

Foxes get frisky in the far north

July 17 2007

Bees do it, chimps do it... Now it seems Arctic foxes do it, too. New research looking at the DNA fingerprints of canids in the Far North has revealed that foxes once thought to be monogamous are in fact quite frisky.

From polyandry to multiple paternity and plural breeding, Canadian researchers have gathered DNA evidence from adult foxes and their offspring that proves that some arctic foxes are mixing it up when it comes to mating.

Until recently, wildlife biologists considered many species of canines—including foxes, wolves and coyotes—to be monogamous. But molecular genetic techniques are starting to reveal complexities in mammalian mating systems that were not apparent from observational studies of animal social behavior.

Using a technique called microsatellite DNA fingerprinting, a team of researchers from the University of Alberta in Edmonton and the University of Quebec at Rimouski collected DNA samples from 49 arctic foxes trapped in dens on Bylot Island, Nunavut.

In three-quarters of the dens, DNA fingerprints showed that the fox cubs were the offspring of a single male and female. But in a quarter of the cases, the arctic foxes proved to be less exclusive, with one litter providing the first genetic evidence of polyandry (females having multiple male mates at one time) with multiple paternity.

Lindsey Carmichael—lead author of the study and a recent graduate from the U of A—says there are various explanations for polyandry and the multiple paternity associated with it.

“Multiple paternity allows a female to increase the genetic variation contained in a single season’s reproductive output,” says Carmichael. “This increase in variation might improve the odds that at least one cub in a litter will be optimally adapted to its current environment or better equipped to deal with changes in its environment over time.”

Source: University of Alberta

Citation: Foxes get frisky in the far north (2007, July 17) retrieved 3 May 2024 from <https://phys.org/news/2007-07-foxes-frisky-north.html>

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