

Fossil connects human evolution dots

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WASHINGTON (AP) -- The latest fossil unearthed from a human ancestral hot spot in Africa allows scientists to link together the most complete chain of human evolution so far.

The 4.2 million-year-old fossil discovered in northeastern Ethiopia helps scientists fill in the gaps of how human ancestors made the giant leap from one species to another.

That's because the newest fossil, the species *Australopithecus anamensis*, was found in the region of the Middle Awash -- where seven other human-like species spanning nearly 6 million years and three major phases of human development were previously discovered.

"We just found the chain of evolution, the continuity through time," study co-author and Ethiopian anthropologist Berhane Asfaw said in a phone interview from Addis Ababa. "One form evolved to another. This is evidence of evolution in one place through time."

The findings were reported Thursday in the scientific journal *Nature*.

The species *anamensis* is not new, but its location is what helps explain the shift from one early phase of human-like development to the next, scientists say. All eight species were within an easy day's walk of each other.

Until now, what scientists had were snapshots of human evolution scattered around the world. Finding everything all in one general area makes those snapshots more of a mini home movie of evolution.

"It's like 12 frames of a home movie, but a home movie covering 6 million years," said study lead author Tim White, co-director of Human Evolution Research Center at University of California at Berkeley.

"The key here is the sequences," White said. "It's about a mile thickness of rocks in the Middle Awash and in it we can see all three phases of human evolution."

Modern man belongs to the genus *Homo*, which is a subgroup in the family of hominids. What evolved into *Homo* was likely the genus *Australopithecus* (once called "man-ape"), which includes the famed 3.2 million-year-old "Lucy" fossil found three decades ago.

A key candidate for the genus that evolved into *Australopithecus* is called *Ardipithecus*. And Thursday's finding is important in bridging -- but not completely -- the gap between *Australopithecus* and *Ardipithecus*.

In 1994, a 4.4 million-year-old partial skeleton of the species *Ardipithecus ramidus* -- the most recent *Ardipithecus* species -- was found about six miles from the latest discovery.

"This appears to be the link between *Australopithecus* and *Ardipithecus* as two different species," White said. The major noticeable difference between the phases of man can be seen in *Australopithecus*' bigger chewing teeth to eat harder food, he said.

While it's looking more likely, it is not a sure thing that *Ardipithecus* evolved into *Australopithecus*, he said. The finding does not completely rule out *Ardipithecus* dying off as a genus and *Australopithecus* developing independently.

The connections between *Ardipithecus* and *Australopithecus* have been theorized since an *anamensis* fossil was first found in Kenya 11 years ago. This draws the lines better, said Alan Walker of Penn State University, who found the first *anamensis* and is not part of White's team.

Rick Potts, director of the Smithsonian's Human Origins Program, agreed: "For those people who are tied up in doing the whole human family tree, being able to connect the branches is a very important thing to do."