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Chimps understand wildfire, Iowan finds

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Ames, Ia. - The same chimps recently found to hunt with spears have also shown a nearly human understanding of wildfire.

Sound scary?

Not to Jill Pruetz, the Iowa State University primatologist whose nine-year observation of a group of savanna chimpanzees in the African nation of Senegal already led to one groundbreaking discovery earlier this decade: The chimps sharpen tree branches with their teeth and use them to stab small prey.

Now Pruetz is out with a new paper - co-authored with Associate Professor Thomas LaDuke of East Stroudsburg (Pa.) University - that will give evolutionary scientists new information to apply when considering how humans first understood fire.

Their conclusion: Chimpanzees can predict the movement of wildfire well enough to calmly avoid it without fear and without fleeing.

"Our argument is that if chimpanzees with a pretty small brain are intelligent enough to understand how fire behaves, then we should maybe rethink some of the early evidence of bipeds controlling fire," Pruetz said in an interview.

Her conclusions, published online this week by the American Journal of Physical Anthropology, are on the mark, University of Iowa paleoanthropologist Russell Ciochon believes.

Chimpanzees are the most closely related primate to humans, having split with them evolutionarily some 6 million years ago, he said. There is every reason to think that humans' early ancestors would have conceptualized fire similarly, Ciochon said. He agreed with Pruetz that conceptualizing fire is one evolutionary step away from controlling it and two steps away from starting it.

"This is a very interesting and very provocative article," he said.

The paper is based on Pruetz's observations from spring 2006, toward the end of Senegal's dry season, when twice in as many months she was with the chimps as they escaped a wildfire. Such fires are often set by people to clear fields for planting.

The fire's deafening roar could be heard 100 meters away, she said. The chimps did not flee, as one might expect, however. If they had, it would have required long travel in the open sun in 110-degree temperatures with scarce water supply.

Instead, she said the chimps reacted calmly. They monitored the fire, moved to keep out of its way, and in doing so, minimized the amount of energy they expended to stay safe.

As for herself, her gut told her to get out of there - but her brain told her she was better off staying with the chimps.

"I personally didn't like the idea," she said. "But I felt like I had to stick with the chimps to be safe, because I wasn't as good as they were at predicting how the fire would move."

At one point, fire surrounded them on three sides, she said. At another, the fire was so hot on her side that she had to push through the chimps to get away.

She gutted it out and, in Ciochon's view, made a real contribution to science. "She's observed something that no one else has observed before," he said.

Two things in particular: She heard one of the chimps "bark," much like they do when they encounter a snake or similar danger. However, this bark was distinct, a variation Pruetz had not heard before and has not heard since.

"I heard a specific vocalization," she said. "I think it was a fire warning."

The dominant male did a slow dance of exaggerated motions in the direction of the fire. She dubbed it a "fire dance," after the "rain dance" that famed primatologist Jane Goodall designated a similar display by a chimp during on approaching storm.

"I would say it's a response to something they have no control over," Pruetz said. "It's a loud kind of scary situation, somewhat like a thunderstorm."
