

Chimpanzees seem to know what's on other chimps' minds

Humans may not be alone in having insight into the minds of others, a chimpanzee study suggests

Ian Sample, science correspondent
guardian.co.uk, Thursday 29 December 2011 17.00 GMT

A [larger](#) | [smaller](#)

Chimpanzees moving through the forest take into account other chimps' ignorance or knowledge of a threat when they raise the alarm.

The apes were more likely to make warning calls when they spotted a venomous snake if others in their troop had not seen the danger, researchers found. As chimps in the know arrived at the scene, they passed the warning on to others who lagged behind but were still within earshot.

Video footage of wild chimps foraging in Uganda's [Budongo forest](#) show apes at the front of their groups jumping with surprise on spotting a model snake lying camouflaged in the undergrowth.

When the chimps regained their composure, they called out with repeated "hoos" to alert those behind them that a threat lay ahead. They made calls less often when other chimps already knew of the danger.

The behaviour suggests the [animals](#) knew what their fellow apes knew and made decisions over what warnings to give based on the information.

"Lots of animals give alarm calls and are more likely to do so if there's an audience, but these chimps are more likely to call if the audience doesn't know about the danger. It's as if they're picking up on differences in ignorance and knowledge in others," said [Dr Catherine Crockford](#), who studies ape communication and social interaction at the University of St Andrews.

"The chimps would sometimes jump when they saw the snake, but they didn't call then. They would only call after going back for a second look. So there's a dissociation between their emotional reaction and the vocalisation. The call is not a knee jerk reaction to the snake, it's intelligent behaviour," she said.

Crockford teamed up with researchers at the [Max Planck Institute for Evolutionary Anthropology in Leipzig](#) and the [Budongo Conservation Field Station](#) in Uganda to investigate how 33 wild chimps reacted to model vipers placed on paths used by apes in the forest.

When confronted with danger, chimps scream or bark if the threat is serious, such as an ambush by a leopard or rival chimp troop. But they respond to less serious threats, such as snakes or fresh faeces from predators, with gentle, repeated "hoo" sounds. Though vipers do not prey on chimpanzees, they can attack with a lethal bite if trodden on or disturbed.

The scientists filmed 111 encounters between the chimps and the model vipers and recorded alarm calls the apes made on spotting the snakes. Most chimps reacted with repeated hoos, and only rarely made more serious barking sounds.

The chimps hoo-ed most when they caught sight of companions who had been too far away to see the snake or hear earlier warning calls. They hoo-ed least when other chimps had seen the viper themselves, according to [a report in Current Biology](#).

On hearing the hoos, some chimps stopped in their tracks and waited. Others picked their way through the forest on detours that took them around the snake.

Crockford said the findings suggest humans are not alone in knowing the minds of others, an ability that may have been pivotal in the evolution of [language](#) as it allowed humans to share information and boost collective knowledge.

"More of the essential ingredients needed to kickstart complex communication are evident in chimpanzees than we thought," Crockford said.

© 2011 Guardian News and Media Limited or its affiliated companies. All rights reserved.