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A Wild Chimpanzee Uses a Stick to Disable a Snare at Bossou, Guinea

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INTRODUCTION

Using sticks as a tool is common among wild chimpanzees¹. Chimpanzees in their natural habitat use stick tools to serve a variety of purposes, for example termite fishing², ant dipping³, pestle pounding⁴, algae scooping⁵, honey dipping⁶, probing and exploring tree holes for animal prey or water. The majority of these tool-use behaviors are targeted at food resources, *i.e.* social insects or their products. But sticks are also sometimes used in defense; they may be brandished as clubs⁷ or hurled as missiles⁸ at snakes, predators or humans.

We describe here an episode whereby a young adult male chimpanzee employed a stick to disable the trap mechanism of a self-locking wire snare. This case supplements other examples of stick-tool in the context of defense which principally involve aimed or unaimed throwing of a stick towards a threatening life form. This episode reflects the flexible ability of wild chimpanzees to respond to threatening inanimate human-made object.

MATERIALS AND METHODS

The chimpanzee (*Pan troglodytes verus*) community of Bossou, Guinea, inhabits primary and secondary forests surrounding the village. These chimpanzees are habituated to observers and has ranged in size between 12 and 23 individuals since 1976⁹. Bossou chimpanzees were provisioned for three months from the end of 1989 to the early 1990¹⁰ and for one to 3 weeks annually during the following decade for the purposes of field experiments¹¹. Provisioned foods were mainly oil-palm (*Elaeis guineensis*) nuts which were collected within the core-area of chimpanzees. The described event was witnessed in 2005, when community membership was at its lowest with 12 individuals. The community comprised then three adult males and the youngest, 14 year old Yolo (YL), was the alpha male of the community at the time.

The villagers of Bossou have long used wire snares to protect their cultivated fields from animal pests such as rodents, especially cane rats (*Thryonomys swinderianus*) and for capturing small mammalian prey for meat. At the end of 1989, the use of snares was officially prohibited in the chimpanzees' core area after a juvenile female chimpanzee, named Yunro, had her left leg severely maimed by a wire snare. She was unable to locomote properly for years thereafter. Nevertheless, some villagers continued to set snares in the forest to trap cane rats and other small animals for subsistence purposes.

RESULTS

On August 16th, 2005 at 3:09 pm, YL was grinning and uttered a loud and high pitched bark or scream. The other chimpanzees, five females and juveniles, present in the party suddenly froze and gazed in the direction that YL was staring. He slowly approached the snare and picked up a dead branch about 30 cm long. He stirred a pile of fallen leaves and slapped the ground with the stick. About 40 cm away there was a young tree 2.5 m tall which had clearly been bent and secured in place with a plastic cord tied to the end. The cord then ran to the ground. Food is usually laid onto a fragile platform typically comprised of small horizontal sticks covered with leaves; when the animal steps on the platform, the latter collapses and unleashes the snare. A metal wire snare then grips the animal and tightens as it aims to flee. Except for the bent-over sapling and cord, other parts of the snare were unnoticeable and well camouflaged. Screaming loudly, YL repeatedly stirred the fallen leaves in front of the bent-over sapling but the stick failed to trigger the snare's mechanism; the stick used was too short to attain the concealed wire.

After 2 min, one of our local guides approached YL to get a better view of the snare. YL then gave up attacking the snare and slowly walked away leaving the stick behind. The other chimpanzees continued to look at the snare for a moment but soon followed him one by one. The chimpanzee party began to travel and did not return to the area during the remaining several hours that they were observed that day. The snare was left undamaged and intact.

We observed no other available stick or dead branch on the ground nearby although there were many small trees and branches in the vicinity. If YL had broken off a branch of more than 1 m in length, he could have successfully disabled the snare from a safe distance.

DISCUSSION AND CONCLUSION

We already know that at least some adult male chimpanzees at Bossou understand that snares are dangerous, particularly to juveniles and infants. Over the years, we have witnessed several attempts to disable snares whenever they are encountered¹². In the present episode YL, the 14 year old alpha ranking male, readily recognized the snare comprised of the bent-over tree sapling tied with a plastic cord and a wire. His first response was to utter an alarm call, <wraa>, which quickly informed the other chimpanzees of his party about the existence of danger. He then employed a stick as a tool in an attempt to disable the trap. However, he was clearly afraid of approaching any closer to the unnaturally bent tree even though previous episodes have demonstrated that some older adult male chimpanzees will place pressure on the bent-over sapling to trigger the snare. In this case the wire snare and platform were very well camouflaged; YL's inability to precisely determine the location of the wire possibly compelled him to be more cautious and rely on a stick to disable the snare. Alternatively, it is also possible that YL was less experienced at the time than other older males of the community in deactivating snares and was therefore more fearful and more restrained in his approach.

In the previously observed episodes¹², males were not always successful in their attempts at disabling encountered snares. In the described case, YL used a stick to 'attack' the snare but it was too short to trigger the snare from a safe distance. YL was then disturbed and failed to potentially select another stick of sufficient length or break off a branch to make a longer tool to effectively accomplish the task.

Nevertheless, this episode clearly reveals that some of the chimpanzees within the Bossou community are clearly aware of the dangers posed by snares and that these inanimate objects need be destroyed, particularly to protect juveniles and infants, who may be naïve to snares' potential harmful consequences. We have never witnessed YL or any other chimpanzee since then use a stick to disable a snare. This behavior may represent an innovation which has not been transmitted possibly due to its inefficacy compared with simply deactivating snares by hand as typically recorded otherwise among a number of adult males of this community.

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