

Fossil find adds three million years to oldest known old-world monkey

19 March 2013, by Bob Yirka



Skeleton of *Paracolobus chemeroni*, a fossil monkey. *Paracolobus* is an extinct genus of primate in the Colobini tribe, which also contains the living colobus monkeys. It lived in eastern Africa in the early to late Pliocene. This picture is not from the current *PNAS* research. Credit: American Museum of Natural History

(Phys.org) —Researchers from the United States have identified fossilized remains found in Kenya seven years ago, as those belonging to an old-world monkey (*Cercopithecoidea*) and relative of modern proboscis and colobus monkeys—they date back to a time 3 million years before any other previous find of its kind. In their paper published in *Proceedings of the National Academy of Sciences*, the team describes the fossils as two teeth—a molar and a premolar—enough to identify its owner as a member of a group of old-world monkeys of the Cercopithecoidea superfamily.

Old-world monkeys are a group of [primates](#) that include monkeys that evolved in Africa and Asia (as opposed to new-world monkeys that evolved in the Americas, etc.) One of their distinguishing features is that unlike new-world monkeys, their

tails are not prehensile. They are believed to have emerged as a group during the [Miocene epoch](#), a period that lasted from 5 to 23 million years ago. The newly identified fossils have been found to be approximately 12.5 million years old and were found in 2006 at a site in Tugen Hills, Kenya. The researchers believe that at the time the monkey was alive, the place where it lived was grassland.

The researchers have identified the [fossilized teeth](#) as coming from one or two colobine monkeys—their modern counterparts include [proboscis](#) (known for their large oddly shaped nose) and the colobus, which actually looks similar to a skunk. They believe the monkey weighed about ten pounds and based on the look of the teeth, ate mostly seeds and perhaps unripe fruit, rather than leaves—the main component of the diet of modern similar monkeys. This suggests, they say, that the evolution of a more advanced gut was underway that would lead to an ability to digest leaves. It also offers clues that might hint at the competition that likely existed between the colobine monkeys and other archaic primates, which subsequently resulted in some of those other species going extinct.

The identification of the fossils is helping to answer some of the questions scientists have about the origin of old-world monkeys and how they diversified as so few of their fossilized remains have been found.

More information: Early cercopithecoid monkeys from the Tugen Hills, Kenya, *PNAS*, Published online before print March 18, 2013, [doi: 10.1073/pnas.1213691110](#)

Abstract

The modern Old World Monkeys (Superfamily Cercopithecoidea, Family Cercopithecidae) can be traced back into the late Miocene, but their origin and subsequent diversification is obscured by the scarcity of terrestrial fossil sites in Africa between

15 and 6 Ma. Here, we document the presence of cercopithecids at 12.5 Ma in the Tugen Hills of Kenya. These fossils add 3 My to the known antiquity of crown Cercopithecidae. The two specimens represent one or possibly two species of early colobine, and their morphology suggests that they were less folivorous than their modern relatives.

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