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LAURA KELLY, PhD
VISUAL ILLUSIONS AND TRICKERY IN ANIMAL SIGNALS

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LAURA KELLY, PhD
VISUAL ILLUSIONS AND TRICKERY IN ANIMAL SIGNALS

Visual illusions occur when there is a large mismatch between what is being seen and what is actually present. There is mounting evidence that many other animals also experience visual illusions, and some of my current work investigates how illusions may be incorporated into animal signals to manipulate the viewer.

Male bowerbirds build structures called bowers that are used purely to attract a mate. The specific design of the bower is unique to each species, but in every species females will visit a handful of bowers and then select a mate based on the attractiveness of his bower. Male great bowerbirds (*Ptilonorhynchus nuchalis*) build avenue-type bowers with large piles of grey stones and white bones at either end called courts. These objects increase in size as distance from the bower avenue increases. This creates the visual illusion of forced perspective when a female views the male display court from inside the bower.

Males that create high quality illusions mate with more females than males that have lower quality illusion, and this provides evidence that not only can non-human animals create visual illusions, but also that they can be used to promote mating success. Interestingly, each male constructs his visual illusion to his own specifications so there is a lot of variation in illusion quality. These differences among males are also consistent over time, but males seem to improve slightly year on year when constructing their illusions.

Laura Kelly is a Royal Society Dorothy Hodgkin Research Fellow at the University of Exeter's Cornwall Campus. She has a broad interest in animal behaviour, perception and cognition. Her research primarily focuses on the production and perception of visual and acoustic signals. At the moment Laura Kelly is particularly interested in perceptual tricks that can manipulate perception during mate choice and predator-prey interactions. She is also interested in the acquisition and function of vocal mimicry in songbirds. Further details of her work are given on the research page.