

Combined impacts of rising temperatures and humidity on mesic savanna and forest birds

Andrew E. McKechnie

Marc T. Freeman

Bianca Coulson

Nazley Liddle

Shannon R. Conradie

Susie J. Cunningham



Chronic, sublethal effects of high temperatures will cause severe declines in southern African arid-zone birds during the 21st century

Shannon R. Conradie^{a,b}, Stephan M. Woodborne^{c,d}, Susan J. Cunningham^e, and Andrew E. McKechnie^{a,b,1}

^aSouth African Research Chair in Conservation Physiology, National Zoological Garden, South African National Biodiversity Institute, Pretoria 0001, South Africa; ^bDST-NRF Centre of Excellence at the FitzPatrick Institute, Department of Zoology and Entomology, University of Pretoria, Pretoria 0001, South Africa; ^cThemba Laboratory for Accelerator Based Sciences, Johannesburg 2001, South Africa; ^dMammal Research Institute, University of Pretoria, Pretoria 0001, South Africa; and ^eFitzPatrick Institute of African Ornithology, DST-NRF Centre of Excellence, University of Cape Town, Rondebosch 7701, South Africa

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Research article

Avian mortality risk during heat waves will increase greatly in arid Australia during the 21st century

Shannon R. Conradie^{1,2}, Stephan M. Woodborne^{3,4}, Blair O. Wolf⁵, Anaïs Pessato⁶, Mylene M. Mariette⁶ and Andrew E. McKechnie^{1,2,*}

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Article

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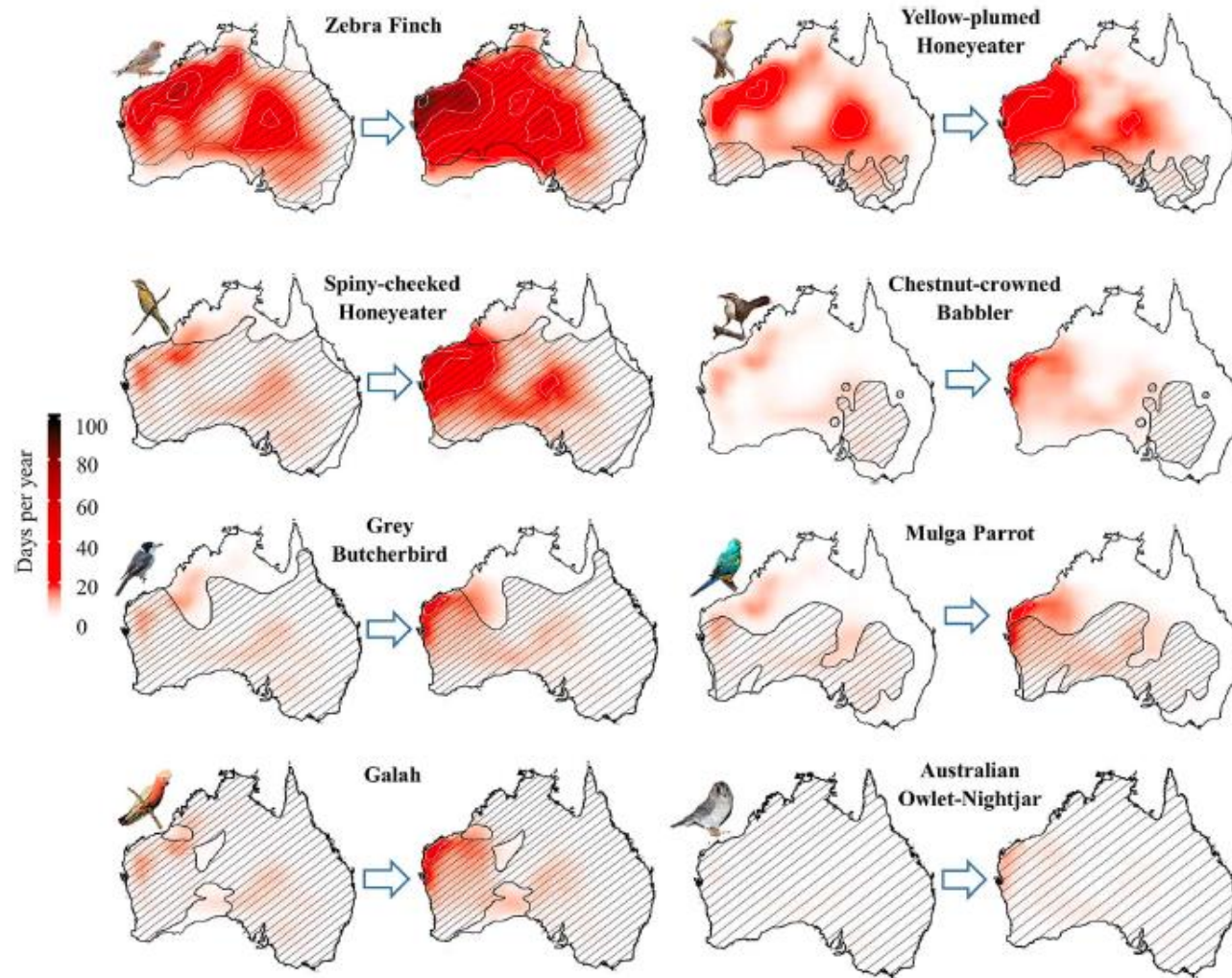
Global patterns of climate change impacts on desert bird communities

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Liang Ma^{1,2}, Shannon R. Conradie^{3,4}, Christopher L. Crawford¹, Alexandra S. Gardner⁵, Michael R. Kearney⁶, Ilya M. D. Maclean⁵, Andrew E. McKechnie^{3,4}, Chun-Rong Mi⁷, Rebecca A. Senior¹ & David S. Wilcove^{1,8}

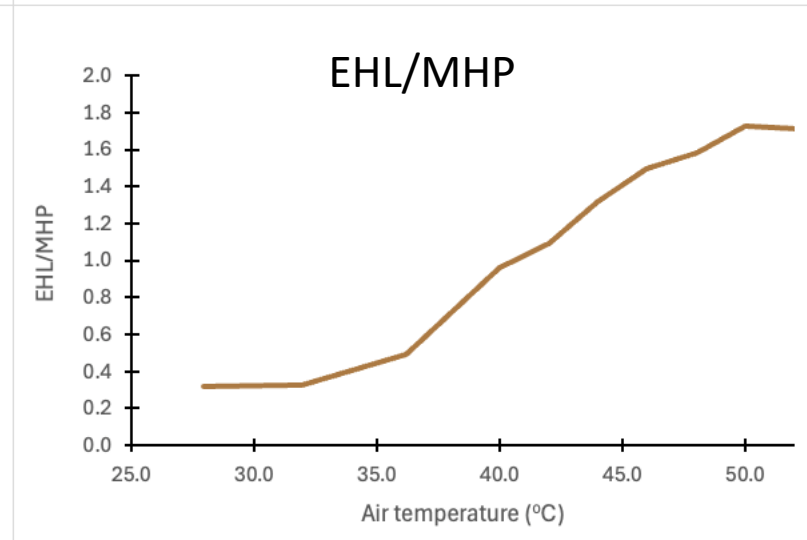
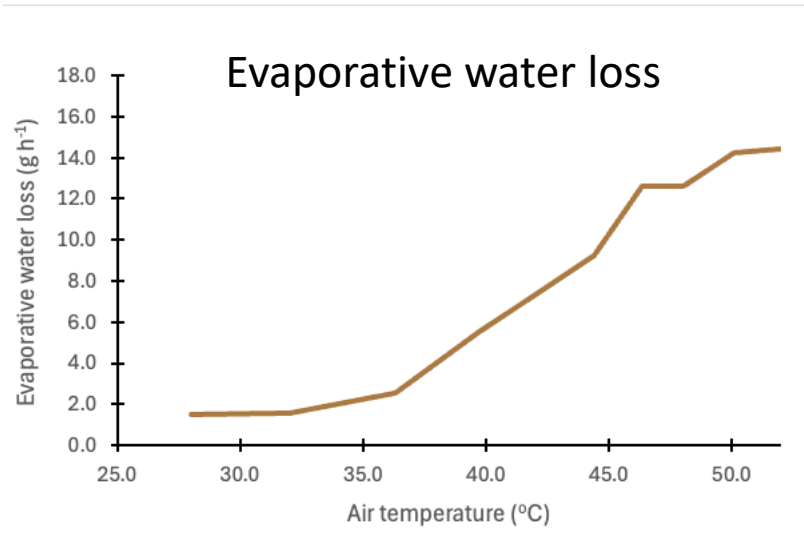
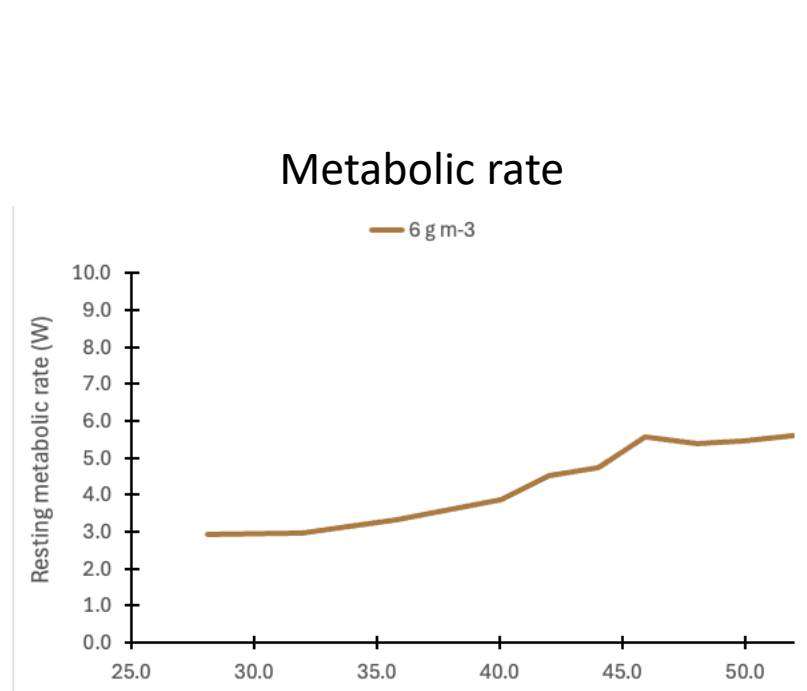
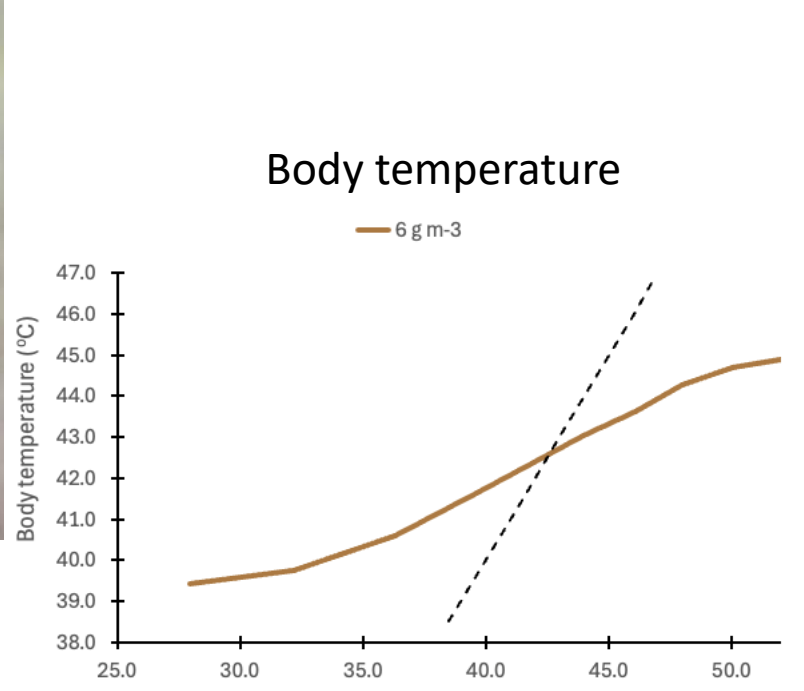


Phongolo Nature Reserve, November 2020





Trumpeter Hornbill
(Photo: Warwick Tarboton)

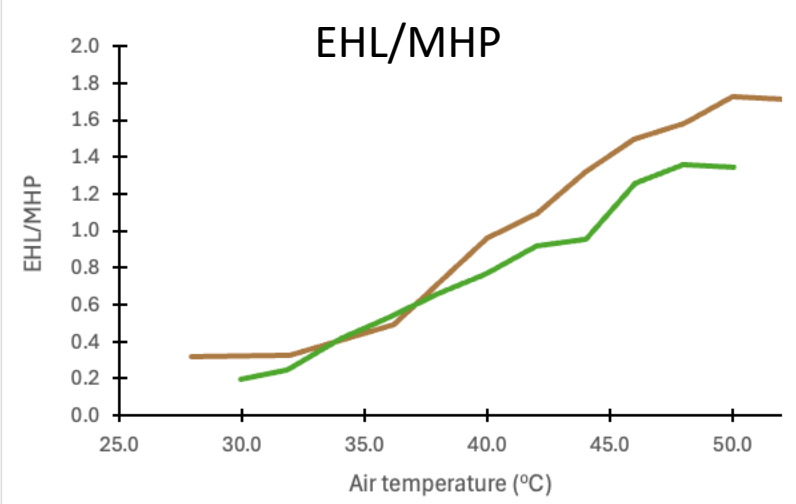
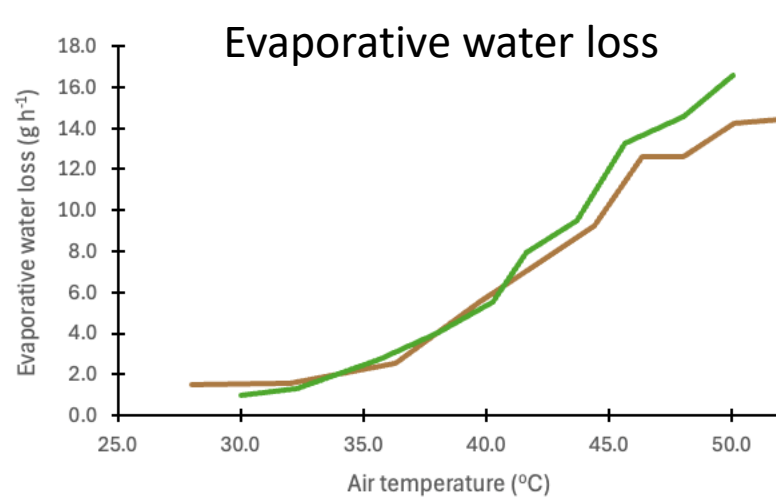
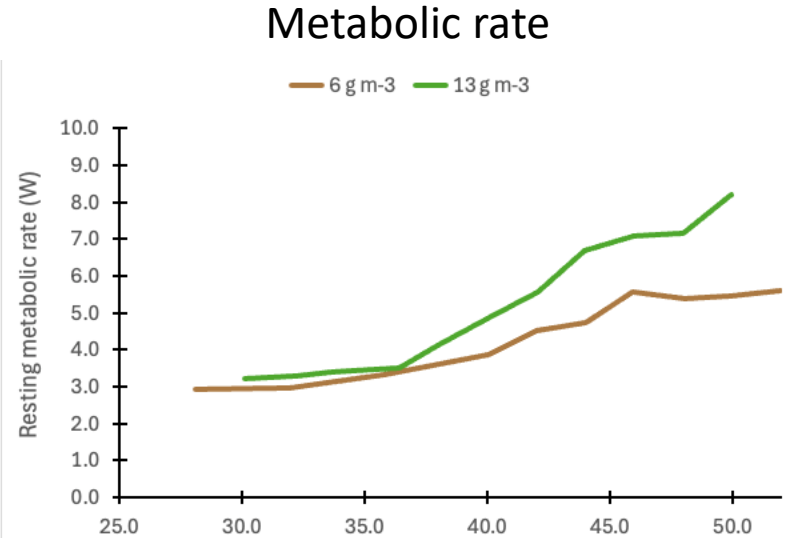
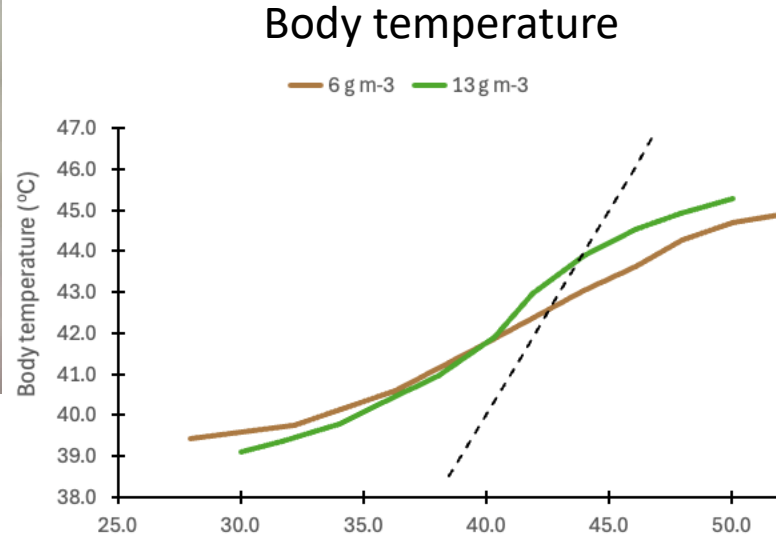


Humidity RH @ 40°C

6 g m⁻³ 12 %



Trumpeter Hornbill
(Photo: Warwick Tarboton)



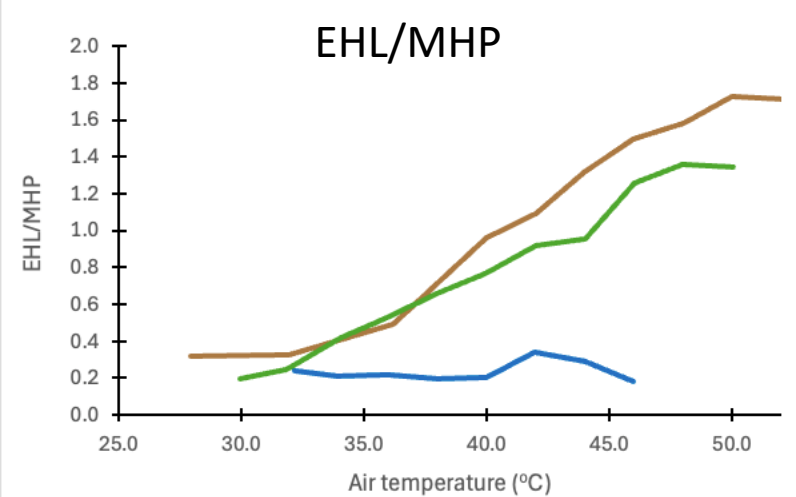
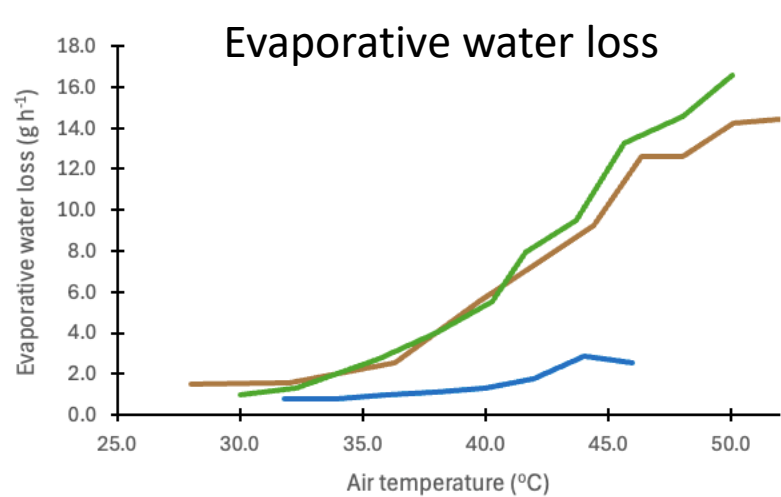
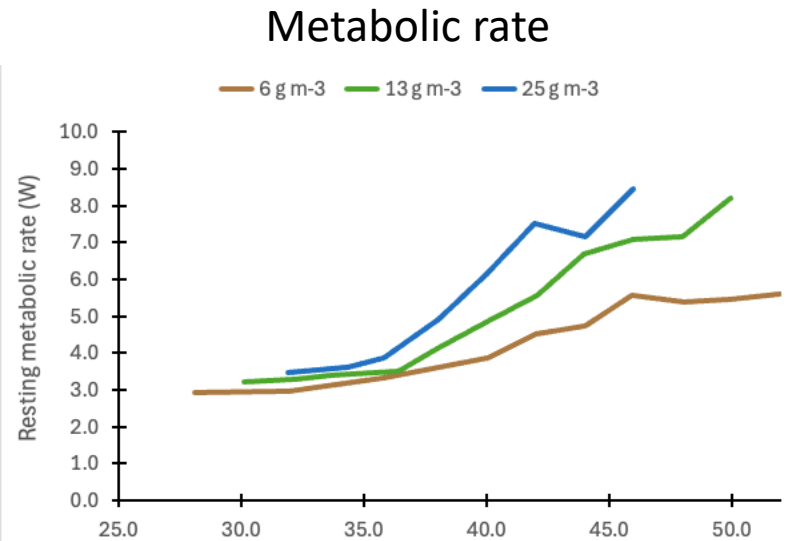
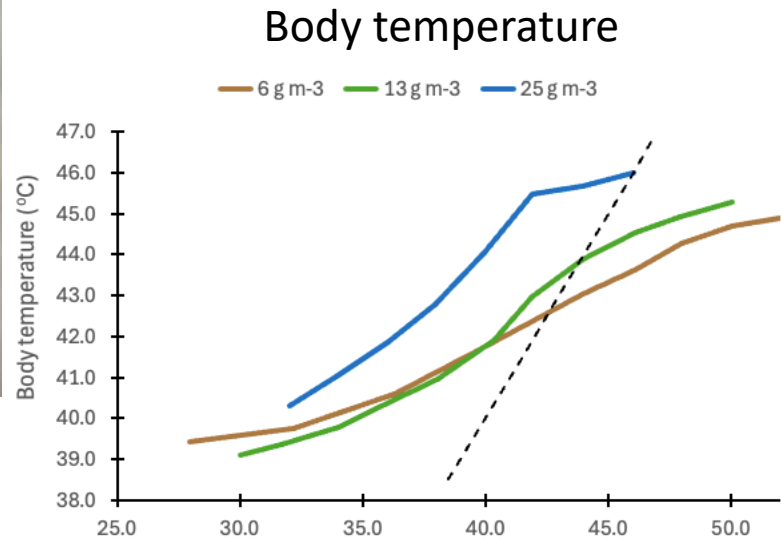
Humidity RH @ 40°C

6 g m⁻³ 12 %

13 g m⁻³ 25 %



Trumpeter Hornbill
(Photo: Warwick Tarboton)



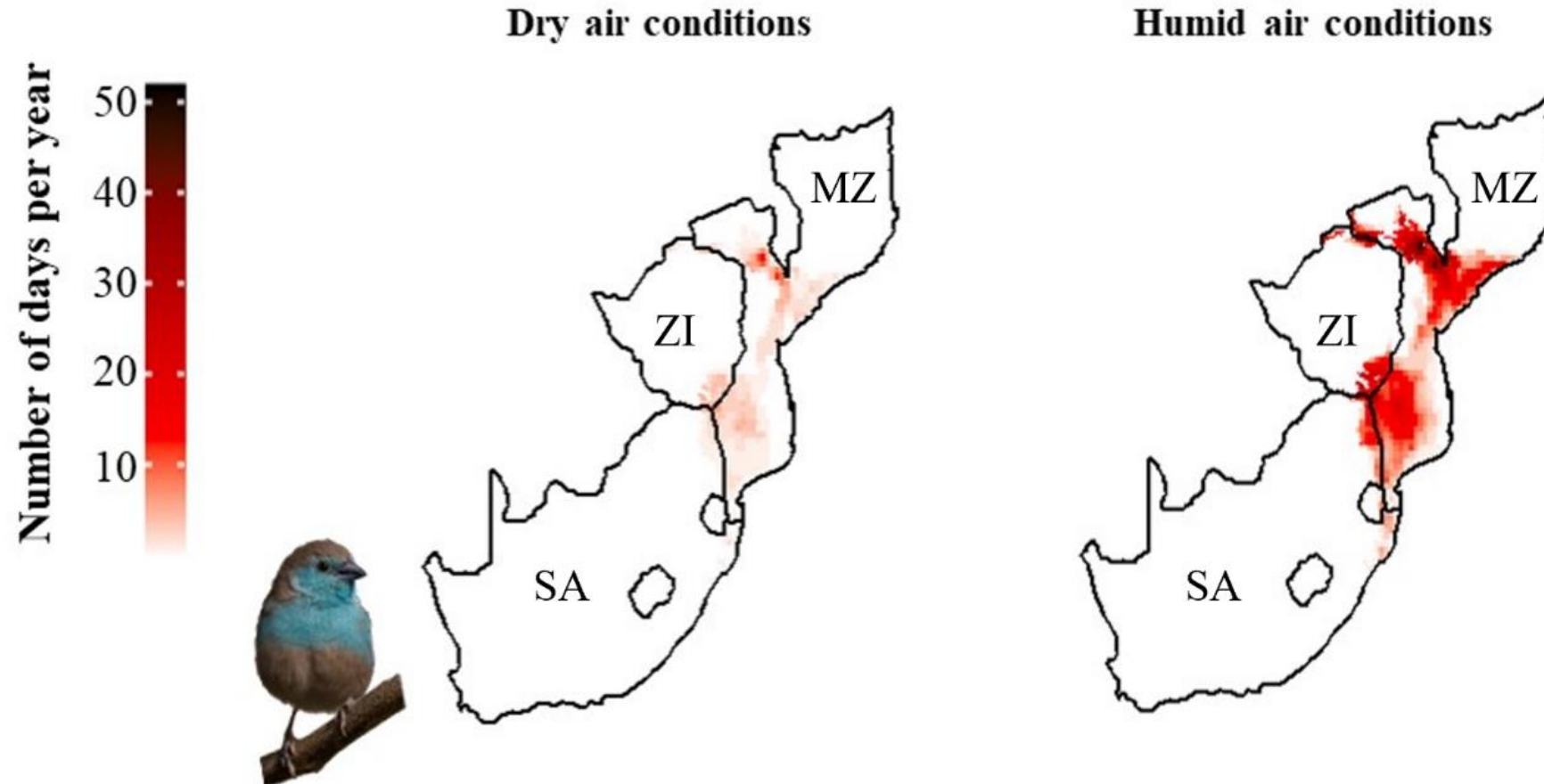
Humidity RH @ 40°C

6 g m⁻³ 12 %

13 g m⁻³ 25 %

25 g m⁻³ 49 %

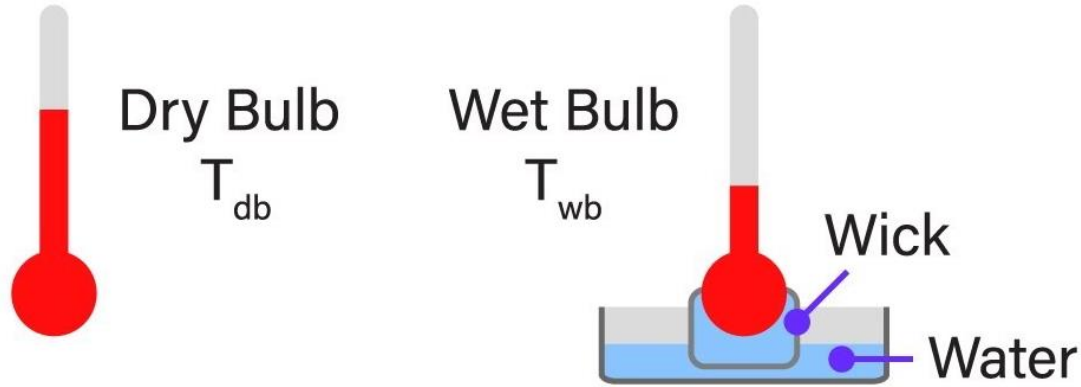
RCP 8.5 Climate Change Scenario (2100)



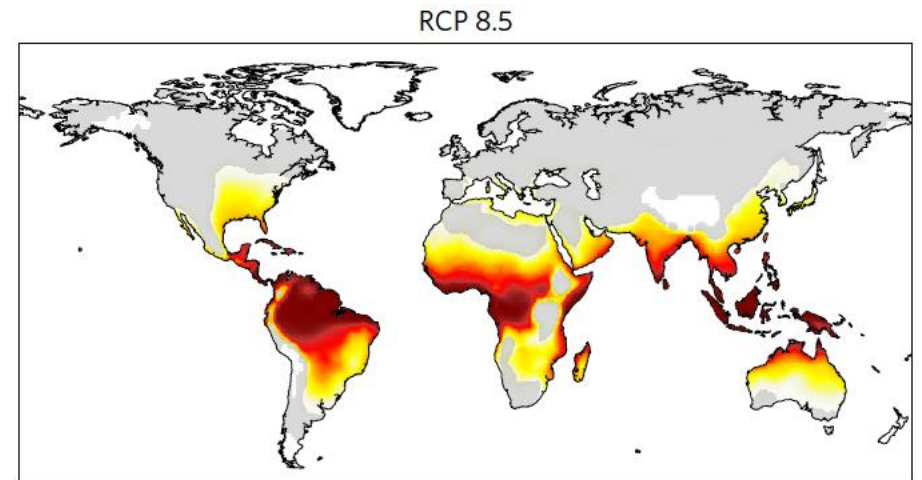
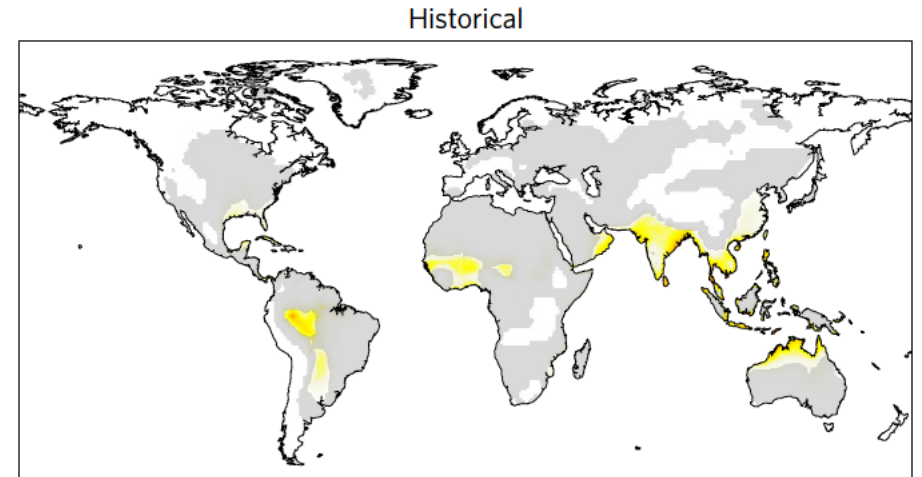
Exposure of blue waxbills to lethal hyperthermia risk by 2100 under dry conditions (left) and humid (21 g m^{-3} , equivalent to 41 % relative humidity at $T_{\text{air}} = 40 \text{ }^\circ\text{C}$) conditions (right)

(Nazley Liddle 2024 MSc dissertation)

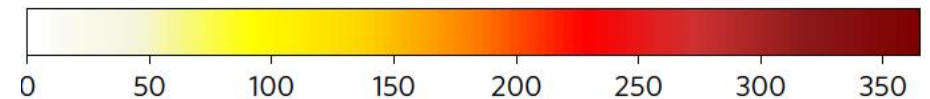
Wet bulb temperature



Maximum tolerable values for humans are 32 – 35 °C



Mora et al. 2017 Global risk of deadly heat.
Nature Climate Change



Maximum wet bulb temperature = 31.7 °C



Trumpeter hornbill
HBW / Holger Teichmann

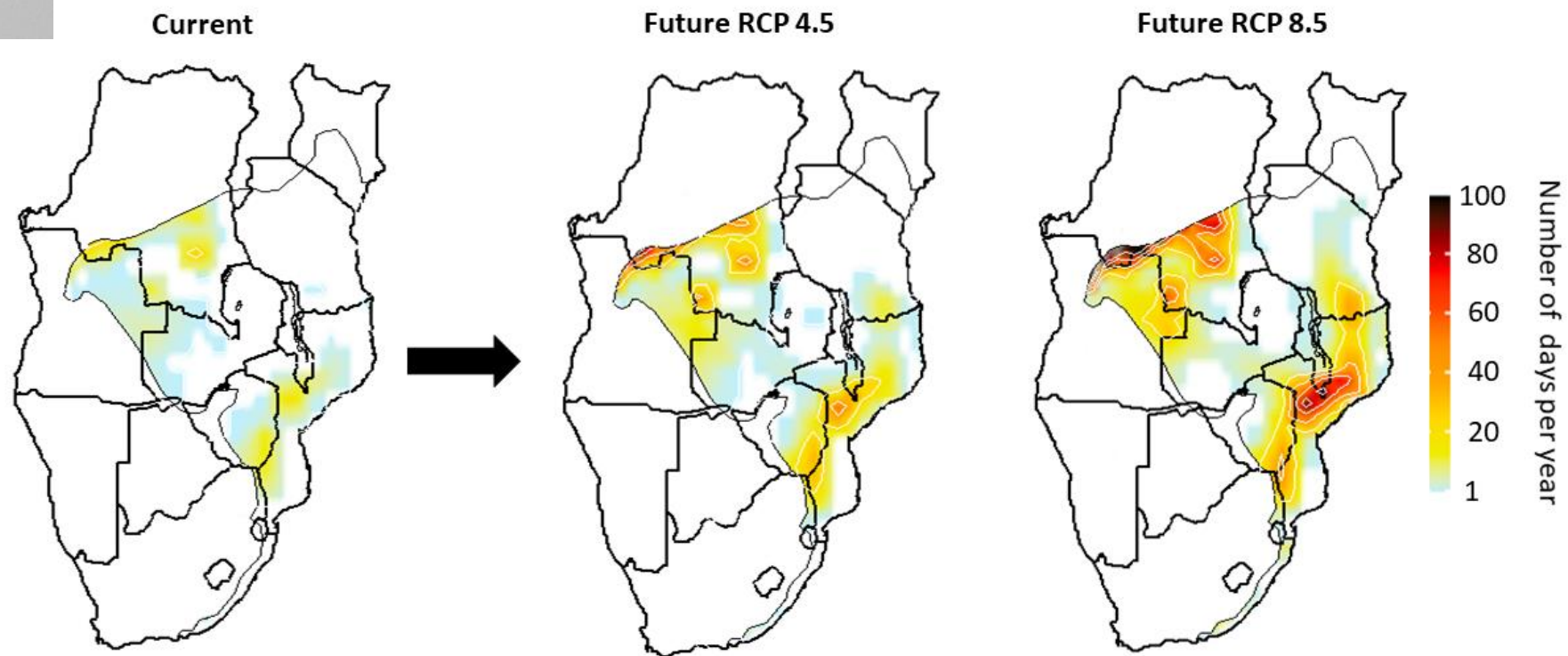




Photo by Marc Freeman



Hot Birds

RESEARCH PROJECT

