

Reindeer show great performance at following human-given indications

June 12 2023



Credit: University of Turku

An international team of researchers from the University of Turku, Finland, and the INRAE of Nouzilly, France, explored the ability of sledging reindeer to follow directional indications from humans. Their

results highlight that reindeer, which are well habituated to humans, can make use of gestural cues very well with minimal training.

Working [animals](#), such as equines, shepherd dogs, and logging elephants, spend a significant amount of time interacting closely with humans to fulfill specific tasks. Effective communication plays a crucial role in their working relationship. Animals' understanding of [human](#) cues, particularly manual pointing gestures, is an important aspect of this communication.

The use of pointing gestures to communicate with others and to show them where to look or to go is very natural for humans. For other animals that do not use this way of communication, the [gesture](#) may not always be easy to understand. For this reason, the pointing gesture is often used in experiments to see if animals can understand cues that are specific to humans.

"Many species, such as dogs, primates, horses, goats or elephants, have already shown great potential at following human gestures, but this has never been investigated in any deer species," says the lead author of the study, Doctoral Researcher Océane Liehrmann from the Department of Biology at the University of Turku, Finland.

"Reindeer are the only species of deer to have been domesticated and being used for draft work by pulling sledges," Liehrmann continues. "Therefore, sledging reindeer offer a great opportunity to explore the cognitive abilities of deer to follow human indications."

In their experiments, the research team examined the ability of eight sledging reindeer to respond to a very common human cue: the experimenter, standing in between two closed buckets with lichen in them, pointed at one of the buckets while looking at it and stepping closer to it. The reindeer had to follow the gesture indication and

approach the hinted bucket to get the lichen.

The test was repeated 10 times for each of the eight reindeer and the researchers analyzed how many times out of the 10 trials the reindeer followed the human indication. By replicating natural communication methods, the team aimed to determine if reindeer are receptive to basic human communication cues.

Four out of eight reindeer could not perform the test. These reindeer were younger and had less experience with human handling. They showed signs of stress and had difficulty focusing on the food reward during preliminary trials.

Among the four reindeer that were highly motivated to participate in the experiment, two followed the human indications 9 out of 10 times, indicating their ability to rely on human-given cues.

"These performances are particularly interesting as sledging reindeer are considered semi-captive and are only trained and used for work during the winter season," says Dr. Martin Seltmann, co-author of the study.

"While previous studies on other [species](#) were all conducted on fully captive and tamed animals, the sledging reindeer, which have limited contact with humans, performed well in following human cues with minimal training."

The study highlights that animals can learn to understand and interact with humans even if they do not experience constant close contact to humans. In addition, [reindeer](#) have the potential to serve as a new model for studying deer cognition in more detail.

The study is published in the *Journal of Comparative Psychology*.

More information: Océane Liehrmann et al, First report of reindeer

(*Rangifer tarandus tarandus*) response to human-given cues., *Journal of Comparative Psychology* (2023). [DOI: 10.1037/com0000353](https://doi.org/10.1037/com0000353)

Provided by University of Turku

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