

Supplementary Table S1. Summary of data for four species of Australian poephiline finches at varying ambient temperatures (T_a). Values are mean \pm standard error with n (number of measurements) in parentheses.

	Zebra finch (<i>Taeniopygia guttata</i>)		
	T _a = 19.7 ± 0.1	T _a = 28.8 ± 0.2	T _a = 32.5 ± 0.5
Body mass (g)	11.8 ± 0.5 (6)	12.5 ± 0.3 (7)	13.2 ± 0.3 (5)
Body temperature (°C)	38.1 ± 0.6 (6)	39.4 ± 0.4 (7)	39.6 ± 0.4 (5)
Oxygen consumption (ml O ₂ g ⁻¹ h ⁻¹)	6.20 ± 0.13 (5)	3.14 ± 0.65 (3)	4.01 ± 0.40 (5)
Evaporative water loss (mg g ⁻¹ h ⁻¹)	3.61 ± 0.10 (4)	3.62 ± 0.42 (4)	2.95 ± 0.24 (5)
Wet thermal conductance (J g ⁻¹ h ⁻¹ °C ⁻¹)	6.52 ± 0.26 (5)	6.34 ± 0.98 (3)	11.5 ± 1.33 (5)
Dry thermal conductance (J g ⁻¹ h ⁻¹ °C ⁻¹)	5.99 ± 0.24 (5)	5.50 ± 0.89 (3)	10.2 ± 1.30 (5)
Relative water economy (mg mg ⁻¹)	0.966 ± 0.024 (4)	0.541 ± 0.053 (3)	0.631 ± 0.066 (5)
Point of relative water economy (°C)	19.1		
	Double-barred finch (<i>Taeniopygia bichenovii</i>)		
	T _a = 20.1 ± 0.1	T _a = 30.8 ± 0.4	T _a = 32.1 ± 0.3
Body mass (g)	9.92 ± 0.15 (6)	9.79 ± 0.19 (7)	9.93 ± 0.28 (6)
Body temperature (°C)	37.9 ± 0.33 (5)	38.4 ± 0.39 (8)	39.5 ± 0.55 (5)
Oxygen consumption (ml O ₂ g ⁻¹ h ⁻¹)	5.59 ± 0.10 (6)	2.74 ± 0.27 (8)	3.45 ± 0.32 (6)
Evaporative water loss (mg g ⁻¹ h ⁻¹)	3.93 ± 0.34 (6)	3.35 ± 0.21 (8)	3.80 ± 0.17 (6)

Wet thermal conductance (J g ⁻¹ h ⁻¹ °C ⁻¹)	6.34 ± 0.13 (5)	7.88 ± 1.16 (8)	9.64 ± 1.08 (5)
Dry thermal conductance (J g ⁻¹ h ⁻¹ °C ⁻¹)	5.84 ± 0.11 (5)	6.76 ± 1.04 (8)	8.32 ± 1.02 (5)
Relative water economy (mg mg ⁻¹)	0.889 ± 0.083 (6)	0.500 ± 0.038 (8)	0.526 ± 0.029 (6)
Point of relative water economy (°C)	16.6		
Painted finch (<i>Emblema pictum</i>)			
	T _a = 20.2 ± 0.2	T _a = 28.5 ± 0.3	T _a = 32.9 ± 0.8
Body mass (g)	12.2 ± 0.20 (5)	12.2 ± 0.26 (6)	12.2 ± 0.17 (5)
Body temperature (°C)	38.9 ± 0.37 (5)	38.7 ± 0.32 (6)	39.9 ± 0.29 (5)
Oxygen consumption (ml O ₂ g ⁻¹ h ⁻¹)	5.43 ± 0.21 (5)	3.32 ± 0.27 (6)	3.73 ± 0.22 (5)
Evaporative water loss (mg g ⁻¹ h ⁻¹)	3.83 ± 0.07 (5)	3.79 ± 0.31 (6)	4.19 ± 0.21 (5)
Wet thermal conductance (J g ⁻¹ h ⁻¹ °C ⁻¹)	5.77 ± 0.17 (5)	6.60 ± 0.51 (6)	11.2 ± 1.47 (5)
Dry thermal conductance (J g ⁻¹ h ⁻¹ °C ⁻¹)	5.28 ± 0.17 (5)	5.70 ± 0.47 (6)	9.65 ± 1.27 (5)
Relative water economy (mg mg ⁻¹)	0.829 ± 0.016 (5)	0.545 ± 0.048 (6)	0.517 ± 0.014 (5)
Point of relative water economy (°C)	15.2		
Red-browed finch (<i>Neochmia temporalis</i>)			
	T _a = 20.4 ± 0.4	T _a = 30.9 ± 0.5	T _a = 31.8 ± 0.2
Body mass (g)	10.3 ± 0.28 (5)	10.7 ± 0.44 (5)	11.2 ± 0.52 (5)
Body temperature (°C)	38.3 ± 0.44 (5)	38.3 ± 0.46 (5)	37.4 ± 0.50 (5)
Oxygen consumption (ml O ₂ g ⁻¹ h ⁻¹)	4.13 ± 0.49 (5)	2.08 ± 0.17 (5)	2.72 ± 0.01 (5)

Evaporative water loss ($\text{mg g}^{-1} \text{h}^{-1}$)	3.47 ± 0.43 (5)	2.78 ± 0.35 (5)	3.12 ± 0.39 (5)
Wet thermal conductance ($\text{J g}^{-1} \text{h}^{-1} \text{°C}^{-1}$)	4.62 ± 0.43 (5)	6.28 ± 1.08 (5)	10.5 ± 0.89 (5)
Dry thermal conductance ($\text{J g}^{-1} \text{h}^{-1} \text{°C}^{-1}$)	4.16 ± 0.43 (5)	5.36 ± 1.05 (5)	9.06 ± 0.66 (5)
Relative water economy (mg mg^{-1})	0.739 ± 0.090 (5)	0.518 ± 0.080 (5)	0.587 ± 0.051 (5)
Point of relative water economy (°C)	8.24		