Neanderthals may be creators of Europe's oldest cave art

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News

Neanderthals may be creators of Europe's oldest cave art

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A painting of a red disc at El Castillo cave in northern Spain was made at least 40,800 years ago, making it the oldest known cave art in Europe, say researchers.

The Corridor of Disks, El Castillo Cave, Cantabria, Spain. The disks have been dated to between 34,000 and 36,000 years old.

The UK-led team also dated a hand stencil painting in the same cave to at least 37,300 years old. And a club-like symbol in Altamira cave – the so-called Sistine Chapel of the Palaeolithic – on the northern coast of Spain is at least 35,600 years old.

The findings reveal that the practice of decorating caves with paintings began in Europe 10,000 years earlier than previously thought. The oldest known cave painting until now was in the Chauvet cave in southern France.

Modern humans are thought to have first appeared in Europe between 41,000 and 42,000 years ago. So the paintings may have been created by modern humans. But the researchers say it's just as possible they were made by Neanderthals.

'These paintings coincide with the arrival of anatomically modern humans in Europe. They may have been painted by them, but it's not beyond the realms of possibility for them to have been created by Neanderthals that already existed in Europe,' says Dr Alistair Pike from the University of Bristol, lead author of the study, published in *Science*.

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> **Dr Alistair Pike from the University of Bristol**

The hand stencils and discs seem to be have been made by blowing paint onto the wall.

Art is considered an important marker for the evolution of modern cognition and symbolic behavior, and may be associated with the development of language. So, if Neanderthals were capable of this level of artistic expression, it suggests they may have been more competent than previously assumed.

'Cave painting may have started before the arrival of modern humans. That would be a fantastic find, because it would mean the hand stencils on the walls of the caves are outlines of Neanderthals' hands,' says Pike.

Pike says he and his team would need to date more paintings to see if this is true.

Scientists have studied Palaeolithic cave art for more than a century. Despite this, identifying an accurate date for these paintings had eluded scientists.

'The problem is that many cave paintings are made using ochre, so they don't have any organic pigment that we can date using traditional radiocarbon dating techniques. Where suitable examples do exist, only tiny samples can be taken to avoid damaging the art,' Pike explained. Not just that, but contamination is a constant problem.

So, Pike and a team of Spanish and UK researchers used a different technique to date fifty paintings in 11 caves in northern Spain, including the UNESCO World Heritage sites of El Castillo, Altamira and Tito Bustillo.

University of Bristol researchers removing samples from paintings for dating from the Main Panel in Tito Bustillo Cave, Asturias.

Instead of dating the paintings themselves, they analysed carbonate deposits called flowstones, which are like stalactites and stalagmites that formed over the paintings.

The method uses a technique called uranium series dating. Scientists measure the balance between a uranium isotope and the form of thorium it decays into to get an accurate date. The development means they can date tiny samples of flowstone that weigh as little as 10 milligrams – the same as a grain of rice.

In some cases, the team managed to get the oldest possible ages for paintings that had been made on top of flowstones over which newer flowstones had grown over. 'But these examples are very rare indeed,' says Pike.

Because the technique identifies the minimum age for the paintings, they could actually be much older.

'Flowstones could form on top of these paintings anywhere from 20 to 20,000 years after they were made,' Pike explains. If this is true, the possibility that Neanderthals made them rises. But to find out, Pike and his team will need to go back and focus on dating hand prints and discs from other caves.

The study was funded by the Natural Environment Research Council.

SOURCE [1]

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