

'Nervous' birds take more risks

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Scientists have shown that birds with higher stress levels adopt bolder behaviour than their normally more relaxed peers in stressful situations. A University of Exeter research team studied zebra finches, which had been selectively bred to produce three distinct types – 'laid-back', 'normal' and 'stressed' – based on their levels of stress hormone.

The group was surprised to find that the 'stressed' birds were bolder and took more risks in a new environment than the group that was usually more laid-back. Their findings are published today (26 October) in the journal *Hormones and Behaviour*.

Like other animals including humans, birds respond to stress, created by the appearance of a predator or a change in their environment for example, by producing a hormone. In birds, this hormone is called 'corticosterone' and some individuals have higher levels of the hormone than others. The zebra finches in this experiment were bred to have three different corticosterone levels, with the 'laid-back' birds having lower levels than the 'stressed' birds.

The researchers put the birds into a new environment, which housed several unfamiliar objects, including new feeders. The 'stressed' birds were the first to visit the new feeders, which they also returned to more quickly than the other birds after being startled. Overall, they approached more objects than their normally more relaxed peers, showing greater risk-taking behaviour and arguably handling the situation better.

Dr Thais Martins of the University of Exeter said: "It initially seems counter-intuitive that birds with higher levels of the stress hormone showed bolder behaviour, normally associated with confidence. However, corticosterone is released to help tackle stress by encouraging the animal to adopt key survival behaviours like seeking food. So on reflection, perhaps it is not surprising that these birds are more likely to explore the environment

and look for food."

Previous research has indicated that animals show consistent individual differences in their behaviour when faced with certain challenges. Traditionally in this field of research, birds have been separated into two groups: 'bold' and 'shy', or 'active' and 'passive'. These definitions are based on observations of their behavioural strategies, and the birds are then studied for physiological differences. This research took the opposite approach and separated the birds into groups by physiology, based on corticosterone production levels, and then looked for behavioural differences.

Source: University of Exeter

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