

Experiment shows goats capable of recognizing other goats by sight and sound

February 15 2017, by Bob Yirka



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(Phys.org)—A small team of researchers with Queen Mary University of

London has found that goats are able to recognize their stable mates by both sight and sound. In their paper published in the journal *Royal Society Open Science*, the group describes simple experiments they carried out in an outdoor environment that showed how well goats are able to recognize other goats, and under which circumstances.

Many types of animals have been found capable of cross-modal recognition of familiar conspecifics—being able to recognize another individual of the same species among others. Dogs, crows, horses, lions and some primates have all been shown to have this ability. In this new effort, the researchers sought to learn if the same could be said for [goats](#). They note that studying such abilities in different animals provides some insight into both their social relationships and their cognitive abilities.

To learn more about goat recognition abilities, the researchers traveled to Buttercups Sanctuary for Goats in Boughton Monchelsea, where they were allowed to set up goats in pens that allowed for one goat, the "searcher" to look at one or the other of two nearby goats—they were placed just ahead and either to the right or left of the searcher. The researchers also set up a hidden stereo broadcast speaker between the two non-searcher goats to broadcast goat calls. In some instances, one of the non-searchers was a stable mate of the searcher and the other a stranger; in others, both were strangers. To find out if the searcher was able to recognize a stable mate, recordings of its calls were played from the speaker and compared with reactions to calls from the stranger goats. The team also compared those results to those found when both of the non-searcher goats were strangers.

The researchers report that the searcher tended to look sooner at its stable mate when responding to its call than for that of a stranger, and that it held its gaze longer. This, they claim, suggests that goats are capable of recognizing those goats they know and that they might also use a form of inference reasoning to figure out which goat is making a

familiar call.

More information: Benjamin J. Pitcher et al. Cross-modal recognition of familiar conspecifics in goats, *Royal Society Open Science* (2017).

[DOI: 10.1098/rsos.160346](https://doi.org/10.1098/rsos.160346)

Abstract

When identifying other individuals, animals may match current cues with stored information about that individual from the same sensory modality. Animals may also be able to combine current information with previously acquired information from other sensory modalities, indicating that they possess complex cognitive templates of individuals that are independent of modality. We investigated whether goats (*Capra hircus*) possess cross-modal representations (auditory–visual) of conspecifics. We presented subjects with recorded conspecific calls broadcast equidistant between two individuals, one of which was the caller. We found that, when presented with a stablemate and another herd member, goats looked towards the caller sooner and for longer than the non-caller, regardless of caller identity. By contrast, when choosing between two herd members, other than their stablemate, goats did not show a preference to look towards the caller. Goats show cross-modal recognition of close social partners, but not of less familiar herd members. Goats may employ inferential reasoning when identifying conspecifics, potentially facilitating individual identification based on incomplete information. Understanding the prevalence of cross-modal recognition and the degree to which different sensory modalities are integrated provides insight into how animals learn about other individuals, and the evolution of animal communication.

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Citation: Experiment shows goats capable of recognizing other goats by sight and sound (2017,

February 15) retrieved 22 September 2024 from <https://phys.org/news/2017-02-goats-capable-sight.html>

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