

New evidence of 'human' culture among primates

March 23 2007

Fresh evidence that suggests monkeys can learn skills from each other, in the same manner as humans, has been uncovered by a University of Cambridge researcher.

Dr Antonio Moura, a Brazilian researcher from the Department of Biological Anthropology, has discovered signs that Capuchin monkeys in Brazil bang stones as a signalling device to ward off potential predators.

While not conclusive, his research adds to a mounting body of evidence that suggests other species have something approaching human culture. A strong case has already been made for great apes having a capacity for social learning, but until now there has been no evidence of material culture among the "new world" primates of Central or South America, which include Capuchins.

Dr Moura carried out his research in the Serra da Capivara National Park, in the Piauí state of north-east Brazil, during which he observed bouts of stone-banging, primarily among a group of 10 monkeys. As he approached, the monkeys would first search for a suitable loose stone, then hit it on a rock surface several times.

The act was apparently an aggressive one, directed at Dr Moura as a potential predator, but as the group became used to his presence in the area the stone-banging decreased. Furthermore, in a large minority of cases, adults and juvenile monkeys were seen banging the stones together without paying him any attention at all - suggesting that the

younger monkeys were learning the skill from their more experienced elders. Captive monkeys released into the area that joined the study group also appeared to be learning to bang stones from the others.

Dr Moura describes the act of stone-banging as "a remarkable and novel" behaviour which has yet to be observed in any other non-human primate species. But the real significance of his research is that it suggests an element of human-like culture within this family of Capuchins.

Biological anthropologists are divided over whether other species indeed have the capacity to acquire skills by social learning, or whether the different skill sets exhibited by different groups of the same species are a result of environmental influences.

In this case Dr Moura could find no environmentally-inspired cause for the Capuchins acquiring this skill, suggesting that they had indeed learned it by observing and replicating one another.

"One of the most interesting things is that they make a noise to scare off predators," he said. "They would seem to be communicating the danger to one another at the same time.

"We already know that these monkey populations use stones as tools to dig holes or to forage and questions remain about why this happens in this area. Because it is quite dry and barren, it is possible they learn these skills from one another because they have to develop them quickly. To be sure we would need to research more."

As well as using the noise to deter predators, Dr Moura also reports that in many cases the act of stone-banging, which often took place on higher ground, dislodged other stones that could hit the predator below.

The main function of the act would appear to be that of a "loudspeaker",

however. Partly, this is to advise the predator that it has been spotted. But Dr Moura also speculates that because the Capuchins spread out widely in the dry forested areas of north-east Brazil when they forage, the noise could be an alarm-call.

In addition, the use of stones provides biological anthropologists with a rare and highly-prized example of primates using stone technology, adding to the archaeological record of primate behaviour. Most items used by primates in cases where they may be exhibiting socially-learned skills are perishable.

The simple example of percussive stone technology uncovered by Dr Moura adds to other types of stone technology already known. For example, new world capuchin monkeys use stones in the same way as we might use a hammer and anvil to crack nuts. Similar evidence of stone-based technology is found in the archaeological record of the earliest humans, and as more evidence emerges, it is hoped the ancient ancestry of human behaviour will become clear.

Source: University of Cambridge

Citation: New evidence of 'human' culture among primates (2007, March 23) retrieved 25 April 2024 from <https://phys.org/news/2007-03-evidence-human-culture-primates.html>

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