

Orangutan females prefer dominant, cheek-padded males

September 1 2015



Flanged male Credit: Bkp Bain

Unlike most mammals, mature male orangutans exhibit different facial characteristics: some develop large "cheek pads" on their faces; other males do not. A team of researchers studied the difference in reproductive success between cheek-padded males and males without cheek pads. They found that those with cheek pads are significantly more successful in fathering offspring.. The findings are published in Springer's journal *Behavioral Ecology and Sociobiology*.

The research team led by Graham L. Banes and Linda Vigilant of the Max Planck Institute for Evolutionary Anthropology studied the [reproductive success](#) of Kusasi, the former dominant male at Camp Leakey in Indonesia's Tanjung Puting National Park. They compared his achievement with that of socially subordinate, non-cheek-padded males from the same area by collecting faecal samples and performing paternity testing. During his decade as "king" of the jungle, Kusasi became a father more often than any other male. Only during periods of rank instability, in the beginning and at the end of Kusasi's dominance, did other males succeed in fathering offspring.

Typically, only one male orangutan in any given area - the dominant one - has cheek pads. Along with increased body size and a large, pendulous throat sac (used to bellow resonant 'long call' vocalizations) these cheek pads are characteristic of dominant males. They are suspected to make them more attractive to females, resulting in greater reproductive success compared to non-cheek-padded rivals. But males without cheek pads are also known to be capable of fathering offspring - and have done so prolifically in zoos and in the wild.

"Dominant males have to find and consume more calories. Their movement is restricted as a result of their size, and fights with neighbouring dominant males have been known to result in death," says Banes. "So, why would a male develop cheek pads if he can father offspring without?"

To answer this question, Banes spent eight years studying the orangutans of Tanjung Puting National Park, collecting faecal samples from all orangutans observed in the 50 km² study area. The researchers extracted DNA from these samples and identified 39 known individuals, including 12 males.

"We performed paternity testing to see which of these males were fathering offspring at Camp Leakey, and to quantify Kusasi's reproductive success", says Vigilant. "Paternity could be assigned to 14 candidate offspring, conceived across multiple decades, ten of which were fathered by Kusasi."

The results show that Kusasi fathered many more offspring than any other male during his tenure as [dominant male](#), potentially as a result of his handsome-looking cheek pads attracting female orang-utans. As expected, non-cheek-padded males were also shown to have achieved paternities.

"The timing, however, was interesting," says Banes. "These other males were typically reproductively successful at the beginning and end of Kusasi's dominant period, when the hierarchy was potentially unclear."

From this, the authors conclude that cheek pad development is an evolutionarily stable strategy: reproductive success is significantly skewed in favour of dominant, cheek-padded males, while other [males](#) simply bide their time until periods of rank instability.

More information: "Male orang-utan bimaturism and reproductive success at Camp Leakey in Tanjung Puting National Park, Indonesia." *Behavioral Ecology and Sociobiology*, [DOI: 10.1007/s00265-015-1991-0](https://doi.org/10.1007/s00265-015-1991-0)

Provided by Springer

Citation: Orangutan females prefer dominant, cheek-padded males (2015, September 1)
retrieved 23 April 2024 from
<https://phys.org/news/2015-09-orangutan-females-dominant-cheek-padded-males.html>

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