

racess, and is known to occur in habitats ranging from savanna to evergreen forest (1). Of the many kinds of tool-making and tool-using behaviours of chimpanzees, termite-fishing is one of the most widely distributed behaviours. At Bossou, Guinea, West Africa, chimpanzees (*P. t. verus*) have so far only once been observed to use tools to exploit unidentified arboreal termites (2). They jammed twigs into tree holes, squashing the insects on the tool's tip, from which the apes licked them off. The Bossou chimpanzees were always thought to ignore termites of the genus *Macrotermes*, whose terrestrial mounds are abundant in their home range.

During a study period extending over three months (August-October 1997) during the mid-rainy season, an adult female and her male offspring from the Bossou community were observed fishing for *Macrotermes* termites with tools. This is the first record of fishing for ground-dwelling termites with tools by Bossou chimpanzees.

Observation

A sequence of termite-fishing was observed on the 20th of September 1997 in an area of primary forest on Gban, a hill found in the home range of the Bossou community of chimpanzees and frequently visited by them. The sequence only lasted two minutes and fifteen seconds from the start of the observation. The actors involved were an adult female (Yo) and her male juvenile infant (Yolo, six years old). They were first seen digging a hole with their thumb and index fingers into the earthen mound to get access to the underground tunnels. The chimpanzees were then both observed probing these termite tunnels with a tool. A short flexible stalk of terrestrial herbaceous vegetation of the genus *Megaphrynium* (Maranthaceae), which is commonly found on Gban and elsewhere in the home range of the Bossou chimpanzees, was used. The stalk of *Megaphrynium* was modified before use. It was bitten off towards the distal end. The termites (*Macrotermes bellicosus*) inside the mound attacked the intruding object by clamping onto it with their jaws. The chimpanzees then withdrew the tool and used their lips to nibble the

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New Record of Fishing for Termites (*Macrotermes*) by the Chimpanzees of Bossou (*Pan troglodytes verus*), Guinea.

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Introduction

Habitual use of tools by wild chimpanzees (*Pan troglodytes*) has been reported of the eastern, central-western and far western geographical

insects from it.

Discussion

In spite of the frequent occurrence of mounds of *Macrotermes* in the home range of the Bossou chimpanzees, these had previously never been observed fishing for *Macrotermes* with the help of a tool. Thus, the use of a flexible stalk to probe the tunnels of an emerging mound of *Macrotermes* species by an adult female and her offspring from the Bossou community constitutes a newly observed tool-use behaviour for this community. This behaviour can be added to its already wide tool-use repertoire. The observation was made during the mid-rainy season, when levels of ground moisture are high.

The question arises as to whether this behaviour has only recently been developed and reflects a generalisation of motor patterns from ant-dipping (3) or algae scooping (Matsuzawa, Yamakoshi & Humle, in prep.). Alternatively, it may represent a habitual tool-use behaviour which had previously not been observed due to the lower levels of habituation of this community in the past and the lack of studies of it during the rainy season.

Matsuzawa (4) noted, while conducting a field experiment on use of stone tools by the Bossou chimpanzees and providing them with unfamiliar coula nuts (*Coula edulis*), which cannot be found in their home range, that Yo was the only adult individual to spontaneously crack these nuts open and feed on the kernel (4). Moreover, Yo is the only adult chimpanzee up to now not to have been reported pestle-pounding, another form of tool-use behaviour observed so far only in the Bossou community of chimpanzees (5) (Yamakoshi, pers. comm.). These findings suggested the hypothesis that Yo was born in one of the neighbouring communities located in the Nimba Mountains and had travelled the 10 kilometres to join the Bossou community (4). Yo and Yolo are the only two individuals of the Bossou community which have up to now been observed termite-fishing with tools. This observation may further support the above hypothesis. It is, indeed, a possibility that Yo had learned the habit of termite-fishing with tools from her old community. However, only further

records of this behaviour by the chimpanzees of Bossou will shed light on its origins in this community.

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