

Male hormones help lemur females rule

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In many of the more than 100 recognized species of lemurs, females run the show. Here, a crowned lemur female hogs a sprig of honeysuckle from her mate. Credit: David Haring, Duke Lemur Center

Lemur girls behave more like the guys, thanks to a little testosterone,

according to a new study.

Males rule in most of the animal world. But when it comes to conventional gender roles, lemurs—distant primate cousins of ours—buck the trend.

It's not uncommon for lady lemurs to bite their mates, snatch a piece of fruit from their hands, whack them in the head or shove them out of prime sleeping spots. Females mark their territories with distinctive scents just as often as the [males](#) do. Males often don't take their share of a meal until the [females](#) have had their fill.

"If a male lemur is enjoying a patch of sunlight, for example, a female is likely to push him aside and take his spot," said Joseph Petty, most recently a doctoral student at Duke University.

Most female mammals that get their way over males are well-armed to be the bullies. Dominant female spotted hyenas, for example, are bigger and heavier than males.

But female dominance in lemurs remains a puzzle. Female lemurs are no bigger than males, and they don't have antlers or bigger fangs to give them a physical edge over their mates.

Researchers at the Duke Lemur Center say females have significantly lower [testosterone levels](#) than the males across the board. But when they compared six lemur species, they found that females of some species have higher testosterone levels than others.

Petty and Duke professor of evolutionary anthropology Christine Drea examined behavior and hormone profiles in nearly 30 animals representing six closely-related species in the genus *Eulemur*. In four of the species, females are at the top of the pecking order, and in the other

two species the sexes have equal status.

The [dominant females](#) had significantly higher male hormone levels than the females from the two more egalitarian species.

"It's strong evidence that hormones are playing a role," Petty said.

Lemurs and lorises split off from the rest of the primate family tree more than 60 million years ago, but the two [species](#) of egalitarian lemurs didn't evolve until much more recently, within the last 2 million years.

It could be that females are more sensitive to the effects of [testosterone](#) than males, stimulating aggressive behavior even though males still have more of the hormone, Petty said.

More information: "Female rule in lemurs is ancestral and hormonally mediated," Petty, J. and C. Drea. *Scientific Reports*, May 2015. [DOI: 10.1038/srep09631](#)

Provided by Duke University

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