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## Stone axe found in the Kimberley rewrites evolution of stone tools

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**MICHAEL BRISENDEN:** A small fragment of rock discovered in Western Australia has re-written archaeologists' understanding of the evolution of stone tools.

The sliver of basalt found in the Kimberley is from an ancient stone axe.

Research published today has found it was crafted by the first Australians 49,000 year ago.

The discovery makes it the oldest-known axe in history and places Aboriginal people as the tool's inventors.

Anthony Stewart reports.

**ANTHONY STEWART:** A thumbnail sized piece of polished rock is all that remains of one of the world's most ancient tools.

**PETER HISCOCK:** We discovered the world's oldest polished axe, and the important point about the axe is it is about 49,000 years old and that is about the same time as humans reach Australia. So we have evidence for the invention of this new technology as people begin to explore the new Australian landscape.

**ANTHONY STEWART:** The fragment was found at an archaeological dig in the far north of Western Australia at Carpenter's Gap in the Kimberley.

Using a high powered microscope, a team of archaeologists confirmed it was chip off the face of an ancient axe.

Professor Peter Hiscock from Sydney University used carbon dating to calculate its age.

**PETER HISCOCK:** We can't date bits of stone directly, so what we do in these situations is that we date a piece of bone that was buried at the same time at the axe, and we date it using radio carbon analysis. And that's what we've done in this instance.

And the bone was 46 to 49,000 years old. That's how long ago the animal died and it was buried at the same time as the axe, so therefore the axe is the same age.

**ANTHONY STEWART:** Has an axe of this age ever been discovered before?

**PETER HISCOCK:** No, it hasn't. This is the oldest one in the world.

We have axes in Australia that have been in excess of 34-35,000 years ago, and in Japan they have axes that are about same age as the arrival of humans - so around about 40,000 years old.

So they are nowhere near as old as this.

**ANTHONY STEWART:** The tiny fragment was originally collected in 1991 but was overlooked until last year.

Professor Sue O'Connor from ANU led the original archaeological dig but only spotted the historic find after re-examining the contents.

**SUE O'CONNOR:** At the time we only dated actually analysed the big stone artefacts and the fauna from the site and got radio carbon dates. But we didn't go through all of those small components that we had excavated.

So it was in the process of reanalysing this material and found these flakes, which had been overlooked before, and we were able to redate the assemblage and get much, much better radio carbon dates.

**ANTHONY STEWART:** The discovery challenges a historic assumption that Australia's earliest inhabitants were limited to simple technology.

**SUE O'CONNOR:** The significance is it shows that when people first got to Australia about 45 to 50,000 years ago, they were able to innovative this tools in the face of the environments they found.

And this shows us they are much more complex in character than the way they are usually type cast.

**PETER HISCOCK:** There is no doubt that the first inhabitants of Australia were the ancestors of Aboriginal people, and we now have evidence that they were inventors of axes.

**ANTHONY STEWART:** The team's research has been published in the Journal of Australian Archaeology.

**MICHAEL BRISSENDEN:** Anthony Stewart reporting.