Many creatures prefer to blend in with the surroundings – it makes for a quieter life – while others opt for ostentation with flamboyant colourful displays. However, some animals might make more of a splash when placed against a similarly coloured background. Peter Olsson from Lund University, Sweden, explains that humans are particularly good at distinguishing subtle differences between colours that are placed against a shade of a close hue. Yet, it wasn’t clear whether other species could also benefit from a boost in their ability to distinguish close shades depending on the backdrop. Curious to find out how much of a difference the background makes, Olsson and his colleagues, Robin Johnson, Olle Lind and Almut Kelber, also from Lund University, turned to chicks to find out how well they could distinguish shades of orange or green against backgrounds of one or the other colour.

‘Chickens are amazingly easy to train in these kinds of experiments’, says Olsson, who began teaching the birds to peck at coloured cones of paper – either green or orange – packed with tasty chicken feed from just 2–3 days of age. Once the chicks had got the hang of pecking at their selected colour, Olsson and Johnson set the coloured cone against either a similar background colour or the contrasting colour. Then, they offered the youngsters the choice between the coloured cone they had been trained to recognise and another shade of the same colour, recording the number of times that the chick mistakenly chose the other colour, suggesting that they could not tell the difference between the two.

When Olsson, James Foster and John Kirwan, also from Lund University, crunched the numbers to find out how well the chicks could discriminate between shades of green or shades of orange, it was clear that the birds were better at distinguishing different shades placed against a background of a similar colour, such as tones of green against a green background versus an orange background.

‘Ignoring background colours in the estimation of colour discrimination performance may sometimes inaccurately predict colour perception in a natural environment’, says Olsson, who also suggests that animals may select the locations that best set off subtle shading in their pelts and plumage when trying to get attention. ‘The efficacy of colour signals will depend on where they are located’, he states.

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