

Researchers prove dogs are able to differentiate colors

July 25 2013, by Bob Yirka



A yellow labrador retriever dog with pink nose. Credit: Wikipedia.

A team of researchers in Russia has conducted a series of experiments that prove that dogs are able to distinguish between different colors. In their paper published in *Proceedings of the Royal Society B*, the team

describes the experiments with dogs they conducted and the results they found.

For much of history, [dogs](#) have been assumed to be able to see only in black and white—their ability to differentiate between different colored objects was believed to be due to differences in brightness. In this new research, the team in Russia built on research recently conducted in the U.S. that found that dogs have two cones in their eyes suggesting they should have some ability to differentiate [colors](#). Humans as most remember from grade school, have three cones, which allows for seeing all three primary colors. Since dogs have only two, they should be able to see some colors, but not others—blues, greens and yellows, for example, but not reds or oranges.

To find out if dogs are in fact able to see colors and to distinguish between them, the team conducted a clever experiment. First they trained several dogs to respond to one of four different colored pieces of paper: light or dark yellow and light or dark blue (by putting paper pairs in front of feedboxes that contained meat.) The dogs soon learned that certain colors meant they were in for a treat.

Next, using the same dogs that had been trained to respond to certain colors, the team placed pieces of paper with the color that they'd been taught to respond to in front of a feed box, along with another piece of [paper](#) that was brighter, but of a different color—a dog trained to respond to light blue for example would hopefully respond to dark blue instead of light yellow. The researchers found that a majority of the dogs went for the color identifier rather than brightness identifier most of the time, proving that they were able to distinguish color and were not relying on brightness to find their food treat.

The researchers suggest their findings indicate that most animals with just two cones are likely able to differentiate between colors and thus it's

likely they respond in ways that have not been previously studied.

More information: *Proceedings of the Royal Society B* [doi: 10.1098/rspb.2013.1356](https://doi.org/10.1098/rspb.2013.1356)

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