Wild chimpanzees exchange meat for sex

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Sagu, an adult male chimpanzee, holding the rib case of a red colobus he caught. Photo by Cristina M. Gomes

Wild female chimpanzees copulate more frequently with males who share meat with them over long periods of time, according to a study led by researchers from the Max Planck Institute for Evolutionary Anthropology in Germany, published in the open-access, peer-reviewed journal *PLoS ONE* April 8.

How females choose their mating partners and why males hunt and share meat with them are questions that have long puzzled scientists. Evidence from studies on human hunter-gatherer societies suggest that men who are more successful hunters have more wives and a larger number of offspring. Studies on wild chimpanzees, humans' closest living relative, have shown that male hunters frequently share meat with females who did not participate in the hunt. One of the hypotheses proposed to

explain these findings is the meat-for-sex hypothesis, whereby males and females exchange meat for mating access. However, there has been little evidence in both humans and chimpanzees to support it.

In recent research conducted in the Taď National Park, Côte d'Ivoire, Cristina M. Gomes and Christophe Boesch show that females copulate more frequently with males who share meat with them on at least one occasion, compared with males who never share meat with them, indicating that sharing meat with females improves a males' mating success. Although males were more likely to share meat with females who had sexual swellings (i.e., estrous females), excluding all sharing episodes with estrous females from the analysis, did not alter the results. This indicates that short term exchanges alone (i.e., within the estrous phase of the female) cannot account for the relationship between sharing meat and mating success.

According to Gomes, "Our results strongly suggest that wild chimpanzees exchange meat for sex, and do so on a long-term basis. Males who shared meat with females doubled their mating success, whereas females, who had difficulty obtaining meat on their own, increased their caloric intake, without suffering the energetic costs and potential risk of injury related to hunting."

She adds, "Previous studies might not have found a relationship between mating success and meat sharing because they focused on short-term exchanges; or perhaps because in those groups access to females was driven by male coercion so females rarely chose their mating partners."

Boesch concluded, "Our findings add to the ever-growing evidence suggesting that chimpanzees can think in the past and the future and that this influences their present behavior."

"These findings are bound to have an impact on our current knowledge

about relationships between men and women; and similar studies will determine if the direct nutritional benefits that women receive from hunters in human hunter-gatherer societies could also be driving the relationship between reproductive success and good hunting skills," concludes Gomes.

More information: Gomes CM, Boesch C (2009) Wild Chimpanzees Exchange Meat for Sex on a Long-Term Basis. PLoS ONE 4(4): e5116. doi:10.1371/journal.pone.0005116, dx.plos.org/10.1371/journal.pone.0005116

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