the youngest possible age of the art underneath.

In some cases, when paintings were made on top of mineral layers, these can also show the oldest possible age of the images.

The oldest known rock art to date – 67,800-year-old hand stencils on the wall of a cave. Supplied

One hand stencil was dated to at least 67,800 years ago, making it the oldest securely dated cave art ever found anywhere in the world.

This is at least 15,000 years older than the rock art we had previously dated in this region, and more than 30,000 years older than the oldest cave art found in France. It shows humans were making cave art images much earlier than we once believed.

Photograph of the dated hand stencils (a) and digital tracing (b); ka stands for 'thousand years ago'. Supplied

This hand stencil is also special because it belongs to a style only found in Sulawesi. The tips of the fingers were carefully reshaped to make them look pointed, as though they were animal claws.

Altering images of human hands in this manner may have had a symbolic meaning, possibly connected to this ancient society's understanding of human-animal relations.

In earlier research in Sulawesi, we found images of human figures with bird heads and other animal features, dated to at least 48,000 years ago. Together, these discoveries suggest that early peoples in this region had complex ideas about humans, animals and identity far back in time.

Narrowed finger hand stencils in Leang Jarie, Maros, Sulawesi. Adhi Agus Oktaviana

Not a one-off moment of creativity

The dating shows these caves were used for painting over an extraordinarily long period. Paintings were produced repeatedly, continuing until around the Last Glacial Maximum about 20,000 years ago – the peak of the most recent ice age.

After a long gap, the caves were painted again by Indonesia's first farmers, the Austronesian-speaking peoples, who arrived in the region about 4,000 years ago and added new imagery over the much older ice age paintings.

This long sequence shows that symbolic expression was not a brief or isolated innovation. Instead, it was a durable cultural tradition maintained by generations of people living in Wallacea, the island zone separating mainland Asia from Australia and New Guinea.

Adhi Agus Oktaviana illuminating a hand stencil. Max Aubert

What this tells us about the first Australians

The implications go well beyond art history.

Archaeological and genetic evidence suggests modern humans reached the ancient continent of Sahul, the combined landmass of Australia and New Guinea, by around 65,000 to 60,000 years ago.

Getting there required deliberate ocean crossings, representing the earliest known long-distance sea voyages undertaken by our species.

Researchers have proposed two main migration routes into Sahul. A northern route would have taken people from mainland Southeast Asia through Borneo and Sulawesi, before crossing onward to Papua and Australia. A southern route would have passed through Sumatra and Java, then across the Lesser Sunda Islands, including Timor, before reaching north-western Australia.

The proposed modern human migration routes to Australia/New Guinea; the northern route is delineated by the red arrows, and the southern route is delineated by the blue arrow. The red dots represent the areas with dated Pleistocene rock art. Supplied

Until now, there has been a major gap in archaeological evidence along these pathways. The newly dated rock art from Sulawesi lies directly along the northern route, providing the oldest direct evidence of modern humans in this key migration corridor into Sahul.

In other words, the people who made these hand stencils in the caves of Sulawesi were very likely part of the population that would later cross the sea and become the ancestors of Indigenous Australians.

Rethinking where culture began

The findings add to a growing body of evidence showing that early human creativity did not emerge in a single place, nor was it confined to ice age Europe.

Instead, symbolic behaviour, including art, storytelling, and the marking of place and identity, was already well established in Southeast Asia as humans spread across the world.

Shinatria Adhityatama working in the cave. Supplied

This suggests that the first populations to reach Australia carried with them long-standing cultural traditions, including sophisticated forms of symbolic expression whose deeper roots most probably lie in Africa.

The discovery raises an obvious question. If such ancient art exists in Sulawesi, how much more remains to be found?

Large parts of Indonesia and neighbouring islands remain archaeologically unexplored. If our results are any guide, evidence for equally ancient, or even older, cultural traditions may still be waiting on cave walls across the region.

As we continue to search, one thing is already clear. The story of human creativity is far older, richer and more geographically diverse than we once imagined.

The research on early rock art in Sulawesi has been featured in a documentary film, Sulawesi l'île des premières images produced by ARTE and released in Europe today.

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