

Infanticide linked to wet-nursing in meerkats

October 7 2013

Subordinate female meerkats who try to breed often lose their offspring to infanticide by the dominant female or are evicted from the group. These recently bereaved or ostracised mothers may then become wet-nurses for the dominant female, an activity that may be a form of "rent" that allows them to remain in the community.

Wet-nursing another mother's [offspring](#) – called allolactation – occurs across a variety of mammals and is thought to provide survival benefits to the nursed offspring and to the mother of the pups. However, little has been definitively known of why the [females](#) who provide the wet-nurse service do so.

Now, in the most comprehensive study conducted to date, researchers studying a meerkat population in the Kalahari region of South Africa have identified factors that influence why females might wet-nurse.

The findings, published today in *Animal Behaviour*, show that females are more likely to allolactate if they have recently lost litters or have returned to the group following eviction.

"Breeding opportunities are monopolised by a single behaviourally dominant female in meerkat groups," explains Kirsty MacLeod, who carried out the research at the University of Cambridge's Department of Zoology with Professor Tim Clutton-Brock, and Johanna Nielsen at the University of Edinburgh. "She maintains this position through suppressing breeding attempts by other females – either through evicting them or killing their pups – and these subordinate females are then also

more likely to wet-nurse the dominant female's pups. This suggests to us that [infanticide](#) by the dominant female might have two evolutionary advantages for her – she reduces competition for care for her own pups, and is more likely to secure allolactation for her litter.

"Wet-nursing by formerly evicted meerkats may be a way of 'paying rent' to be allowed back into the group without receiving further aggression," she adds. Helping as payment of 'rent' has been suggested in bird species in which helpers receive greater benefits from remaining in their territories owing to a lack of opportunity to attract a mate from elsewhere, but has previously been suggested in only one other mammal – the [naked mole rat](#).

The research was carried out over a 15-year period, with 40 social groups of meerkats being observed. The researchers created a long-term database and recorded, among other life-history details, pregnancies and lactation periods. Because most pup nursing occurs below ground, females were identified as producing milk through the presence of suckle marks and the attachment of sand to damp nipples.

"Now that we have a clearer idea of which females are more likely to invest energy in this highly cooperative behaviour," says MacLeod, "our next step is to figure out what benefits each party is getting from this. We know that lactation is costly, so it's likely that if additional females also provide milk, those costs should go down. We'll know that soon.

"These results, however, hint at what the benefits might be for subordinate allolactators. Because subordinate females were more likely to allolactate if they are related to the litter's mother, this suggests that they may gain an indirect benefit from the activity. Evictees from the group suffer considerable stress, weight loss and reduced survival. If contributing to the maternal cares of another's offspring allowed renewed access to the social group, or to remain in the group once

following infanticide, there would be an incentive to 'pay-to-stay'."

Provided by University of Cambridge

Citation: Infanticide linked to wet-nursing in meerkats (2013, October 7) retrieved 24 April 2024 from <https://phys.org/news/2013-10-infanticide-linked-wet-nursing-meerkats.html>

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