

Zebra finches survive Australian heatwaves by predicting high temperatures

December 2 2019



A pair of Zebra finches at Bird Kingdom, Niagara Falls, Ontario, Canada.
Credit: Wikipedia

The survival habits of a native Australian bird have given Curtin University researchers vital clues that may help understand how wildlife can withstand harsh heatwaves that may prove fatal.

The research, published in *Frontiers in Physiology*, monitored the

physiological and behavioural responses that enabled [zebra finches](#), an iconic desert bird, to survive extreme temperatures of more than 40 degrees Celsius over three to four days at Fowlers Gap, north of Broken Hill in New South Wales.

Lead author Dr. Christine Cooper, from Curtin's School of Molecular and Life Sciences, said researchers monitored zebra finches, which are distinctive native birds known for their zebra-striped tails and commonly found in the drier parts of Australia, while they were feeding and drinking.

"Given that birds are particularly susceptible to extreme weather events and there have been recent cases of mass bird deaths during heatwaves, it is important to understand how desert Australian birds respond to heatwaves," Dr. Cooper said.

"Our research found that zebra finches survived heatwaves of 40 to 45 degrees Celsius by avoiding or limiting their movement during the hottest parts of the day and pre-emptively feeding and drinking in preparation for long periods of inactivity."

Dr. Cooper said the research offered important clues to understand how other species may respond to extreme weather events, including harsh Australian heatwaves.

"The research found that the short-term predictability of heatwaves may be an important factor in the survival of zebra finches during these [extreme weather events](#) because the birds anticipated the [harsh conditions](#) and modified their behaviour to survive," Dr. Cooper said.

"These results provide insights into the response of birds during [extreme temperatures](#), particularly following hot summers and long-term drought, and importantly highlight when these conditions may prove fatal."

The research also involved researchers from Macquarie University, The University of Western Australia, and the University of New South Wales.

The full paper, 'The Field Metabolic Rate, Water Turnover, and Feeding and Drinking Behaviour of a Small Avian Desert Granivore During a Summer Heatwave,' is published in *Frontiers in Physiology*.

More information: Christine Elizabeth Cooper et al. The Field Metabolic Rate, Water Turnover, and Feeding and Drinking Behavior of a Small Avian Desert Granivore During a Summer Heatwave, *Frontiers in Physiology* (2019). [DOI: 10.3389/fphys.2019.01405](https://doi.org/10.3389/fphys.2019.01405)

Provided by Curtin University

Citation: Zebra finches survive Australian heatwaves by predicting high temperatures (2019, December 2) retrieved 20 April 2024 from <https://phys.org/news/2019-12-zebra-finches-survive-australian-heatwaves.html>

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