

Table S1. Summary of best-fit mixed models to analyse the effect of *Xenopus laevis* tadpole parental-origin on burst swimming speed (maximum velocity; U_{max}), maximum acceleration (A_{max}), time taken before maximum velocity is attained ($t - U_{max}$), total distance travelled in one swimming sequence (D_{total}) and total distance travelled in the first 200 ms.

Dependent variable	Explanatory variable								
	Fixed	Random	d.f.	F-statistic	AIC	ΔAIC	R^2_m	R^2_c	p-value
U_{max}	Parental-origin * temperature ³	Site, age	11	119.6	-1802.8	0	0.6	0.7	<0.0001
	Parental-origin * temperature ²	Site, age	9	104.5	-1707.7	95.2	0.5	0.7	<0.0001
	Parental-origin*temperature	Site, age	7	114.8	-1569.4	233.5	0.3	0.5	<0.0001
	Temperature ³	Site, age	7	84.2	-1544.0	258.8	0.4	0.5	<0.0001
	Temperature ²	Site, age	6	123.7	-1544.0	258.9	0.4	0.5	<0.0001
	Parental-origin + temperature ³	Site, age	8	84.6	-1542.5	260.4	0.4	0.5	0.49
	Parental-origin + temperature ²	Site, age	7	124.0	-1542.4	260.4	0.4	0.5	1.00
	Temperature	Site, age	5	141.4	-1473.3	329.6	0.2	0.4	<0.0001
	Parental-origin + temperature	Site, age	6	141.9	-1471.6	331.3	0.2	0.4	<0.0001
	Null	Site, age	4		-1351.4	451.4	0.0	0.3	
	Parental-origin	Site, age	5	0.0	-1349.5	453.4	0.0	0.3	1.00

A_{max}	Parental-origin * temperature³	Site, age	11	82.4	1797.5	0.0	0.5	0.6	<0.0001
	Parental-origin * temperature ²	Site, age	9	74.9	1864.3	66.8	0.4	0.6	<0.0001
	Parental-origin * temperature	Site, age	7	93.9	1946.3	148.7	0.3	0.4	<0.0001
	Temperature ²	Site, age	6	78.2	1986.1	188.6	0.3	0.4	<0.0001
	Temperature ³	Site, age	7	52.4	1987.4	189.9	0.3	0.4	<0.0001
	Parental-origin + temperature ²	Site, age	7	78.2	1987.9	190.4	0.3	0.4	1.00
	Parental-origin + temperature ³	Site, age	8	52.5	1989.2	191.7	0.3	0.4	0.71
	Temperature	Site, age	5	104.7	2045.3	226.9	0.2	0.3	<0.0001
	Parental-origin + temperature	Site, age	6	104.9	2026.2	228.7	0.2	0.3	<0.0001
	Null	Site, age	4		2116.7	319.2	0.0	0.2	
	Parental-origin	Site, age	5	0.0	2118.7	321.2	0.0	0.2	1.00
$t - U_{max}$	Parental-origin * temperature³	Site, age	11	3.5	1113.5	0.0	0.1	0.2	0.05
	Parental-origin * temperature ²	Site, age	9	3.2	1115.4	1.9	0.1	0.1	0.04
	Temperature ³	Site, age	7	15.2	1115.5	2.1	0.1	0.1	<0.0001
	Temperature ²	Site, age	6	21.2	1115.8	2.2	0.1	0.1	<0.0001
	Parental-origin + temperature ³	Site, age	8	15.3	1117.4	3.9	0.1	0.1	0.74
	Parental-origin + temperature ²	Site, age	7	21.3	1117.6	4.1	0.1	0.1	<0.0001
	Temperature	Site, age	5	18.8	1129.1	15.6	0.0	0.1	<0.0001
	Parental-origin + temperature	Site, age	6	19.0	1130.9	17.4	0.0	0.1	<0.0001
	Parental-origin * temperature	Site, age	7	0.1	1132.8	19.3	0.0	0.1	1.0
	Null	Site, age	4		1145.3	31.8	0.0	0.1	

	Parental-origin	Site, age	5	0.3	1146.8	33.4	0.0	0.1	1.0
<i>D_{total}</i>	Parental-origin * temperature³	Site, age	11	12.4	-1595.2	0.0	0.2	0.3	<0.001
	Parental-origin * temperature ²	Site, age	9	16.2	-1584.9	10.3	0.1	0.2	<0.0001
	Parental-origin * temperature	Site, age	7	30.6	-1566.2	29.0	0.1	0.1	<0.001
	Parental-origin + temperature ³	Site, age	8	18.1	-1565.7	29.5	0.1	0.2	<0.05
	Temperature ³	Site, age	7	13.9	-1563.5	31.7	0.1	0.2	<0.0001
	Parental-origin + temperature ²	Site, age	7	17.7	-1557.6	37.6	0.1	0.2	1.00
	Temperature ²	Site, age	6	13.9	-1556.1	39.1	0.1	0.2	<0.0001
	Parental-origin + temperature	Site, age	6	5.6	-1538.5	56.6	0.0	0.1	>0.05
	Temperature	Site, age	5	3.0	-1537.8	57.4	0.0	0.1	>0.05
	Parental-origin	Site, age	5	2.5	-1537.7	57.5	0.0	0.1	1.00
	Null	Site, age	4		-1537.0	58.2	0.0	0.1	
<i>D₂₀₀</i>	Parental-origin * temperature³	Site, age	11	53.7	-3573.6	0.0	0.6	0.6	<0.0001
	Parental-origin * temperature ²	Site, age	9	54.1	-3532.5	41.2	0.5	0.6	<0.0001
	Temperature ³	Site, age	7	80.1	-3442.5	131.1	0.4	0.5	<0.0001
	Temperature ²	Site, age	6	118.0	-3441.7	131.9	0.4	0.5	<0.0001
	Parental-origin + temperature ³	Site, age	8	80.9	-3441.6	132.1	0.4	0.5	<0.0001
	Parental-origin + temperature ²	Site, age	7	118.8	-3440.8	132.9	0.4	0.5	<0.0001
	Parental-origin * temperature	Site, age	7	56.6	-3373.3	200.4	0.2	0.4	1.00
	Temperature	Site, age	5	78.0	-3324.7	248.9	0.2	0.2	<0.0001
	Parental-origin + temperature	Site, age	6	78.9	-3323.5	250.2	0.2	0.3	<0.0001

Null	Site, age	4	-3254.3	319.4	0.0	0.2		
Parental-origin	Site, age	5	0.2	-3252.5	321.1	0.0	0.3	1.00

For each model, fixed and random explanatory variables, degrees of freedom (d.f.), Akaike's information criterion (AIC), Δ AIC, R²m and p-values are detailed.

For each dependent variable, the selected model, i.e. the one with the lowest AIC, is indicated in bold.

Fig. S1. Maximum acceleration (A and B, A_{max} , $m.s^{-2}$), time taken to attain maximum velocity (C and D, $t - U_{max}$, s), distance travelled in the first 0.2 s (E and F, D_{200} , m) and total distance travelled in one burst swimming sequence (G and H, D_{total} , m) with standard errors at five test temperatures in African clawed frog (*Xenopus laevis*) tadpoles with (A, C, E and G) high altitude parental-origins (blue line, $n = 30$ for each test temperature) and low altitude parental-origins (red line, $n = 30$ for each test temperature) and (B, D, F and H) crossed parental-origins with high altitude maternal-origins (blue line, $n = 20$ for each test temperature) and crossed parental-origins with low altitude maternal-origins (red line, $n = 20$ for each test temperature). The interaction between parental-origin and temperature significantly affected all swimming performance variables (GLMM, $p < 0.05$).

