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Cutting-edge technology. A stone core (*lower left*) and three of the recently found blades.

CREDIT: CARA ROURE JOHNSON AND SALLY MCBREARTY/UNIVERSITY OF CONNECTICUT

Oldest Stone Blades Uncovered

By Ann Gibbons
 ScienceNOW Daily News
 2 April 2009

CHICAGO, ILLINOIS--Paleoanthropologists working in Africa have discovered stone blades more than a half-million years old. That pushes the date of the earliest known blades back a remarkable 150,000 years and raises a question: What human ancestor made them?

Not long ago, researchers thought that blades were so hard to make that they had to be the handiwork of modern humans, who had evolved the mental wherewithal to systematically strike a cobble in the right way to produce blades and not just crude stone flakes. First, they were thought to be a hallmark of the late Stone Age, which began 40,000 years ago. Later, blades were thought to have emerged in the Middle Stone Age, which began about 200,000 years ago when modern humans arose in Africa and invented a new industry of more sophisticated stone tools. But this view has been challenged in recent years as researchers discovered blades that dated to 380,000 years in the Middle East and to almost 300,000 years ago in Europe, where Neandertals may have made them ([ScienceNOW](#), 1 December 2008).

Now it appears that more than 500,000 years ago, human ancestors living in the Baringo Basin of Kenya collected lava stone cobbles from a riverbed and hammered them in just the right way to produce stone blades. Paleoanthropologists Cara Roure Johnson and Sally McBrearty of the University of Connecticut, Storrs, recently discovered the blades at five sites in the region, including two that date to between 509,000 and 543,000 years ago. "This is the oldest known occurrence of blades," Johnson reported Wednesday here at the annual meeting of the Paleoanthropology Society.

Johnson and McBrearty found the stone blades in a basalt outcrop known as the Kapthurin Formation, including four cores from which the blades were struck. "These assemblages would have been made by a different species of human," Johnson said. "Who were they?" The blades come from the same part of the formation where researchers have found two lower jaws that have been variously described as belonging to *Homo heidelbergensis* or *H. rhodesiensis*, human ancestors in Europe and Africa that predate the origin of our species, *H. sapiens*.

Regardless of the identity of the toolmakers, other researchers say that the discovery of blades this early suggests that these toolmakers were capable of more sophisticated behavior than previously thought, perhaps as a result of the last dramatic expansion of brain size in the human lineage about 600,000 years ago. "It's reflective of a major shift in human cognition," says Alison Brooks, a paleoanthropologist at George Washington University in Washington, D.C.

To convince most researchers that such a dramatic breakthrough really took place so early in human evolution, however, anthropologists will have to find more blades this ancient, says paleoanthropologist Rick Potts of the Smithsonian Institution in Washington, D.C. Stay tuned: The search is already under way for more African blade runners.

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