Supporting Information

Table S1. Sample sizes per clone by temperature combination used in metabolic rate experiment for 10 clones from a population of *Daphnia magna*.

	EF19	EF28	EF49	EF50	EF58	EF63	EF64	EF7	EF86	EF88
17°C	29	28	27	30	29	30	29	29	27	30
22°C	26	28	25	27	25	25	28	25	23	24
28°C	25	26	25	26	24	26	26	25	26	25

Table S2. Model selection using AICc of candidate models for metabolic rate allometry of 10 clones from a population of *Daphnia magna*. Models sorted by Δ AICc. The best random effect structure was first determined with REML on models that included all listed fixed effects. Fixed effects were then compared with ML using the best random effect structure. MR = oxygen consumption (mg h^{-1}), BM = body mass (mg), FT = last feeding time, T = temperature, K = number of parameters. The least complex model within 2 Δ AICc is bolded.

	Model	K	AICc	Δ AICc	Akaike weights
Fixed effects	ln MR ~ ln BM + T + ln BM:T + FT + plate	17	-319.42	0.00	0.26
	ln MR ~ ln BM + T + ln BM:T + FT + FT:T + plate	19	-319.07	0.34	0.22
	ln MR ~ ln BM + T + ln BM:T	15	-318.17	1.24	0.14
	ln MR ~ ln BM + T + ln BM:T + FT + FT:BM + plate	18	-318.10	1.31	0.13
	ln MR ~ ln BM + T + ln BM:T + FT + FT:BM + FT:T + plate	20	-317.76	1.66	0.11
	ln MR ~ ln BM + T + ln BM:T + plate	16	-317.70	1.72	0.11
	ln MR ~ ln BM + T + ln BM:T + FT + FT:BM + FT:T + FT:MB:T + plate	22	-314.64	4.78	0.02
	ln MR ~ ln BM + T	13	-259.41	60.01	0.00
	ln MR ~ ln BM	11	-214.41	105.01	0.00
	ln MR ~ T	12	2240.96	2560.38	0.00
Random effects	**(T | clone) + (1 | run) + (1 | well ID)**	22	-245.69	0.00	0.70
	(T | clone) + (ln BM | clone) + (1 | run) + (1 | well ID)	23	-243.57	2.12	0.24
	(1 | clone) + (1 | run) + (1 | well ID)	17	-240.65	5.04	0.06
	(T | clone) + (T : ln BM | clone) + (1 | run) + (1 | well ID)	28	-232.89	12.81	0.00
	(1 | run) + (1 | well ID)	16	-221.53	24.16	0.00
	(T | clone) + (T : ln BM | clone) + (1 | run)	27	-185.14	60.55	0.00
	(T | clone) + (T : ln BM | clone) + (1 | well ID)	27	-62.75	182.94	0.00

Table S3. Model selection using AICc of candidate models for the effect of temperature on metabolic rate of 10 clones from a population of *Daphnia magna*. Metabolic rate was analyzed separately when standardized to a small versus a large body size. Models sorted by Δ AICc. The best random effect structure was first determined with REML on models that included all listed fixed effects. Fixed effects were then compared with ML using the best random effect structure. MR = oxygen consumption (mg h^{-1}), T = temperature, K = number of parameters. The best model is bolded.

Body size		Model	K	AICc	Δ AICc	Akaike weights
Small	Fixed effects	**ln MR ~ T**	6	-553.29	0.00	0.73
		ln MR ~ T + T^2	7	-551.32	1.97	0.27
		ln MR ~ 1	5	-503.97	49.32	0.00
	Random effects	**(1 | clone) + (T | clone) + (T^2 | clone)**	7	-520.55	0.00	0.76
		(1 | clone) + (T | clone)	6	-517.61	2.94	0.18
		(1 | clone)	5	-515.56	4.99	0.06
Large	Fixed effects	**ln MR ~ T + T^2**	7	-551.32	0.00	0.99
		ln MR ~ T	6	-542.32	9.00	0.01
		ln MR ~ 1	5	-499.51	51.81	0.00
	Random effects	**(1 | clone) + (T | clone) + (T^2 | clone)**	7	-520.55	0.00	0.76
		(1 | clone) + (T | clone)	6	-517.61	2.94	0.18
		(1 | clone)	5	-515.56	4.99	0.06

Table S4. Predicted and estimated parameters for metabolic rate allometry of 10 clones from a population of *Daphnia magna*. Two models were used: one mixed-effect model with clone as a random effect, ln oxygen consumption (mg h^{-1}) as the response and ln body mass (mg) as a covariate (full model given in Table S2), and one with clone as a fixed effect. For the model with clone as a random effect, parameters were fitted from BLUPs, and only intercepts are given for each clone since slopes were found to not differ significantly (Table S2). Within temperatures, clones have been sorted in descending order of the intercept BLUPs. Note that the order of clones differ somewhat between models due to the model with clones as a fixed effect not properly accounting for other random effects.

Temperature (°C)	Clone	Intercept from model with clone as random effect	Intercept (± SE) from model with clone as fixed effect	Slope (± SE) from model with clone as fixed effect
17	EF19	-4.585	-4.499 ± 0.067	0.993 ± 0.031
	EF50	-4.585	-4.536 ± 0.067	0.938 ± 0.029
	EF86	-4.600	-4.559 ± 0.067	0.921 ± 0.035
	EF63	-4.602	-4.539 ± 0.066	0.934 ± 0.031
	EF58	-4.614	-4.548 ± 0.068	0.924 ± 0.030
	EF28	-4.617	-4.551 ± 0.067	0.988 ± 0.032
	EF64	-4.617	-4.562 ± 0.066	0.946 ± 0.032
	EF7	-4.623	-4.549 ± 0.067	0.965 ± 0.032
	EF49	-4.657	-4.620 ± 0.068	0.914 ± 0.031
	EF88	-4.704	-4.689 ± 0.066	0.918 ± 0.034
22	EF86	-4.595	-4.528 ± 0.071	0.869 ± 0.035
	EF49	-4.627	-4.540 ± 0.070	0.865 ± 0.033
	EF58	-4.636	-4.549 ± 0.070	0.879 ± 0.032
	EF19	-4.656	-4.583 ± 0.069	0.857 ± 0.032
	EF88	-4.660	-4.595 ± 0.070	0.846 ± 0.033
	EF50	-4.661	-4.634 ± 0.069	0.872 ± 0.035
	EF63	-4.681	-4.638 ± 0.070	0.842 ± 0.035
	EF7	-4.693	-4.623 ± 0.069	0.828 ± 0.035
	EF64	-4.694	-4.656 ± 0.069	0.893 ± 0.034
	EF28	-4.704	-4.661 ± 0.070	0.849 ± 0.030
28	EF86	-4.195	-4.110 ± 0.071	0.855 ± 0.032
	EF19	-4.269	-4.219 ± 0.071	0.834 ± 0.035
	EF58	-4.277	-4.227 ± 0.072	0.867 ± 0.031
	EF50	-4.282	-4.202 ± 0.070	0.862 ± 0.031
	EF49	-4.313	-4.259 ± 0.071	0.848 ± 0.033
	EF63	-4.334	-4.280 ± 0.070	0.841 ± 0.032
	EF64	-4.372	-4.320 ± 0.070	0.782 ± 0.032
	EF7	-4.378	-4.346 ± 0.071	0.790 ± 0.034
	EF28	-4.388	-4.345 ± 0.069	0.822 ± 0.035
	EF88	-4.421	-4.377 ± 0.071	0.835 ± 0.031

Table S5. Predicted parameters for the effect of temperature on metabolic rate of 10 clones from a population of *Daphnia magna* at two different sizes. The parameters are fitted from BLUPs of the random effects from a mixed-effect model with ln oxygen consumption (mg h^{-1}) as the response. Clones differed significantly in the elevation and curvature of the reaction norms.

Size	Clone	Intercept	Slope	Quadratic term
Small	EF19	-8.943	0.076	1.2×10^{-3}
	EF28	-8.979	0.073	-0.2×10^{-3}
	EF49	-8.947	0.080	-0.7×10^{-3}
	EF50	-8.965	0.078	1.4×10^{-3}
	EF58	-8.939	0.078	0.4×10^{-3}
	EF63	-8.966	0.075	0.5×10^{-3}
	EF64	-8.979	0.074	0.1×10^{-3}
	EF7	-8.968	0.073	-0.4×10^{-3}
	EF86	-8.926	0.083	1.4×10^{-3}
	EF88	-8.976	0.079	-2.2×10^{-3}
Large	EF19	-7.223	0.053	3.5×10^{-3}
	EF28	-7.260	0.050	2.1×10^{-3}
	EF49	-7.227	0.058	1.5×10^{-3}
	EF50	-7.245	0.055	3.7×10^{-3}
	EF58	-7.220	0.056	2.6×10^{-3}
	EF63	-7.246	0.053	2.8×10^{-3}
	EF64	-7.260	0.052	2.4×10^{-3}
	EF7	-7.249	0.051	1.9×10^{-3}
	EF86	-7.207	0.061	3.6×10^{-3}
	EF88	-7.256	0.057	0.1×10^{-3}