

Howling wolves give clue to top dog

By **Melissa Hogenboom** Science reporter, BBC News



Wolves choose to howl to maintain contact with each other, not because they are stressed

Wolves howl more when a close companion or high-ranking group member leaves.

That's what scientists found when they analyzed how captive wolves reacted when one was taken to the forest for a walk.

Known to be social creatures, the work further emphasizes the importance of a wolf's relationships within its pack.

The findings, [published in Current Biology](#), suggest the wolf's howl is explained by social factors rather than physiological ones such as stress.

Friederike Range from the University of Veterinary Medicine Vienna, Austria, who co-authored the work said the wolves were communicating to each other just how important they were.

"We didn't know there was some flexibility on how much they howl depending on their relationship. The amount of howling is really defined by the quality of the relationship." Dr Range said.

She told BBC News that the wolves howled differently depending on which one was taken away.

Calling 'friends'

The creature's call has long fascinated scientists and so unique are their howls that researchers can now **recognise individual wolf howls from the wild**.

Dr Simon Townsend one of the lead authors from the University of Zurich, Switzerland, said that wolves could be using the howl in a strategic way to regain contact with dominant indiv

Howling facts

- A wolf howl can resonate over six miles.
- The low pitch and long duration of a howl is well suited for long distance communication in forest and across tundra.
- A lone wolf howls to attract the attention of its pack, while communal howling can act as a warning to rival packs to stay away.
- Wolves may simply howl to join in with other wolves.
- Wolves are able to recognize each other through the unique features of an individual's call.

"Wolves seem to howl more when higher ranking individuals leave because these individuals play quite important roles in the social lives of wolves.

"When they leave it makes sense that the remaining wolves would want to try and re-initiate or regain contact. The same applies for friendship."

Stress-free wolves

The team listened to the howls of nine wolves from two packs in Austria's Wolf Science Center and they observed that when a wolf was only taken away to a close surrounding area - rather than the much further away forest - their companions did not howl.

The study was done in a captive setting which enabled the team to measure the wolves' underlying physiological stress by analysing the cortisol levels in their saliva.

"What we expected was higher cortisol levels if the wolves were more stressed when 'friends' leave, but what we found is that cortisol doesn't seem to explain the variation in the howling behaviour we see," Dr Townsend told BBC News.

"Instead it's explained more by social factors - the absence of a high ranking individual or the absence of a closer affiliate."



The study shows wolves

use their howls consciously as social tools

Holly Root-Gutteridge, a wolf-howl specialist from Nottingham Trent University, UK, who was not involved with the work, said the study was "exciting for wolf scientists".

"The wolves are choosing to howl because a preferred wolf has been removed and they appear to consciously choose to stay in touch with that wolf. That's fascinating because it's really hard to separate social contact calls from the trigger causing them and also the hormone change the trigger causes.

"It means the wolves may be taking complex social interactions into consideration and then changing their own behaviour accordingly, not by instinct but by choice," Ms Root-Gutteridge told BBC News.