

# Study shows urban coyotes with mange more likely to make use of anthropogenic resources

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A coyote in Yosemite National Park, California, USA. Credit: Christopher Bruno/Wikipeida

(Phys.org)—A team of researchers affiliated with several institutions in Canada has found that coyotes that live in urban areas are more likely to make use of anthropogenic resources if they have mange. In their paper published in the journal *Proceedings of the Royal Society B*, the team describes a radio collar study they conducted with the animals and what

they learned by doing so.

There are many [wild animals](#) living in or near [urban areas](#), some of which are more welcome to humans than others. One such animal, the coyote, is generally not well received because it is a predator—some fear the animals will harm children or pets, or spread disease. As the researchers note, the problem is only growing worse—in Canada, coyote sightings have grown exponentially in recent years. To learn more about these urban dwellers, the researchers captured nineteen of them and placed radio collars around their necks before releasing them back where they were originally found. Before doing so, they noted the age, gender and whether the animal had mange, a skin disease that results in loss of hair.

The researchers tracked the animals over a period of four months during which GPS location data was received every three hours. The team would periodically recapture the coyotes in the study to take hair samples which allowed them to deduce the kinds of foods they were eating.

At the beginning of the study, the researchers noted that eight of the coyotes had some degree of mange, and it was those animals that appeared to exhibit behavior that most upset human urban dwellers. Those coyotes spent more time in areas where humans were (compared to coyotes without mange), had a larger range, were more active during the day and ate more "human" food, all of which the team described as making use of anthropogenic resources. Those with mange did not fare well, during the study period most got sicker, and six died (four froze to death after their hair fell out and two were killed by pest control workers).

The [researchers](#) suggest their study shows that one way to reduce coyotes mixing with humans is to reduce mange infections—currently it is

treated by application of an ointment, a therapy that is not likely to be conducted with wild [animals](#). Further research might reveal other possibilities. Also, they note that pet owners should be aware that dogs can get mange from [coyotes](#).

**More information:** Poor health is associated with use of anthropogenic resources in an urban carnivore, *Proceedings of the Royal Society B*, [DOI: 10.1098/rspb.2015.0009](https://doi.org/10.1098/rspb.2015.0009)

### **Abstract**

Rates of encounters between humans and wildlife are increasing in cities around the world, especially when wildlife overlap with people in time, space and resources. Coyotes (*Canis latrans*) can make use of anthropogenic resources and reported rates of conflict have increased in cities across North America. This increase may be linked to individual differences in the use of human food and developed areas. We compared the relationships between coyote age, sex or health and the use of anthropogenic resources, which we defined as using developed areas over large home ranges, being active during the day, and consuming anthropogenic food. To do so, we applied GPS collars to 19 coyotes and sampled hair for stable isotope analysis. Eleven coyotes appeared to be healthy and eight were visibly infested with sarcoptic mange (*Sarcoptes scabiei*), a mite that causes hair loss. Diseased coyotes used more developed areas, had larger monthly home ranges, were more active during the day, and assimilated less protein than coyotes that appeared to be healthy. We speculate that anthropogenic food provides a low-quality but easily accessible food source for diseased coyotes, which in turn may increase reliance on it and other anthropogenic resources to promote encounters with people.

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