

Big butts aren't everything to male baboons

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Noodle, a female baboon from Kenya, reveals her bright red swollen bottom -- a sign that her time of ovulation is near. Researchers have long thought that baboon males prefer females with bigger backsides as the mark of a good mother, but a new study suggests that the size of a female's swollen rump doesn't matter as much as previously thought. Credit: CL Fitzpatrick, Duke University.

While the female baboon's big red bottom may be an eyesore to some, it has an aphrodisiac effect on her mates. Biologists have long thought that baboon males prefer females with bigger backsides as the mark of a good mother, but new research suggests it isn't so simple.

A study of wild baboons in southern Kenya reveals that the size of a

female's swollen rump doesn't matter as much as previously thought.

The study appears online in the journal *Animal Behaviour*.

Baboons breed throughout the year, and mating occurs during times when a female's behind is swollen—a sign that she may be ovulating. For ten to 20 days each month, the tissue in a female baboon's hindquarters swells up, reaching peak size when a female is most fertile and then shrinking back to normal.

To precisely measure this variation in female swellings, Duke University researcher Courtney Fitzpatrick adapted a camera technique that was originally developed to measure large animals like elephants and bison from afar.

First she attached a digital caliper to a telephoto zoom lens, which allowed her to measure the distance to the baboon being photographed. Then by counting pixels in the resulting digital images of baboon bottoms and converting them to millimeters, Fitzpatrick was able to estimate the size of each swelling.

Measurements from 34 [females](#) revealed that some females swell more than others. The biggest bottom belonged to a female named Vow, whose rump swelled by 6.5 inches as she approached ovulation. The smallest belonged to a female named Lollipop, whose bottom only increased by four inches.

"Some females are just bigger than others," Fitzpatrick said.

The Duke and Princeton researchers combined these size measurements with long-term data on each female's offspring. When they controlled for factors such as the female's age and rank, they were surprised to find that females with bigger backsides don't necessarily make better

mothers, as evidenced by the fact that females with fuller fannies didn't produce more surviving infants.

The researchers also recorded male courtship behavior during the time when females were swollen. They found that big-bottomed females were no more likely to attract mates than their smaller-bottomed counterparts.

Instead of going for bigger backsides, males preferred females that had cycled more times since their last pregnancy.

Like humans, female [baboons](#) don't start ovulating again right away after having a baby. Things usually return to normal when their infant starts weaning, but until that time they're less likely to get pregnant.

The results suggest that baby readiness means more to males than an ample derrière. Rather than size, it seems that males use the number of postpartum cycles as a cue to gauge their likelihood of making a baby.

"It's almost as if the males are counting," Fitzpatrick said. "Our study suggests that, at least in part, males follow a rule along the lines of 'later is better' rather than 'bigger is better.'"

The team's next step is to determine if females actually mate with more males after they've had more postpartum menstrual cycles, and whether that translates to higher survival for their offspring.

More information: "Exaggerated Sexual Swellings and Male Mate Choice in Primates: Testing the Reliable Indicator Hypothesis in the Amboseli Baboons," Fitzpatrick, C., J. Altmann and S. Alberts. *Animal Behaviour*, June 2015. [DOI: 10.1016/j.anbehav.2015.03.019](https://doi.org/10.1016/j.anbehav.2015.03.019)

Provided by Duke University

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