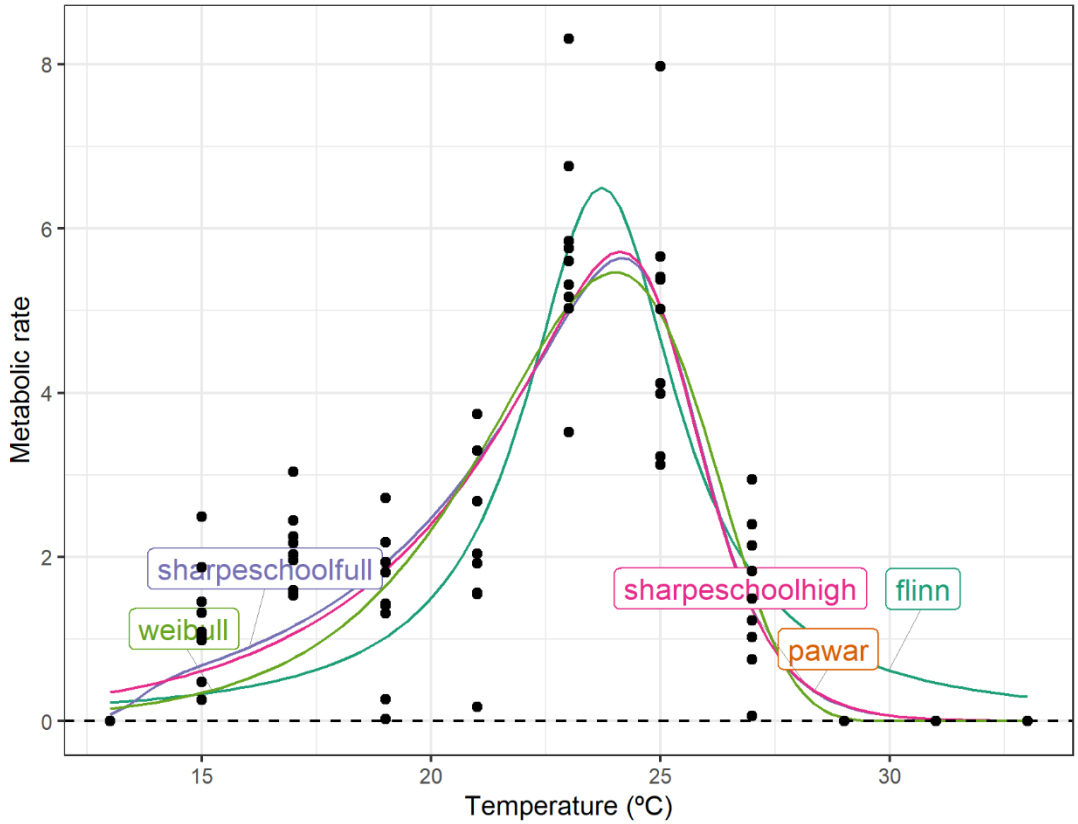
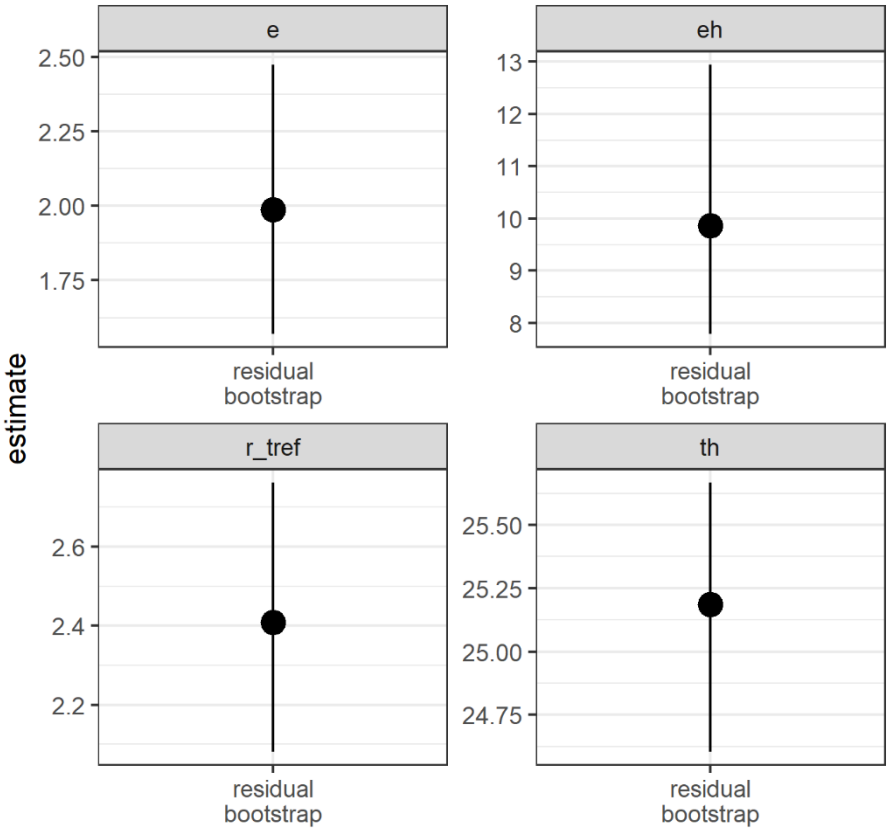
Supplementary Material

Supplementary table 1. Parameters used for model selection.

Model ID	Model name	Sigma	AIC	AICc	BIC	df residual
1	**Sharpe-schoolfield**	**0.97**	**281.00**	**281.65**	**293.98**	**95**
2	Pawar	0.97	281.00	281.65	293.98	95
3	Sharpeschoolfull	0.97	283.73	284.96	301.90	93
4	Weibull	1.02	290.11	290.75	303.08	95
5	Flinn	1.03	291.23	291.65	301.61	96
6	Modified Gaussian	1.03	292.38	293.02	305.35	95
7	Oneill	1.09	304.65	305.30	317.63	95
8	Boatman	1.12	309.88	310.80	325.45	94
9	Gaussian	1.13	310.71	311.13	321.09	96
10	Beta	1.15	314.93	315.85	330.51	94
11	Johnson Lewin	1.17	317.29	317.93	330.26	95
12	Ratkowsky	1.33	343.35	343.99	356.32	95
13	Quadratic	1.49	365.17	365.60	375.55	96
14	Thomas1	1.50	367.06	367.71	380.04	95
15	Thomas2	1.51	369.24	370.15	384.81	94
16	Kamykowski	1.51	369.69	370.60	385.26	94
17	Rezende	1.66	387.77	388.41	400.74	95
18	Lactin2	1.67	388.81	389.46	401.79	95
19	Spain	1.70	392.16	392.81	405.14	95
20	Hinshelwood	1.71	393.56	394.20	406.53	95
21	Briere2	1.78	401.11	401.75	414.08	95
22	Joehnk	1.86	410.54	411.46	426.11	94
23	Sharpeschoollow	1.97	421.11	421.76	434.09	95



Supplementary figure 1. Metabolic rate expressed as respiration rate from the five-best fitting TPC models.



Supplementary figure 2. Estimates of the four parameters obtained from the "Sharpe-Schoolfield" model, where "e" is the activation energy (eV); "e_h" is the high temperature de-activation energy (eV); "t_h" is the temperature (ºC) at which enzyme is 1/2 active and 1/2 suppressed due to high temperatures; "t_{ref}" is the standardization temperature in degrees Celsius (temperature at which rates are not inactivated by high temperatures, 17°C in the present study)