

Chimpanzees have not entered the stone age

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Chimpanzees use various tools, but sharp stone tools are not among them. Credit: Kevin Langergraber

Unlike early human species, chimpanzees do not seem to be able to spontaneously make and use sharp stone tools, even when they have all the materials and incentive to do so. That was the finding of a study of a total of eleven chimpanzees at a zoo in Kristiansand, Norway, and

Chimfunshi Wildlife Orphanage, a sanctuary in Zambia. The study was conducted by Dr. Elisa Bandini and Dr. Alba Motes-Rodrigo of the University of Tübingen as part of the STONECULT project led by Dr. Claudio Tennie and funded by the European Research Council. The study, which Tennie co-led with Dr. Shannon McPherron of the Max Planck Institute for Evolutionary Anthropology in Leipzig, Germany, has been published in the ERC-journal *Open Research Europe*.

"We know of sharp-edged [stone](#) tools made by [early humans](#) from at least 2.6 million years ago—at the beginning of the stone age," says Elisa Bandini. The research team wanted to find out whether chimpanzees—one of the closest living relatives of humans—also possess the spontaneous ability to make such tools. "This had previously been tested exclusively on great apes that had been enculturated or trained by humans and had been shown manufacturing techniques by humans," says Alba Motes-Rodrigo.

A development in human evolution

In the new experiments untrained (unenculturated) chimpanzees were given two different sealed containers that contained food—visible through a Plexiglas pane. But they could only get at it by making sharp stone tools. They were given a stone core and hammer stones to knock sharp-edged stones off this core. Unlike in all previous studies, the apes tested were not given the opportunity to learn how to make such tools by observation. "Although the chimpanzees likely understood that the containers contained food and although they were also clearly motivated to get their hands on the food rewards, none of the animals in the test even attempted to make sharp stone tools," notes Claudio Tennie. The research team concludes that chimpanzees do not have this spontaneous ability. "They can probably only learn this after close contact with humans and/or through observation," says Tennie, adding that "they have not entered the stone age".

The lineages of humans and apes separated about seven million years ago. The ability to make and use sharp [stone tools](#) probably developed in humans long after this separation, the research team says. It requires a set of skills that developed during the evolution of our [human](#) ancestors, they say.

More information: Elisa Bandini et al, Naïve, unenculturated chimpanzees fail to make and use flaked stone tools, *Open Research Europe* (2021). [DOI: 10.12688/openreseurope.13186.2](https://doi.org/10.12688/openreseurope.13186.2)

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