MAX PLANCK SOCIETY

Press Release

News G 2009 (55) April 8th, 2009

Meat for Sex in wild chimpanzees

Male chimpanzees that regularly share their food with females are able to mate more often than their stingy fellows

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 8th 2009.

Caption: *Utan, an adult male chimpanzee, holding a piece of meat of a red colobus; with Kinshasa, an adult female chimpanzee with her infant Kirikou on her back, begging from Utan.*

Image: Max Planck Institute for Evolutionary Anthropology/Cristina M. Gomes

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 of 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 Taï National Park, Côte d'Ivoire, Cristina M. Gomes and Christophe Boesch show that female chimpanzees copulate more

Max Planck Society
for the Advancement of Science
Press and Public Relations Department

Hofgartenstrasse 8
D-80539 Munich
Germany

PO Box 10 10 62
D-80084 Munich

Phone: +49-89-2108-1276
Fax: +49-89-2108-1207
presse@gv.mpg.de
Internet: www.mpg.de

Head of scientific communications:
Dr. Christina Beck (-1275)

Press Officer / Head of corporate communications:
Dr. Felicitas von Aretin (-1227)

Executive Editor:
Barbara Abrell (-1416)

ISSN 0170-4656

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 swelling (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, doing 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 behaviour."

"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.

Related Links:

[1] Great Apes endangered by human viruses (Press release from January 25th, 2008)

[2] Chimpanzee cooperators (Press release from March 2nd, 2006)

[3] In spite of ourselves (Press release from January 18th, 2006)

Original work:

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

Contact:

Cristina M. Gomes, Department of Primatology
Max Planck Institute for Evolutionary Anthropology, Leipzig
E-mail: gomes@eva.mpg.de

Sandra Jacob, Press and Public Relations
Max Planck Institute for Evolutionary Anthropology, Leipzig
Tel.: +49 341 3550-122
E-mail: jacob@eva.mpg.de