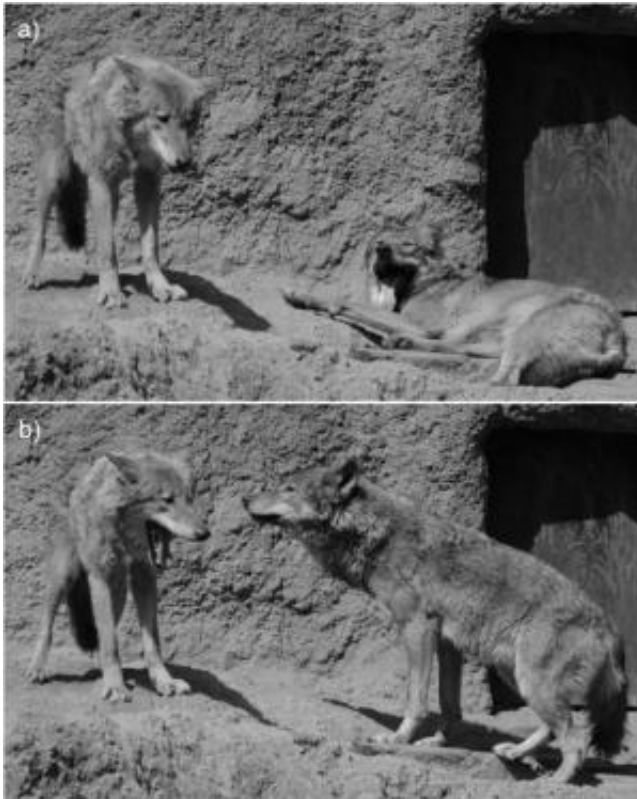


Wolves susceptible to yawn contagion

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a. An individual (on the right) yawned during a resting period. b. A few seconds later, the subject (on the left) yawned contagiously. Credit: Teresa Romero

Wolves may be susceptible to yawn contagion, according to a study published August 27, 2014 in the open-access journal *PLOS ONE* by Teresa Romero from The University of Tokyo, Japan, and colleagues.

Researchers suggest that [contagious yawning](#) may be linked to human

capacity for empathy, but little evidence apart from studies on primates, exists that links contagious yawning to empathy in other animals. Recently, researchers have documented domestic dogs demonstrating contagious yawning when exposed to human yawns in a scientific setting, but it is unclear whether this phenomenon is rooted in the evolutionary history of mammals, or has evolved in dogs as a result of domestication. In this study, the authors investigated contagious yawning and its potential link to empathy in [wolves](#). They observed and recording yawning in a single pack of 12 wolves at Tama Zoological Park, in Tokyo, Japan over five months, in relaxed situations (without visible signs of stress), and recorded the exact time of the yawn, the identity of the initial yawner, and the identity and position of subjects close to the initial yawner.

The results suggest that wolves may experience [yawn contagion](#). The strength of the pack member's social bond with the yawning wolf positively affected the frequency of contagious yawning. Additionally, female wolves showed a faster reaction time than males when observing yawns of close associates, suggesting that females are more responsive to surrounding social stimuli. According to the authors, despite the small sample size these results may provide initial evidence that contagious yawning may relate to the wolves capacity for empathy, and suggests that basic building blocks of [empathy](#) might be present in a wider range of species than previously thought.

Teresa Romero added, "In wolves, as well as in primates and dogs, yawning is contagious between individuals, especially those that are close associates. These results suggest that contagious yawning is a common ancestral trait shared by other mammals and that such ability reveals an emotional connection between individuals."

More information: Romero T, Ito M, Saito A, Hasegawa T (2014) Social Modulation of Contagious Yawning in Wolves. *PLoS ONE* 9(8):

e105963. [DOI: 10.1371/journal.pone.0105963](https://doi.org/10.1371/journal.pone.0105963)

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