

Dominant meerkats render rivals infertile

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When pregnant, dominant female meerkats subject their subordinates to escalating aggression and temporary eviction causing them to become overly stressed and as a result infertile, a new study finds.

The new research reports that during the latter half of her pregnancy, the dominant female in a meerkat group commonly drives her subordinate females from the group for an average of three weeks at a time.

Evicted subordinates, typically those with whom reproductive conflict is most likely (females of breeding age, older, and pregnant females), suffer repeated attacks and chases throughout this period, leading to dramatically increased levels of stress hormones and a collapse in fertility. This tactic reduces conception rates and increases abortion rates among the evicted subordinates, who are only allowed to return to the group after the dominant female has given birth.

The dominant female benefits in two ways from reducing the fertility of her subordinates. First, her own pups will benefit from not having to compete with additional pups born to a subordinate for the limited number of available caretakers. Second, because subordinate females actually kill other females' pups when pregnant themselves, reducing subordinate female pregnancy rates will reduce the threat of infanticide.

Dr Andrew Young, Department of Zoology, University of Cambridge, who led the research said, "The findings are particularly exciting as the consensus emerging from prior research on cooperative species was that dominants don't employ tactics of this kind. It's not yet clear whether

meerkats are just unusual in this regard, or whether stress-related suppression is actually a more widespread phenomenon in animal societies than was previously recognised”.

Dr Andrew Young’s research is part of the Kalahari Meerkat Project, located at the Kuruman River Reserve, South Africa. The project is a decade-old initiative led by Professor Tim Clutton-Brock FRS, Department of Zoology, University of Cambridge, in collaboration with the University of Pretoria. A study earlier this year by Dr Young and Professor Clutton-Brock reported that subordinate female meerkats, if they do become pregnant, kill the young of other female group members, dominants and subordinates alike.

The article, ‘Stress and the suppression of subordinate reproduction in cooperatively breeding meerkats’, appears in this week’s issue of PNAS.

Source: University of Cambridge

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