

# Researchers identify a variety of chimpanzee stone tools for cracking different nut species

September 20 2022

---



Female chimpanzee cracking *Panda oleosa* nuts using a granodiorite hammerstone on a wooden (panda tree root) anvil. Credit: © Liran Samuni, Tai Chimpanzee Project

During fieldwork aimed at documenting the stone tool use of a group of wild chimpanzees in the Tai Forest in Cote d'Ivoire in early 2022, the

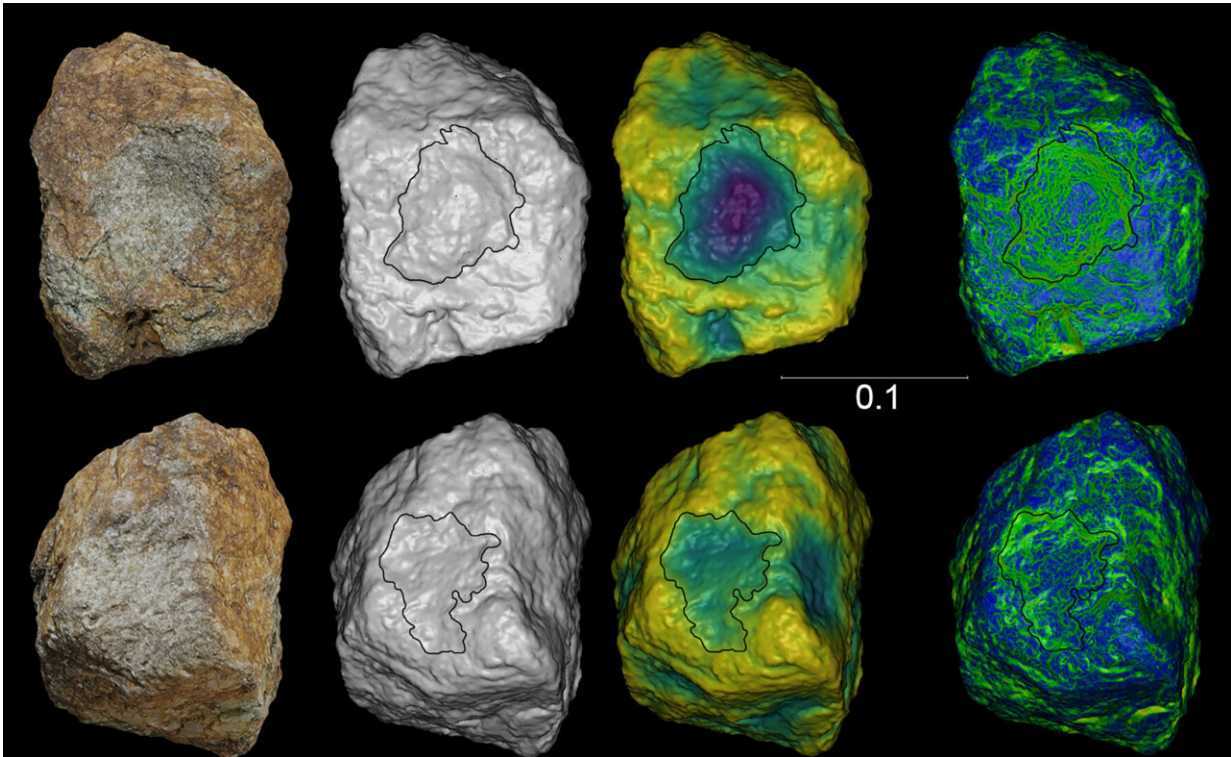
researchers identified and 3D-scanned a variety of stone tools used to crack different nut species. Their study is now published in *Royal Society Open Science*.

It has long been shown that various chimpanzee groups possess different tool use cultures involving wooden and [stone tools](#); however, only some groups in West Africa use stone tools to crack open nuts. By comparing the 3D models of different stone tools used by [chimpanzees](#) in the Taï Forest to those from another group in Guinea, the researchers showed that there exist notable differences between the two groups in terms of their material culture.

The study shows that this particular group of chimpanzees in Guinea uses stone hammers varying in the type of stone and sizes, and very large stone anvils, sometimes greater than one meter in length. These durable stone tools are widespread across the landscape; they preserve different levels of damage related to their use and represent a lasting record of chimpanzee behaviors.

## **Stone tools used for nut cracking can differ between chimpanzee groups**

This study highlights the fact that although several groups of chimpanzees practice nut cracking, the tools they use can differ significantly from one another, potentially leading to group-specific material signatures. These differences are driven by a combination of stone choice, stone availability, and the nut species eaten.



Examples of chimpanzee hammerstones from Djouroutou, Cote d'Ivoire; illustrating their textured surface, three-dimensional surface, surface depth and surface gradient. Credit: © Tomos Proffitt

Previous research has shown that by using stone tools, some groups of chimpanzees develop their own archaeological record dating to at least 4,300 years ago. "The ability to identify regional differences in stone tool material culture in primates opens up a range of possibilities for future primate archaeological studies," says Tomos Proffitt from the Max Planck Institute of Evolutionary Anthropology, who led the research.

It has been hypothesized that a simple technology, like nut cracking, was a precursor to more complex stone technologies during the early stages of our own evolution more than three million years ago. Proffitt

continues, "By understanding what this simple stone tool technology looks like, and how it varies between groups, we can start to understand how to better identify this signature in the earliest hominin [archaeological record](#)."

**More information:** Identifying functional and regional differences in chimpanzee stone tool technology, *Royal Society Open Science* (2022).

[DOI: 10.1098/rsos.220826](#).

[royalsocietypublishing.org/doi/10.1098/rsos.220826](https://royalsocietypublishing.org/doi/10.1098/rsos.220826)

Provided by Max Planck Society

Citation: Researchers identify a variety of chimpanzee stone tools for cracking different nut species (2022, September 20) retrieved 26 April 2024 from

<https://phys.org/news/2022-09-variety-chimpanzee-stone-tools-nut.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.