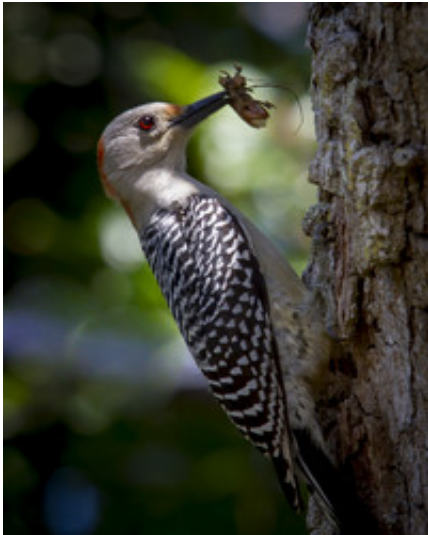


# Why dazzling patterns in motion may put off predators

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Many animals are masters of illusion, with the ability to fool a potential mate or predator with a flourish of feathers or display of exaggerated ferocity. The EU is currently funding research into what are known as motion dazzle markings – high contrast patterns such as black and white stripes that do not provide concealment to a prey animal but may help it to avoid capture – which appear to alter the perception of predators.

But how exactly do these patterns work? The MOTDAZZ project, funded through a Marie Curie Fellowship grant, is hoping to find out. By combining sensory ecology, physiology and cognitive research, this

project, due for completion in September 2015, aims to identify for the first time whether motion dazzle markings can affect prey capture rate, and how predator perception is altered.

The project is unique in that very few studies have investigated the role of anti-predator markings while in motion. Given that most [prey animals](#) are caught while attempting to evade capture, this represents a significant knowledge gap. The research hopes to identify whether certain markings are more effective than others, and then determine how animals have evolved to protect themselves from attack when moving.

The research builds on growing evidence that motion dazzle – and other forms of illusion – are much more common in nature than previously thought. Scientists have found, for example, that the great bowerbird arranges grey objects such as stones so that smaller ones are near the centre, while larger ones are further away. This produces a "forced perspective" effect, making the coloured objects on display look bigger to the female.

In addition, many butterfly species have eyespots on their wings, which may play a protective role by drawing the attention of a [predator](#). This distraction technique could confuse predators, by suggesting that the head is at the opposite end.

The MOTDAZZ project began by identifying the key factors in motion dazzle, using humans as predators. Using touch screens, volunteers attempted to catch prey that differed in shape and colour, which helped researchers to determine whether these factors alter the perception of speed or trajectory.

Researchers then applied their findings to assess the efficacy of [motion](#) dazzle markings by using scrub-jays – a species of bird native to the United States – as predators. From this, the team hopes to gain a better

understanding of how [animals](#) perceive the world around them, and how perceptual capabilities can shape behaviour and evolution.

**More information:** Marie Curie Research Fellow blog:  
[laurakelleyresearch.wordpress.com/](http://laurakelleyresearch.wordpress.com/)

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