

Animals have personalities, too

April 28 2011

An individual's personality can have a big effect on their life. Some people are outgoing and gregarious while others find novel situations stressful which can be detrimental to their health and wellbeing. Increasingly, scientists are discovering that animals are no different.

A new study led by Dr Kathryn Arnold, of the Environment Department at the University of York has added important experimental evidence showing that animal personalities are reflected in their oxidative stress profiles. The research is published in the [Journal of Experimental Biology](#).

Dr Arnold teamed up with graduate student Katherine Herborn, at the Institute of Biodiversity, Animal Health and Comparative Medicine at the University of Glasgow, to classify the personalities of 22 greenfinches.

They tested each bird's reactions to a novel situation by adding a brightly coloured cookie-cutter to each greenfinch's food bowl, and timing how long it took for the [birds](#) to pluck up courage to approach the food. The researchers found that the boldest [birds](#) took only a few seconds to overcome their fear while more timid birds took up to 30 minutes to approach their meal.

Dr Arnold and Katherine Herborn also measured the greenfinches' motivation to explore by attaching an intriguing object to the birds' perches and timing how long it took them to land next to it. However, there was no correlation between the birds' courage and curiosity.

The researchers then measured the birds' damaging reactive oxygen metabolite levels and their defences against them. Comparing the bird's blood oxidative profiles with their personalities, the team found that the most timid birds had the highest levels of damaging oxygen toxins and the weakest defences, so they suffered more oxidative stress than braver individuals. Also, the scientists found that the most curious birds (those that approached objects fastest) had better defences against oxidative damage than less curious greenfinches.

Dr Arnold wants to extend the work to establish how personality traits affects birds in the wild. She says, "Neophobic birds – those that are afraid of new things -- may suffer high costs of [oxidative stress](#) and die early because they paid these physiological costs, but they might also be less likely to be eaten by a predator because they are more wary than bolder birds ."

Provided by University of York

Citation: Animals have personalities, too (2011, April 28) retrieved 27 April 2024 from <https://phys.org/news/2011-04-animals-personalities.html>

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