

Researchers find incest in one mammal species appears to be the safest approach

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The banded mongoose (*Mungos mungo*). Credit: Wikipedia. CC BY-SA 3.0

(Phys.org)—A small team of researchers with members from the U.K. and Germany has found an example of a mammal that practices frequent incest. In their paper published in the journal *Biology Letters*, the team describes their study of banded mongoose in their native environment in Uganda and how they found an unusually high degree of incest and offer some suggestions as to why it occurs with them.

Mammals in general tend to avoid engaging in [incest](#)—prior research has suggested that over time it can lead to inbreeding depression (a fitness cost), with offspring experiencing health problems. In humans, incest is of course considered to be taboo among most groups around the world and has at times led to retribution for those that engage in the practice. In this new study, the researchers have found an apparent exception—the banded mongoose—at least those living in Queen Elizabeth National Park.

The researchers studied 14 groups living in the park over a period of sixteen years, using tracking devices and markings to help identify members from a distance. They note that mongooses live in close-knit groups with a median size of 18 adults. Each group, they report, has both male and female dominant members, who do most of the breeding and reproducing—those on the periphery only reproduce occasionally. Most [group members](#) remain with their group for their entire lives. This close-knit living arrangement, the team notes, has led to a high incidence of incest. They found that 63.6 percent of newborn pups were the result of mating between members of the same natal group. Father/daughter incest was documented eight times over the course of the study, though there were no reported sightings of mother/son mating attempts. The researchers point out that females tend to have short lives, and generally die before their sons are old enough to mate with them.

As for why mongooses have such a high rate of incest, the team speculates that it is due to the natural forces that cause them to band together. New groups have a mortality rate three times that of those that are more established and members that try to move into a new group are generally turned away, often violently. That leaves little opportunity for dispersal, which leads to mating between members of the same group as the norm.

More information: Evidence for frequent incest in a cooperatively

breeding mammal, *Biology Letters*, Published 24 December 2014, [DOI: 10.1098/rsbl.2014.0898](https://doi.org/10.1098/rsbl.2014.0898)

ABSTRACT

As breeding between relatives often results in inbreeding depression, inbreeding avoidance is widespread in the animal kingdom. However, inbreeding avoidance may entail fitness costs. For example, dispersal away from relatives may reduce survival. How these conflicting selection pressures are resolved is challenging to investigate, but theoretical models predict that inbreeding should occur frequently in some systems. Despite this, few studies have found evidence of regular incest in mammals, even in social species where relatives are spatio-temporally clustered and opportunities for inbreeding frequently arise. We used genetic parentage assignments together with relatedness data to quantify inbreeding rates in a wild population of banded mongooses, a cooperatively breeding carnivore. We show that females regularly conceive to close relatives, including fathers and brothers. We suggest that the costs of inbreeding avoidance may sometimes outweigh the benefits, even in cooperatively breeding species where strong within-group incest avoidance is considered to be the norm.

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