

Teaching young wolves new tricks

January 31 2014



Dogs observe each other less accurately than wolves. Credit: Peter Kaut

Although wolves and dogs are closely related, they show some striking differences. Scientists from the Messerli Research Institute at the University of Veterinary Medicine, Vienna have undertaken experiments that suggest that wolves observe one another more closely than dogs and so are better at learning from one another. The scientists believe that cooperation among wolves is the basis of the understanding between dogs and humans. Their findings have been published in the online

journal *PLOS ONE*.

Wolves were domesticated more than 15,000 years ago and it is widely assumed that the ability of domestic [dogs](#) to form [close relationships](#) with humans stems from changes during the [domestication](#) process. But the effects of domestication on the interactions between the animals have not received much attention. The point has been addressed by Friederike Range and Zsófia Virányi, two members of the University of Veterinary Medicine, Vienna (Vetmeduni Vienna) who work at the Wolf Science Center (WSC) in Ernstbrunn, Niederösterreich.

Wolves copy other wolves solving problems

The scientists found that wolves are considerably better than dogs at opening a container, providing they have previously watched another animal do so. Their study involved 14 wolves and 15 mongrel dogs, all about six months old, hand-reared and kept in packs. Each animal was allowed to observe one of two situations in which a trained dog opened a wooden box, either with its mouth or with its paw, to gain access to a food reward. Surprisingly, all of the wolves managed to open the box after watching a dog solve the puzzle, while only four of the dogs managed to do so. Wolves more frequently opened the box using the method they had observed, whereas the dogs appeared to choose randomly whether to use their mouth or their paw.



Wolves are considerably better imitators than dogs. Credit: Walter Vorbeck

Watch closely ...

To exclude the possibility that six-month old dogs fail the experiment because of a delayed physical or cognitive development, the researchers repeated the test after nine months. The dogs proved no more adept at opening the box than they were at a younger age. Another possible explanation for the wolves' apparent superiority at learning is that wolves might simply be better than dogs at solving such problems. To test this idea, the researchers examined the animals' ability to open a box without prior demonstration by a dog. They found that the wolves were rarely successful. "Their problem-solving capability really seems to be based on the observation of a dog performing the task," says Range. "The wolves watched the dog very closely and were able to apply their new knowledge to solve the problem. Their skill at copying probably relates to the fact that wolves are more dependent on cooperation with

conspecifics than dogs are and therefore pay more attention to the actions of their partners."

The researchers think that it is likely that the dog-human cooperation originated from cooperation between [wolves](#). During the process of domestication, dogs have become able to accept humans as social partners and thus have adapted their social skills to include interactions with them, concomitantly losing the ability to learn by watching other dogs.

More information: Range F, Virányi Z (2014) "Wolves Are Better Imitators of Conspecifics than Dogs." *PLoS ONE* 9(1): e86559. [DOI: 10.1371/journal.pone.0086559](https://doi.org/10.1371/journal.pone.0086559)

Provided by University of Veterinary Medicine -- Vienna

Citation: Teaching young wolves new tricks (2014, January 31) retrieved 20 April 2024 from <https://phys.org/news/2014-01-young-wolves.html>

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