

# Where do you stand? Research shows clues in rules of the wild

**If you wonder where you stand in the social pecking order at work, home and in the community, a little known group of primates found only in the highlands of Ethiopia may offer some clues.**

University of Michigan psychology and anthropology researchers Jacinta Beehner and Thore Bergman have spent more than a decade studying the social skills of non-human primates, focusing their attention on behavioral stress, aggression, social status and mate choice.

“Of course, your own social status is contingent on who else is there with you. Rank is always relative,” Beehner said. “We know primates know their own rank. The question is whether they are aware of the relative ranks of everyone else around them.

“In other words, do they know that rank number 2 is above rank number 3? We now know that some monkeys, like baboons, actually do know these things. But more recently, we are finding that as the group gets bigger and bigger, this might become more difficult to keep track of.”

For years, Beehner and Bergman studied baboons, which live in communities of about 80-100 animals. Now, aided by a \$300,000 National Science Foundation grant, they have been studying a close relative of baboons, the geladas.

Unlike their baboon relatives, geladas live in massive herds that can number up to 1,200 individuals—perhaps one of the largest groups of non-human primates.

One of the more remarkable features of gelada society is that females hold great power. The gelada families are harem-based, with one male and up to 12 closely related females comprising each family and dozens of these families comprising the entire herd. Even though males are almost twice the size of females, if the females are not happy with their male, they can “evict” him for another one.

“If he’s not grooming them enough or if he’s not attentive enough, they can kick him out,” Bergman said.

And there are scores of single males wandering around, constantly on the lookout for weak or unpopular leaders. Upon spotting one, a bachelor male will pounce, in hopes of gaining the harem for himself.

“During these fights, we’ve seen the females take sides – they literally line up behind the male they like better,” Beehner said.

So which male do the females choose? Beehner and Bergman believe this depends on several factors, one of which might be the redness of his chest. But another possibility is the sound of his voice.

With bachelor males breathing down his neck, a leader male will run around in a brief display. The final act of this dramatic display is to climb to the highest spot around and give a loud ritualized call, “eee-yow.”

Bergman has been recording these calls for more than two years and has found that the quality of the call seems to coincide with the quality of the male. Just as human voices can reveal strength or weakness, a bachelor might use this call to decide whether his opponent is all talk and no action.

“In these enormous groups, dominance rank is no longer the ‘currency’ by which males assess each other,” Beehner said. “We think that a male might be able to size up his rivals simply by looking at the color of his chest.”

Unique among primates, gelada males have a patch of bare skin on their chest that changes in color according to status. Beehner believes that this relationship (between color and status) might be linked by testosterone. As testosterone levels rise, male chests change from pale pink to bright red. Simply put, this chest patch could be a signal to other males, a way for males to decide whether they want to pick a fight with a high-testosterone rival or not.

“There’s a clear correlation between redness and testosterone because the really young and really old males have pale chests,” Beehner said. “Only males in the prime of their life, when all the females are paying attention to them, have bright red chests. And even within these prime males, we’ve noticed that the reddest males have the most females. The million-dollar-question is, do male red chests serve to ward off the males, to attract the females, or both?”

Bergman also studies other parts of gelada communication, which include about 30 distinctly different calls. Baboons only have about 15.

“Is their social life more complicated? Are they able to communicate in ways that baboons can’t? These are the questions I’d like to answer.”

Link: [QuickTime movie](#)

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