

STSR tests confirm that dogs have self-awareness

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A new study carried out by the Department of Psychology at Barnard College in the U.S. used a sniff test to evaluate the ability of dogs to recognize themselves. The results have been published in the journal *Behavioural Processes*.

The experiment confirms the hypothesis of dog self-cognition proposed last year by Prof. Roberto Cazzolla Gatti of the Biological Institute of the Tomsk State University, Russia. Dr. Alexandra Horowitz, the lead researcher, wrote, "While [domestic dogs](#), *Canis familiaris*, have been found to be skillful at social cognitive tasks and even some meta-cognitive tasks, they have not passed the [test](#) of mirror self-recognition (MSR)."

Prof. Horowitz borrowed the "Sniff test of self-recognition (STSR)" proposed by Prof. Cazzolla Gatti in 2016 to shed light on methods of testing for self-recognition, and applied it to 36 domestic dogs accompanied by their owners.

This study confirmed the previous evidence proposed with the STSR by Dr. Cazzolla Gatti showing that "dogs distinguish between the olfactory 'image' of themselves when modified: Investigating their own odour for longer when it had an additional odour accompanying it than when it did not. Such behaviour implies a recognition of the odour as being of or from 'themselves.'"

Prof. Cazzolla Gatti firstly suggested the hypothesis of self-cognition in

dogs in a 2016 pioneering paper entitled after the novel by Lewis Carroll "Self-consciousness: beyond the looking-glass and what dogs found there."

As the Associate Professor of the Tomsk State University anticipated: "this sniff-test could change the way some experiments on animal behaviour are validated." Soon, the study of Dr. Horowitz followed.

"I believe that dogs and other [animals](#), being much less sensitive to visual stimuli than humans and many apes, cannot pass the mirror test because of the sensory modality chosen by the investigator to test self-awareness. This is not necessarily due to the absence of this cognitive ability in some animal species," says Cazzolla Gatti.

Prof. Cazzolla Gatti's idea, as recently confirmed by Dr. Horowitz on a larger samples of dogs, shows that "the sniff test of self-recognition (STSR), even when applied to multiple individuals living in groups and with different ages and sexes, provides significant evidence of self-awareness in dogs, and can play a crucial role in showing that this capacity is not a specific feature of only great apes, humans and a few other animals, but it depends on the way in which researchers try to verify it."

The innovative approach to test the self-awareness highlighted the need to shift the paradigm of the anthropocentric idea of consciousness to a species-specific perspective. As Prof. Cazzolla Gatti anticipated last year in his paper: "We would never expect that a mole or a bat can recognize themselves in a mirror, but now we have strong empirical evidence to suggest that if species other than primates are tested on chemical or auditory perception base we could get really unexpected results."

This new study published in the journal *Behavioural Processes*, validating the sniff test of self-recognition (STSR) and the hypothesis of a self-

awareness in [dogs](#) and other animals developed by Prof. Roberto Cazzolla Gatti, pushes ethologists to move "beyond the looking-glass to see what other animals can found there."

More information: Alexandra Horowitz, Smelling themselves: Dogs investigate their own odours longer when modified in an "olfactory mirror" test, *Behavioural Processes* (2017). [DOI: 10.1016/j.beproc.2017.08.001](#)

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