

Moroccan fossil find rearranges Homo sapiens family tree

June 8 2017, by Mari ette Le Roux



French paleoanthropologist Jean-Jacques Hublin, who led research on an exciting fossil discovery in Morocco, says the resulting findings see a move "further and further away" from "a linear vision of human evolution with a succession of species"

This week's unveiling of the oldest-known Homo sapiens remains has painted an excitingly chaotic picture of what Earth was like 300,000 years ago—bustling with hominin species that included a very early

version of our own, experts say.

The story of [human evolution](#), this shows, does not follow a straight line from monkey to ape-man to architect.

Rather than emerging from a single "Garden of Eden" 200,000 years ago before spreading throughout Africa and the world, early modern humans were already scattered across the Mother Continent a hundred millennia earlier.

Even then, homo sapiens were living in distinct groupings that met occasionally, trading technology and genes.

They also rubbed shoulders with rival Homo [species](#), which may have included their own direct ancestor, according to analysis of the sensational findings.

Africa, at the time, would have resembled "a kind of human zoo", said Jean-Jacques Hublin of the Max Planck Institute for Evolutionary Anthropology, who led the research on five human fossils from Jebel Irhoud in Morocco.

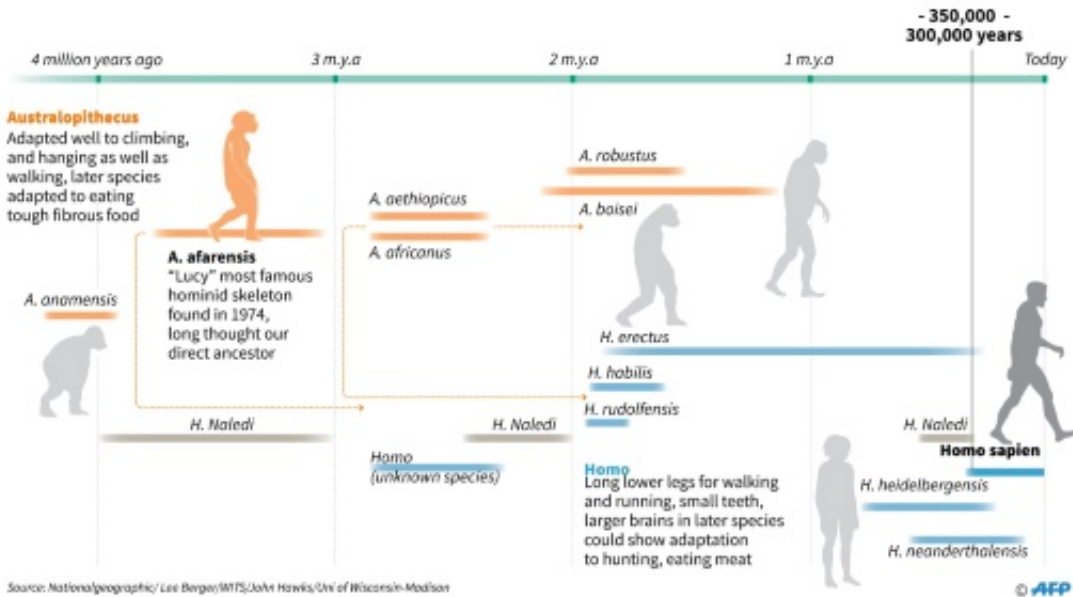
"We are moving further and further away from this linear vision of human evolution with a succession of species, one replacing the other," he said.

"There were probably several groups of hominins existing, overlapping in time... and having, I would say, complex relationships."

[Two studies published in the journal *Nature* on Wednesday](#), extended our species' recorded existence by a third, from 200,000 to 300,000 years ago, and torpedoed the long-held theory that we emerged from an East African "cradle of humankind."

Discovery of the oldest Homo sapiens

Traces of Homo sapiens found in Morocco add 100,000 years to the origins of our species



Graphic showing timeline relating to the discovery of the oldest Homo sapiens

"The origin of our species likely involved numerous populations spread across Africa with periodic gene flow between them," said Matthew Skinner of the University of Kent's School of Anthropology, who did not take part in the study.

For Lawrence Barham of the University of Liverpool, the dating of the Moroccan site helps us to see our species more clearly in time and in space.

The previous oldest Homo sapiens remains ever found, in Ethiopia, were 195,000 years old.

"An earlier date of 300,000 years is significant from the perspective of human evolution in Africa itself, where Homo sapiens may have co-

existed with at least two other species—*Homo heidelbergensis* and *Homo naledi*," Barham commented.

Who taught whom?

Many scientists hypothesise that the large-brained *H. heidelbergensis* was the common ancestor from which *H. sapiens* and our cousins the Neanderthals split around half-a-million years ago.

Contemporary *H. naledi* had a smaller brain and retained some ape-like features—it likely climbed trees as well as made tools.

Now the question arises: did these different African species compete?

"Or did each have its own niche enabling them to coexist?" asked Barham.



French paleoanthropologist Jean-Jacques Hublin and Abdelouahed Ben-Ncer of Morocco's National Institute of Archaeology and Heritage Sciences in Morocco mull research which has advanced human origins by a hundred millennia, undermining previous scientific consensus that our forefathers emerged in East Africa about 200,000 years ago

Another unknown is when our species started encountering members of Homo groups from further afield—Neanderthals from Europe and Denisovans in Asia, for example.

The new findings, Barham told AFP, "raises the possibility that there may have been even earlier movements of Homo sapiens out of Africa."

The consensus today is that our species left Africa about 80,000-100,000 years ago.

At the time that Hublin's ancient Moroccans were hunting and cooking gazelle and zebra meat not far from modern-day Marrakesh, Africa was a very different place—easier to navigate on foot.

For long periods between 330,000 and 300,000 years ago, the desert was replaced by a greener, more hospitable landscape.

According to the research team, the discovery means that Homo sapiens—not members of a rival or ancestor species—were the ones who left behind Middle Stone Age hand tools that have since been unearthed all over Africa.

As our species was previously thought to be much younger, it was not considered plausible that they could have made these implements.

For Barham, the new dates will revive a theory that Neanderthals learnt tool-making from Homo sapiens, not the other way round.

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