

‘The notion of humankind’s African origins unifies researchers’: Human evolution is like a braided stream, fossil and DNA evidence suggests

In a field with a reputation for bitter feuds and rivalries, the notion of humankind’s African origins unifies human evolution researchers. “I think everybody agrees and understands that Africa was very pivotal in the evolution of our species,” says Charles Musiba, a paleoanthropologist at the University of Colorado Denver.

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But human evolution was not a gradual, linear process, as it appeared to be in the 1940s and ’50s. It did not consist of a nearly unbroken chain, one hominin evolving into the next through time. Fossil discoveries in the ’60s and ’70s revealed a bushier family tree, with many dead-end branches.

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Over the last decade, as genetic and fossil revelations have painted a more complex picture of human origins, paleoanthropologists have moved beyond both the multiregional and simple Out of Africa scenarios.

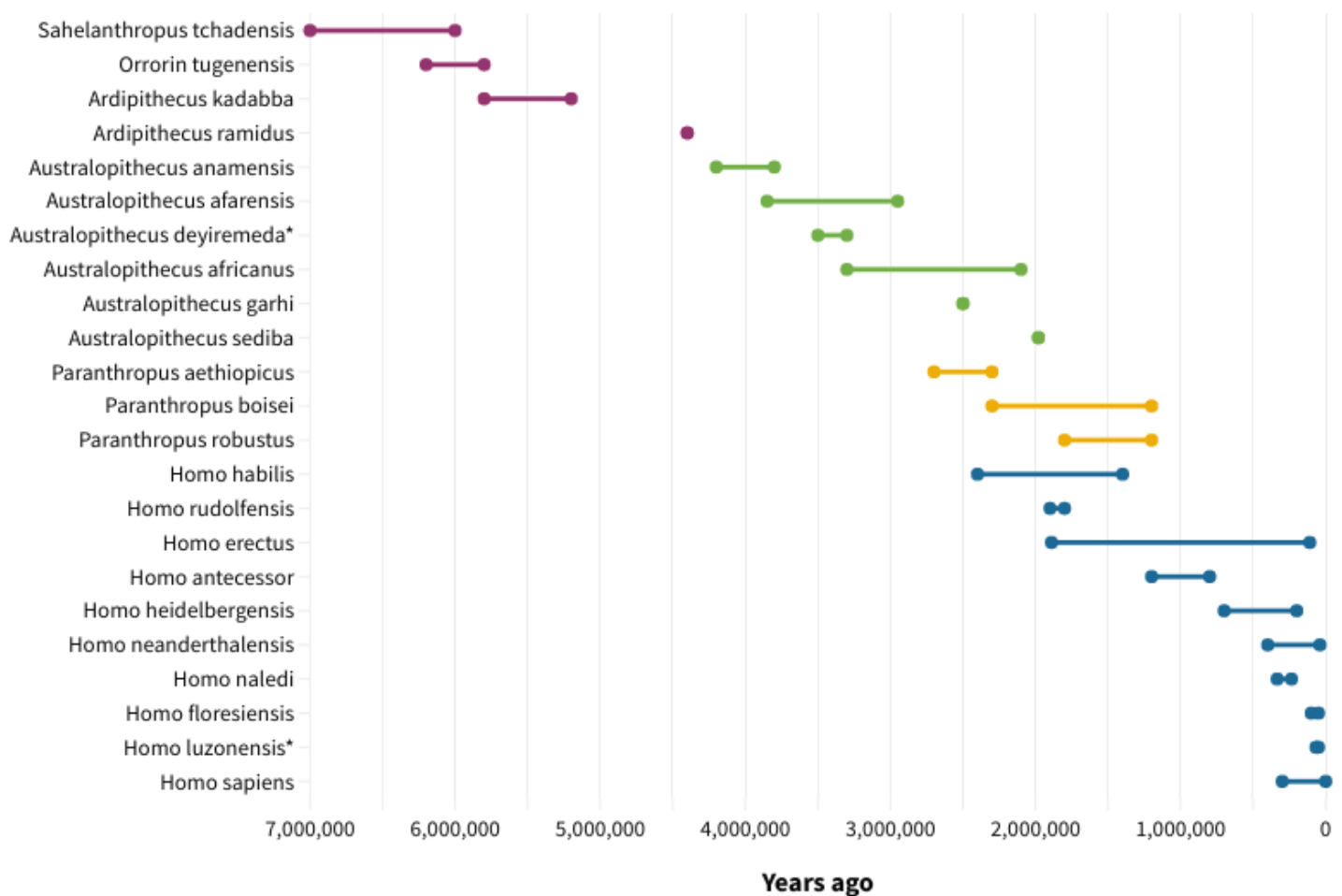
Rather than a tree with separate branches or a trellis, human evolution was probably more like a braided stream, a concept traced to paleoanthropologist Xinzhi Wu of the Chinese Academy of Sciences in Beijing, who used a river metaphor to describe patterns of human evolution in China.

Different human populations may have emerged, with some floating away and petering out and others connecting to varying degrees.

All in the family

Fossil finds suggest that many hominin species have lived over the last 7 million years (dates for each species are based on those finds), though researchers debate the validity of some of these classifications. The earliest purported hominins (purple) show some signs of upright walking, which became more routine with the rise of *Australopithecus* (green). Seemingly short-lived *Paranthropus* (yellow) was adapted for heavy chewing, and brain size began to increase in *Homo* species (blue).

Hominin species across time



*Recently proposed species

Sources: Smithsonian Institution's Human Origins Program, Y. Haile-Selassie *et al/Nature* 2015, R. Pickering *et al/Science* 2011, Australian Museum, F. D  troit *et al/Nature* 2019

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