

New evidence of culture in wild chimpanzees

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A new study of chimpanzees living in the wild adds to evidence that our closest primate relatives have cultural differences, too. The study, reported online on October 22nd in *Current Biology* shows that neighboring chimpanzee populations in Uganda use different tools to solve a novel problem: extracting honey trapped within a fallen log.

Kibale Forest [chimpanzees](#) use sticks to get at the honey, whereas Budongo Forest chimpanzees rely on leaf sponges—absorbent wedges that they make out of chewed leaves.

"The most reasonable explanation for this difference in tool use was that chimpanzees resorted to preexisting cultural knowledge in trying to solve the novel task," said Klaus Zuberbühler of the University of St Andrews in Scotland. "Culture, in other words, helped them in dealing with a novel problem."

"Culture" in this sense refers to a population-specific set of behaviors acquired through social learning, such as imitation, Zuberbühler explained. That's in contrast to an animal or human learning something on his or her own through trial and error, without taking into account what others around them do, or behaviors that are "hard-wired" and require no learning at all.

Behavioral differences among animal populations have been taken as evidence of culture, the researchers said, but it's a notion that has remained controversial. Some think that other explanations—differences in the environment or in genetics—seem more likely.

Perhaps the strongest evidence for animal culture has come from studies on wild chimpanzees in Africa, Zuberbühler said. For instance, 15 years of field observation has shown that Kibale chimps habitually use sticks as tools, whereas Budongo chimps never do. Both groups make use of leaf sponges to access water from tree holes.

The question is, are those differences really cultural? That's been a hard question to answer because scientists couldn't rule out all of the possible ecological or genetic explanations for those behavioral differences. Scientists have seen social transmission of behaviors among chimpanzees living in captivity, with good evidence that the chimps can socially learn arbitrary behavior. It still wasn't clear whether those findings were relevant to chimps in the wild.

To help get around earlier limitations in the new study, Zuberbühler and his colleague Thibaud Gruber presented the two well-known chimpanzee groups with something that they hadn't seen before, in this case, honey trapped inside a narrow hole drilled into a log.

"With our experiment we were able to rule out that the observed differences in chimpanzee tool use behavior are the result of genetic

differences because we tested members of the same subspecies," Zuberbühler said. They also ruled out habitat influences by exposing the chimps to the same unfamiliar problem.

Zuberbühler said that they were surprised by how quickly the animals found their respective solutions. "The cultural differences, in other words, must be deeply entrenched in their minds," he said.

Source: Cell Press ([news](#) : [web](#))

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