

Domesticated 'wild' dog mothers found unwilling to share meat with offspring

December 9 2015, by Bob Yirka



Credit: Noël Zia Lee, Wikimedia Commons

(Phys.org)—A small team of researchers with the Indian Institute of Science Education and Research has found that street dog mothers are not as willing to share meat with their pups as they are with other sources of food. In their paper published in *Royal Society Open Science*, the team describes experiments they carried out with semi-feral dogs, what they

learned and why they believe their experiments offer evidence that suggests that dog domestication was more likely related to dog ancestors joining human civilizations than humans adopting wild puppies.

In India, domesticated [dogs](#) are allowed to live freely in towns and cities among human inhabitants—they don't belong to anyone, instead, they live out their lives as semi-feral canines, existing on scraps, garbage or hand-outs. As the researchers note, very little research has been conducted on these street dogs, thus very little is known about their history or habits. After observing a mother with older pups refusing to share a bit of [meat](#) with her offspring, the researchers set up some experiments to learn if it was a common behavior or a onetime situation.

The experiments consisted of offering food to a mother who still had pups traveling with her, but whose pups were all old enough to have been weaned. In the first experiment, the researchers tossed biscuits to 15 mother/litter groups and observed how they behaved, noting particularly how willing the mother was to share with her offspring. In the second set of experiments, they tossed pieces of raw chicken to 16 different mother/litter groups and once again watched to see how they behaved.

In studying their data, the researchers found that during the biscuit experiments, the mothers were generally willing to share with their offspring—they did so freely approximately 75 percent of the time. When meat was doled out, however, things changed dramatically, there were conflicts approximately 80 percent of the time, straight away.

Anyone who has ever owned a dog knows that meat is of particular importance to them, while they are able to digest carbohydrates, they still crave the protein in meat, as the mothers in the experiments in India showed. The researchers believe that craving for protein might have led the ancestors of modern dogs to hang around human settlements, which eventually led to full domestication, which suggests of course that such

domestication was not due to humans adopting puppies, as has become the conventional view.

More information: Selfish mothers indeed! Resource-dependent conflict over extended parental care in free-ranging dogs, *Royal Society Open Science*, Published 9 December 2015. [DOI: 10.1098/rsos.150580](https://doi.org/10.1098/rsos.150580) , [rsos.royalsocietypublishing.org ... /content/2/12/150580](https://rsos.royalsocietypublishing.org/.../content/2/12/150580)

Abstract

Parent–offspring conflict (POC) theory provides an interesting premise for understanding social dynamics in facultatively social species. In free-ranging dogs, mothers increase conflict over extended parental care with their pups beyond the weaning stage. In this study, we investigated whether resource quality affects POC in the dogs that typically live in a highly competitive environment as scavengers. We built a theoretical model to predict the alternative options available to the mother in the context of food sharing with her pups when protein-rich food (meat) is provided, as compared to carbohydrate-rich food (biscuits). We fit the mothers' response from experimental data to the model and show that the mothers choose a selfish strategy, which can in turn ensure higher lifetime reproductive success, while depriving the current litter access to better resources. These results have interesting implications for understanding the social dynamics of the dogs, and the emergence of facultative sociality in a species that evolved from strongly social ancestors. We speculate that the tendency of increased conflict in resource-rich conditions might have driven the process of domestication in the ancestors of dogs which defected from their groups in favour of richer resources around human settlements.

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