Supporting Figure Legends

Figure S1. Relationship between log(wing area) and log(cell number) in females from the Austrian outbred population and the Ethiopian isofemale line. The slopes of the regression did not differ among populations (Austria: $R^2 = 0.67$, $P < 0.0001$; Ethiopia: $R^2 = 0.67$, $P < 0.0001$; *F*-test for parallelism: $s = 0.67 \pm 0.002$, $F_{1, 46} = 0.38$, $P = 0.54$). See text for details.

Figure S2. Relation between log(wing area) and log(cell size) in females from the Austrian outbred population and the Ethiopian isofemale line. The slopes of the regression did not differ among populations (Austria: $R^2 = 0.26$, $P = 0.004$; Ethiopia: $R^2 = 0.45$, $P = 0.001$; *F*-test for parallelism: $s = 0.34 \pm 0.002$, $F_{1, 46} = 0.45$, $P = 0.5$). See text for details.

Figure S3. Relationship between thorax length and ovariole number in females from the Austrian outbred population and the Ethiopian isofemale line. The slopes of the regression did not differ among populations (Austria: $R^2 = 0.48$, $P < 0.0001$; Ethiopia: $R^2 = 0.39$, $P = 0.004$; *F*-test for parallelism: $s = 60.04 \pm 42.31$, $F_{1, 45} = 0.02$, $P = 0.88$). See text for details.

Figure S4. Relationship between thorax length and wing area in females from the Austrian outbred population and the Ethiopian isofemale line. The slopes of the regression differed among populations (Austria: $s = 2.09 \pm 0.25$, $R^2 = 0.71$, $P < 0.0001$; Ethiopia: $s = 3.46 \pm 0.21$, $R^2 = 0.94$, $P < 0.0001$; *F*-test for parallelism: $F_{1, 46} = 14.06$, $P = 0.0005$). See text for details.

Figure S5. Relationship between thorax length and wing loading [$(\text{thorax length})^3$/wing area] in females from the Austrian outbred population and the Ethiopian isofemale line. The

slopes of the regression differed among populations (Austria: $s = 1.04 \pm 0.1$, $R^2 = 0.80$, $P < 0.0001$; Ethiopia: $s = 0.62 \pm 0.06$, $R^2 = 0.87$, $P < 0.0001$; F-test for parallelism: $F_{1, 46} = 9.86$, $P = 0.003$). See text for details.

Figure S6. Measurements of morphological traits in *y w; P0206*-GAL4>UAS-*PTEN* females in comparison to controls: *y w; P0206*-GAL4 and *y w;* UAS-*PTEN* females. (a) Thorax length. (b) Wing area. (c) Wing cell number. (d) Ovariole number. $^{*}P < 0.05$. See text for details.

Figure S7. Comparison of egg production rate per ovariole in Austrian and Zambian flies that developed at 18°C or 25°C. $^{*}P < 0.05$. Fecundity (egg production) was defined as the mean cumulative number of eggs laid per female during the first 10 days of adulthood. See text for details.

Figure S1.

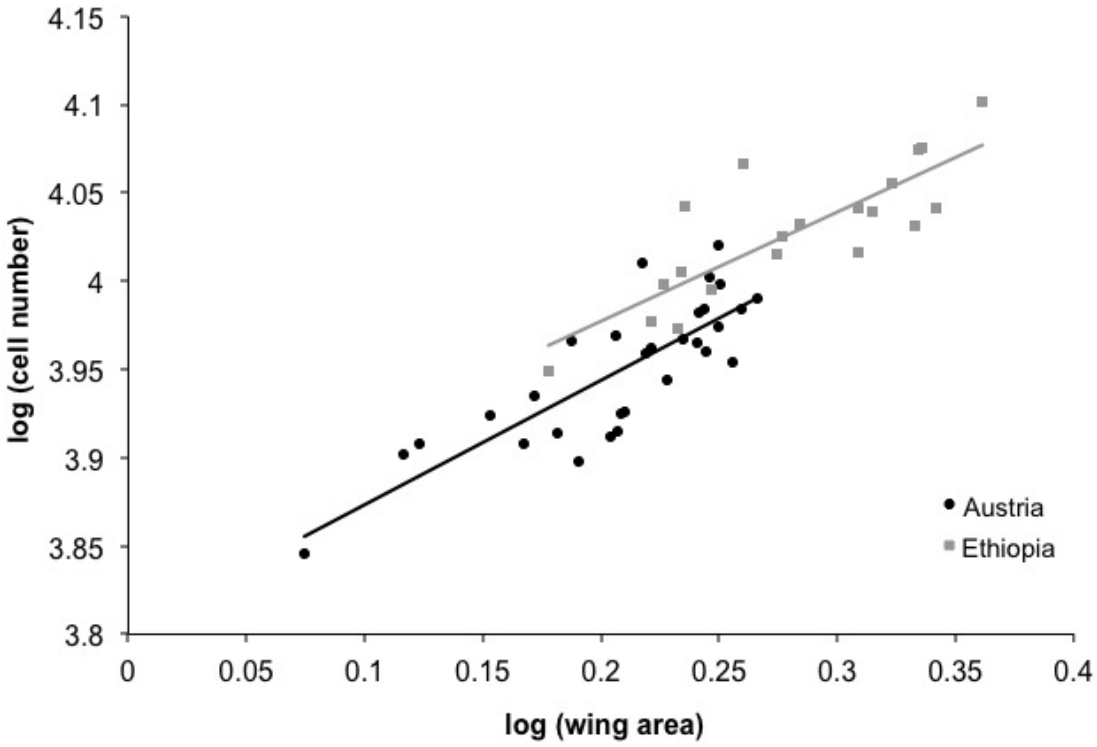
4.15
4.1
4.05
4
3.95
3.9
3.85
3.8
log (cell number)
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
log (wing area)
Austria
Ethiopia

Figure S2.

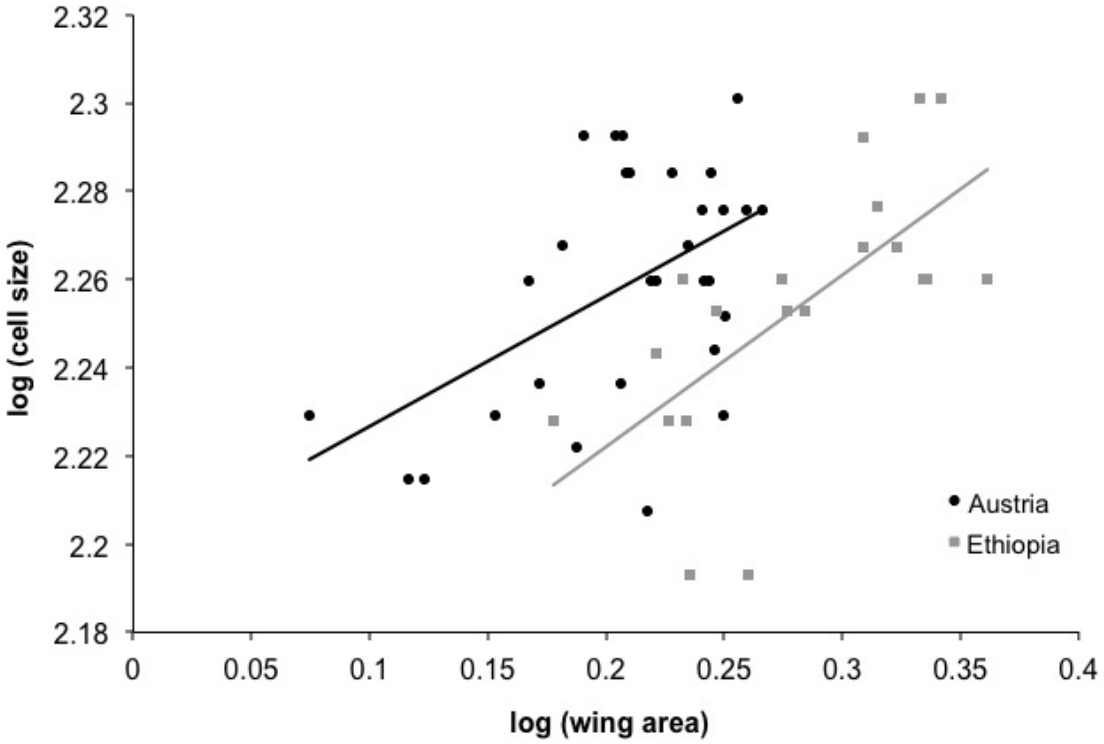
2.32
2.3
2.28
2.26
2.24
2.22
2.2
2.18
log (cell size)
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35
0.4
log (wing area)
Austria
Ethiopia

Figure S3.

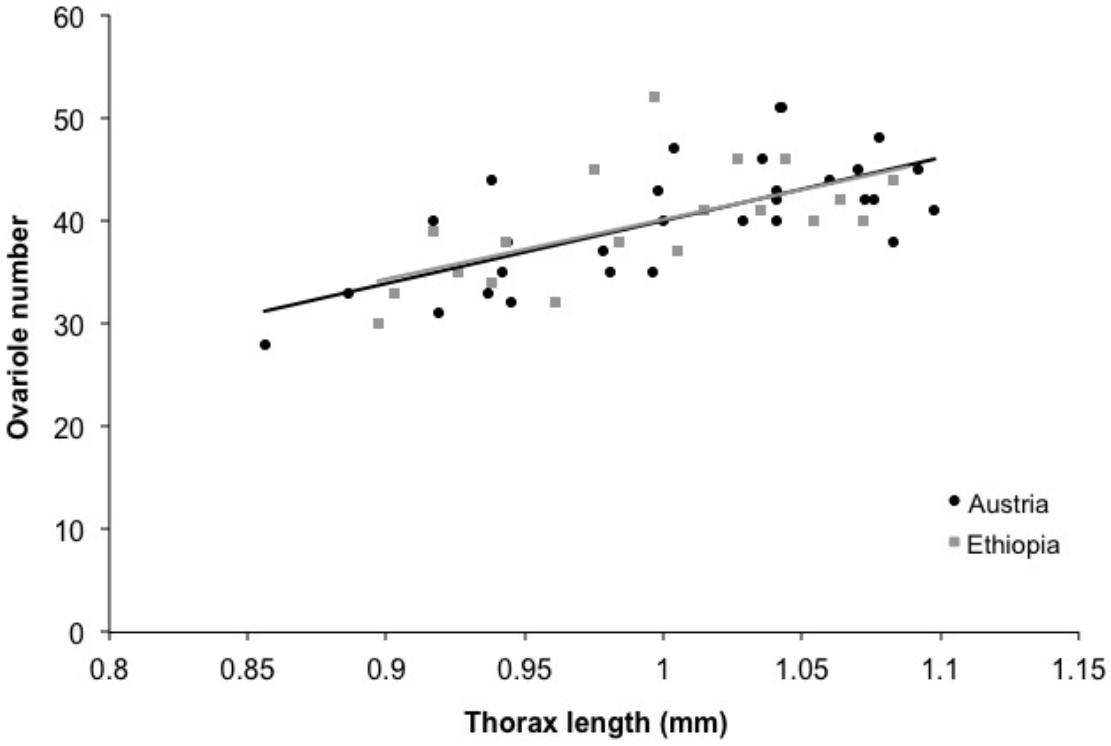
60
50
40
30
20
10
0
Ovariole number
0.8
0.85
0.9
0.95
1
1.05
1.1
1.15
Thorax length (mm)
Austria
Ethiopia

Figure S4.

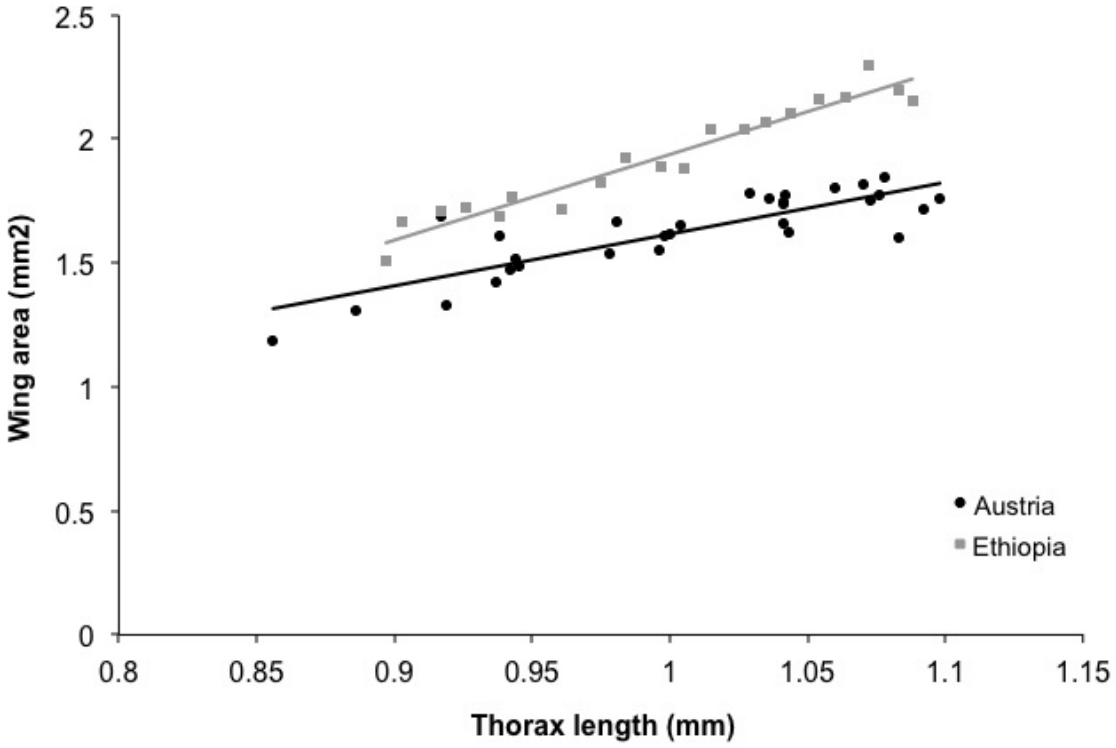
2.5
2
1.5
1
0.5
0
Wing area (mm2)
0.8
0.85
0.9
0.95
1
1.05
1.1
1.15
Thorax length (mm)
Austria
Ethiopia

Figure S5.

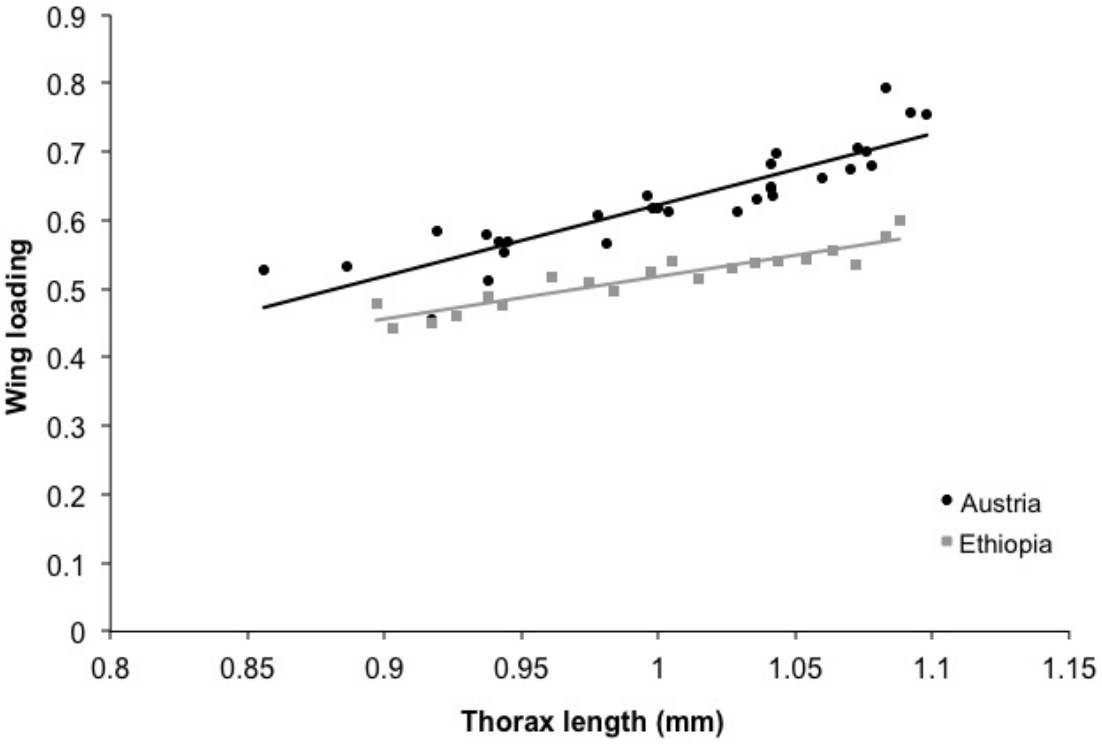
Wing loading
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0.8
0.85
0.9
0.95
1
1.05
1.1
1.15
Thorax length (mm)
Austria
Ethiopia

Figure S6a.

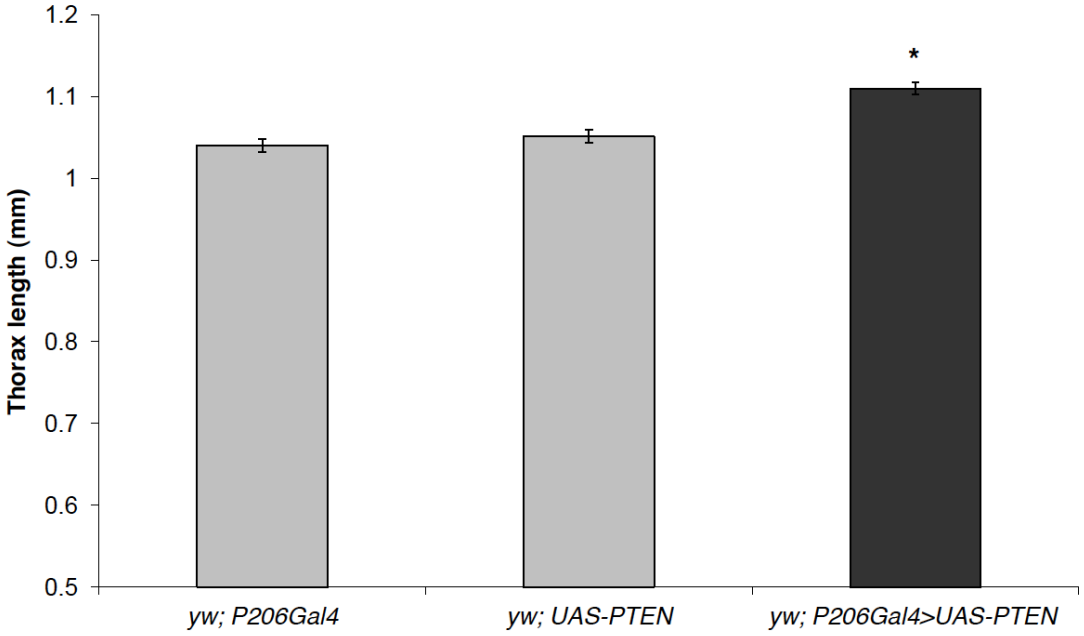

Figure S6b.

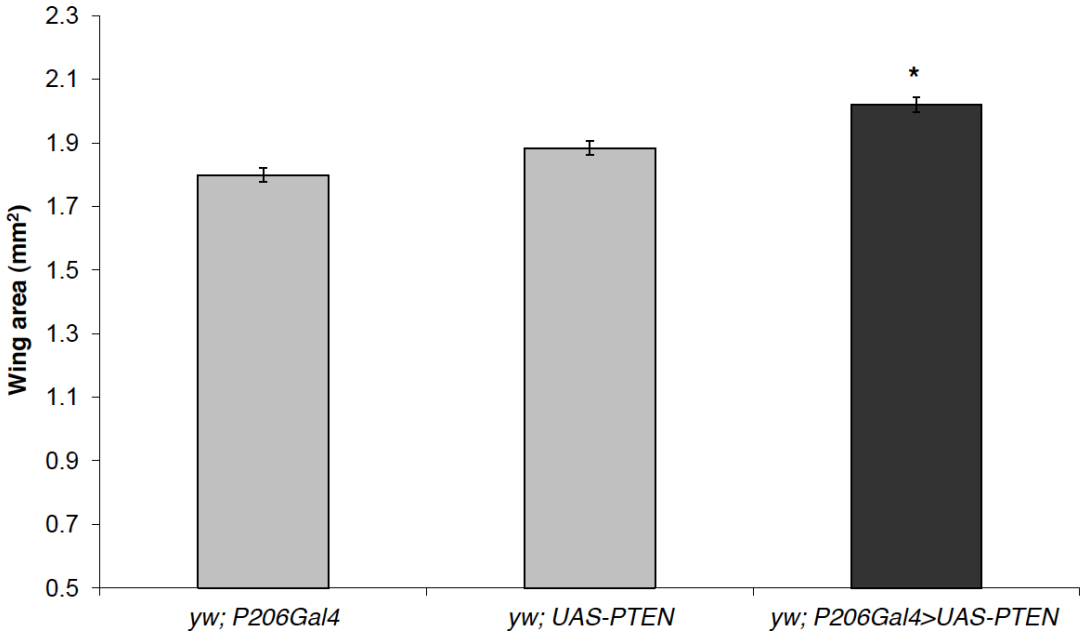

Figure S6c.

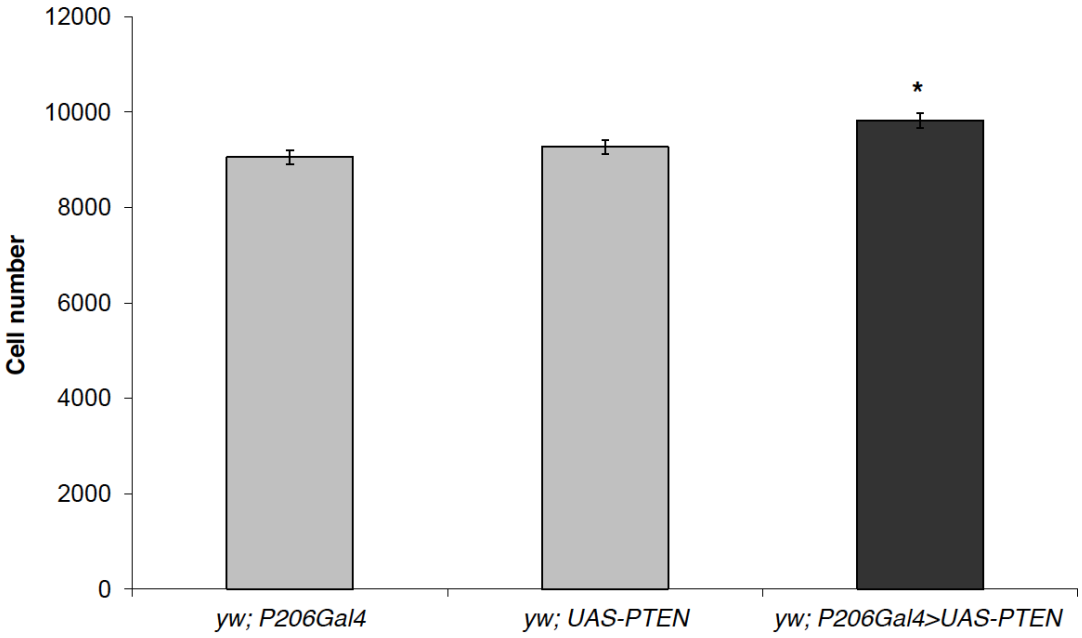

Figure S6d.

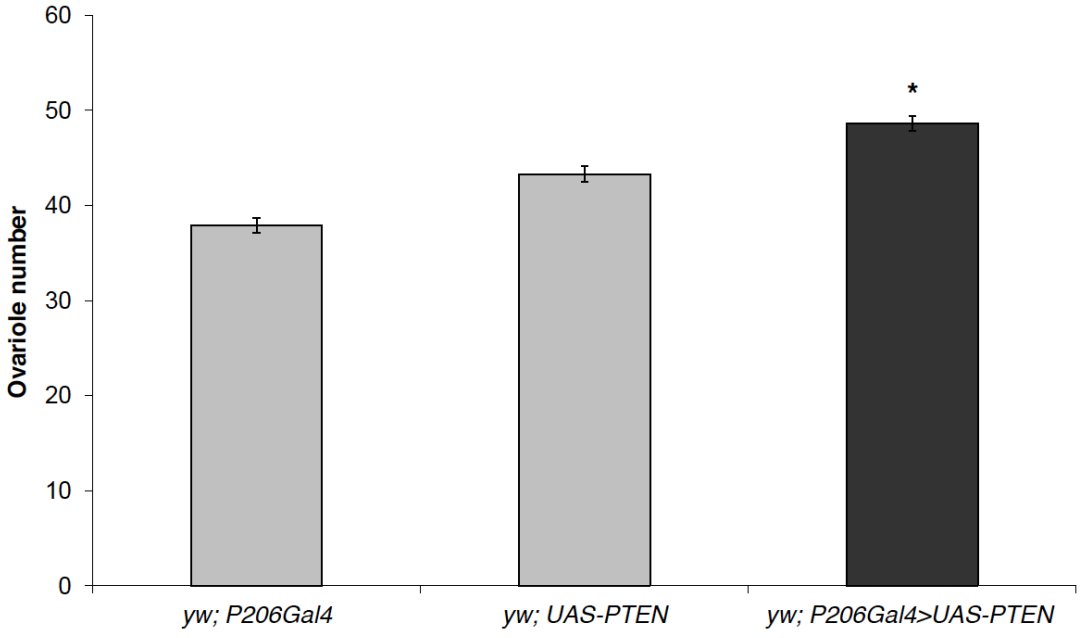

Figure S7.

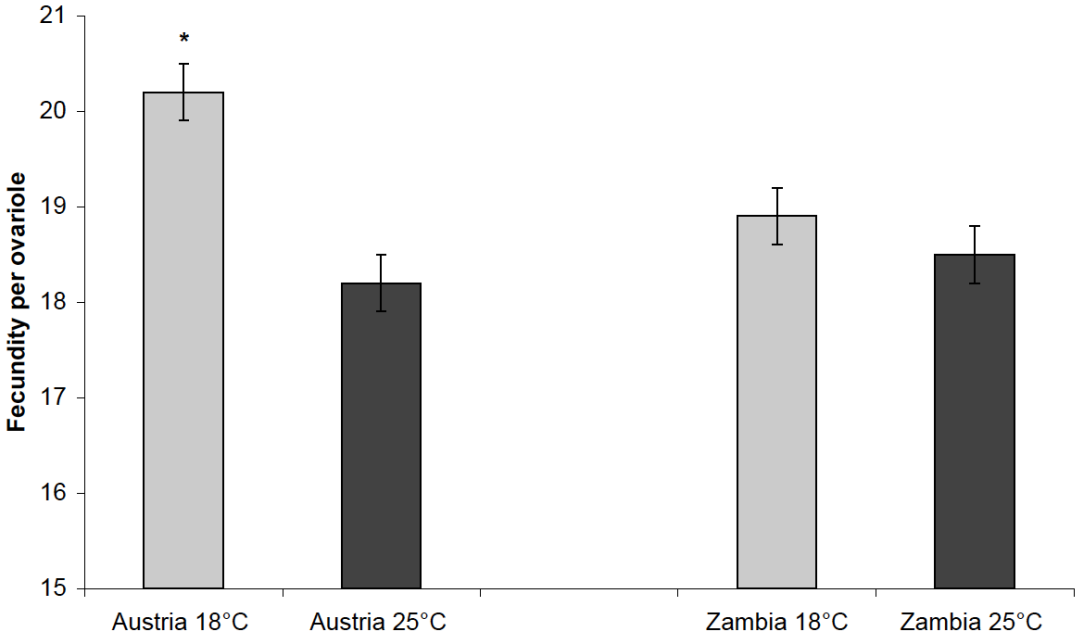
21
20
19
18
17
16
15
*
Fecundity per ovariole
Austria 18°C
Austria 25°C
Zambia 18°C
Zambia 25°C

Table S1. Climate data for different populations. See text for further details.

Population	Locality	Mean annual temperature (°C)	Mean seasonal temperature (°C)	Mean temperature of the hottest month (°C)	Mean temperature of the coldest month (°C)	Difference between the hottest and the coldest month (°C)	Difference between the hottest and the coldest month of the season (°C)	Mean monthly precipitation (mm)	Mean monthly precipitation during the season (mm)	Season length (month)
South Africa	Paarl	16.7	16.7	21.1	12.7	8.4	8.4	42.9	42.9	12
South Africa	Phalaborwa	22.5	22.5	26.5	17.5	9	9	44.2	44.2	12
Madagascar	Antananarivo	18.3	18.3	20.5	15	5.5	5.5	106.5	106.5	12
Zimbabwe	Harare	18.9	18.9	21.7	14.1	7.6	7.6	70.1	70.1	12
Zambia	Siavonga	24.3	24.3	29	18.5	10.5	10.5	63.9	63.9	12
Tanzania	Uyole	17.7	17.7	20.5	14.5	6	6	79.6	79.6	12
Rwanda	Gikongoro	21.0	21.0	21.6	20.3	1.3	1.3	85.1	85.1	12
Gabon	Franceville	24.4	24.4	25.5	23	2.5	2.5	154.8	154.8	12
Kenya	Thika	17.7	17.7	19.4	15.4	4	4	85.4	85.4	12
Cameroon	Oku	16.8	16.8	18.2	15.2	3	3	206	206	12
Ethiopia	Dodola	13.9	13.9	15.5	13	2.5	2.5	71	71	12
Ethiopia	Gambella	27.7	27.7	30.5	26	4.5	4.5	99.8	99.8	12
Ethiopia	Fiche	16.9	16.9	18.5	16	2.5	2.5	99.3	99.3	12
Egypt	New Cairo	21.8	21.8	28.4	14.0	14.4	14.4	2.17	2.2	12
Portugal	Évora	15.7	19.1	23	9.5	13.5	10	51.5	32.6	7
Switzerland	Zürich	8.8	15.6	18	-0.5	18.5	5.5	90.5	113.8	5
Austria	Vienna	9.8	17.6	20	-1.5	21.5	5.5	50.6	60.2	5
England	Royal Tunbridge Wells	11.0	15.9	18	4.8	13.2	6.0	62.8	59	5
Sweden	Uppsala	7.0	16.2	17	-3	20	2	45.4	61.3	3

Table S2. Multiple regression analyses of the effects of altitude, latitude and sex on variation in morphological traits in populations from latitudes between 30°N and 30°S. e(number) = $10^{(number)}$. See text for further details.

		Sex	**Altitude**	**Latitude**	**Sex x Altitude**	**Sex x Latitude**	***F*-ratio**	R^2
Thorax length	Coefficient	0.07 ± 0.01	2.5e-5 ± 6.1 e-6	8.6 e-4 ± 7.1 e-4	5.0 e-6 ± 6.1 e-6	-8.3 e-5 ± 7.1 e-4	$F_{5,18} = 48.33$	0.93
	***F*-ratio**	$F_{1,18} = 223.77$	$F_{1,18} = 17.05$	$F_{1,18} = 1.44$	$F_{1,18} = 0.68$	$F_{1,18} = 0.01$		
	P-value	< 0.0001	0.0006	0.25	0.42	0.91		
Wing area	Coefficient	0.22 ± 0.03	1.8 e-4 ± 3.1 e-5	5.6 e-4 ± 3.6 e-3	3.7 e-5 ± 3.1 e-5	8.6 e-5 ± 3.6 e-3	$F_{5,18} = 23.15$	0.87
	***F*-ratio**	$F_{1,18} = 77.18$	$F_{1,18} = 33.96$	$F_{1,18} = 0.02$	$F_{1,18} = 1.44$	$F_{1,18} = 0.001$		
	P-value	< 0.0001	< 0.0001	0.88	0.25	0.98		
Wing loading	Coefficient	0.05 ± 0.01	-2.1 e-5 ± 7.2 e-6	1.3 e-3 ± 8.4 e-4	-1.5 e-6 ± 7.2 e-6	-2.7 e-4 ± 8.4 e-4	$F_{5,18} = 17.4$	0.83
	***F*-ratio**	$F_{1,18} = 71.56$	$F_{1,18} = 8.55$	$F_{1,18} = 2.48$	$F_{1,18} = 0.04$	$F_{1,18} = 0.1$		
	P-value	< 0.0001	0.009	0.13	0.84	0.76		
Ovariole number	Coefficient	-	1.8 e-3 ± 5.0 e-4	0.14 ± 0.06	-	-	$F_{2,9} = 7.45$	0.62
	***F*-ratio**	-	$F_{1,9} = 13.31$	$F_{1,9} = 5.44$	-	-		
	P-value	-	0.005	0.045	-	-		
Ovariole index	Coefficient	-	-1.3 e-3 ± 6.6 e-4	0.07 ± 0.08	-	-	$F_{2,9} = 3.14$	0.41
	***F*-ratio**	-	$F_{1,9} = 3.94$	$F_{1,9} = 0.71$	-	-		
	P-value	-	0.08	0.42	-	-		
Cell number	Coefficient	497.9 ± 135.1	0.86 ± 0.17	28.4 ± 19.9	0.06 ± 0.17	8.56 ± 19.9	$F_{5,18} = 7.95$	0.69
	***F*-ratio**	$F_{1,18} = 13.59$	$F_{1,18} = 25.87$	$F_{1,18} = 2.03$	$F_{1,18} = 0.14$	$F_{1,18} = 0.19$		
	P-value	0.002	< 0.0001	0.17	0.71	0.67		
Cell size	Coefficient	13.37 ± 0.78	2.1 e-3 ± 9.8 e-4	-0.5 ± 0.12	5.9 e-4 ± 9.8 e-4	-0.13 ± 0.12	$F_{5,18} = 65.84$	0.95
	***F*-ratio**	$F_{1,18} = 294.43$	$F_{1,18} = 4.65$	$F_{1,18} = 18.86$	$F_{1,18} = 0.36$	$F_{1,18} = 1.33$		
	P-value	< 0.0001	0.045	0.0004	0.56	0.26		

Table S3. Multiple regression analyses of the effects of altitude, latitude and sex on variation in morphological traits in populations with elevations below 1500 m AMSL. e(number) = $10^{(number)}$. See text for further details.

		Sex	**Altitude**	**Latitude**	**Sex x Altitude**	**Sex x Latitude**	***F*-ratio**	R^2
Thorax length	Coefficient	0.07 ± 0.003	-2.6 e-6 ± 8.7 e-6	3.3 e-4 ± 2.1 e-4	2.2 e-6 ± 8.7 e-6	1.1 e-4 ± 2.1 e-4	$F_{5, 20} = 92.02$	0.96
	***F*-ratio**	$F_{1, 20} = 455.95$	$F_{1, 20} = 0.09$	$F_{1, 20} = 2.41$	$F_{1, 20} = 0.06$	$F_{1, 20} = 0.29$		
	P-value	< 0.0001	0.77	0.14	0.8	0.6		
Wing area	Coefficient	0.2 ± 0.02	5.2 e-7 ± 4.2 e-5	2.6 e-3 ± 1.0 e-3	2.7 e-5 ± 4.2 e-5	1.0 e-3 ± 1.0 e-3	$F_{5, 20} = 37.25$	0.9
	***F*-ratio**	$F_{1, 20} = 176.72$	$F_{1, 20} = 0.0002$	$F_{1, 20} = 6.48$	$F_{1, 20} = 0.42$	$F_{1, 20} = 1.06$		
	P-value	< 0.0001	0.99	0.02	0.52	0.32		
Wing loading	Coefficient	0.05 ± 0.01	-7.3 e-6 ± 1.3 e-5	-4.3 e-4 ± 3.3 e-4	-8.5 e-6 ± 1.3 e-5	-1.7 e-4 ± 3.3 e-4	$F_{5, 20} = 17.69$	0.82
	***F*-ratio**	$F_{1, 20} = 86.22$	$F_{1, 20} = 0.3$	$F_{1, 20} = 1.74$	$F_{1, 20} = 0.41$	$F_{1, 20} = 0.28$		
	P-value	< 0.0001	0.59	0.20	0.53	0.60		
Ovariole number	Coefficient	-	1.6 e-3 ± 1.5 e-3	0.14 ± 0.04	-	-	$F_{2, 10} = 8.47$	0.63
	***F*-ratio**	-	$F_{1, 10} = 1.2$	$F_{1, 10} = 15.98$	-	-		
	P-value	-	0.30	0.003	-	-		
Ovariole index	Coefficient	-	1.1 e-3 ± 1.0 e-4	0.08 ± 0.02	-	-	$F_{2, 10} = 5.31$	0.52
	***F*-ratio**	-	$F_{1, 10} = 1.31$	$F_{1, 10} = 10.37$	-	-		
	P-value	-	0.28	0.009	-	-		
Cell number	Coefficient	464.7 ± 83.1	0.17 ± 0.23	16.9 ± 5.6	0.09 ± 0.23	1.9 ± 5.6	$F_{5, 20} = 8.29$	0.68
	***F*-ratio**	$F_{1, 20} = 31.28$	$F_{1, 20} = 0.56$	$F_{1, 20} = 9.27$	$F_{1, 20} = 0.16$	$F_{1, 20} = 0.12$		
	P-value	< 0.0001	0.46	0.006	0.69	0.74		
Cell size	Coefficient	13.7 ± 0.8	-4.9 e-3 ± 2.2 e-3	-0.07 ± 0.05	5.4 e-6 ± 2.2 e-3	0.05 ± 0.05	$F_{5, 20} = 58.07$	0.94
	***F*-ratio**	$F_{1, 20} = 284.32$	$F_{1, 20} = 4.92$	$F_{1, 20} = 1.6$	$F_{1, 20} = 0.00$	$F_{1, 20} = 0.83$		
	P-value	< 0.0001	0.04	0.22	0.99	0.37		

Table S4. Path coefficients and their 95% confidence limits from the path model of altitudinal and latitudinal effects on thorax length, wing area and ovariole number. In females, the path model was constructed without (Females) and with ovariole number (Females + Ovariole number). Direct effect is the effect of one variable (factor) on another variable (response variable), which is represented in the model by a single (direct) path; indirect effect passes through some other variable. Total effect is the combination of the direct and indirect effects.

			Direct effects			**Total effects**		
	Factor	**Response variable**	Path coefficient	Lower 95% CI	Upper 95% CI	Path coefficient	Lower 95% CI	Upper 95% CI
Males	Latitude	Thorax	0.525 ± 0.288	-0.147	1.074	0.525 ± 0.288	-0.147	1.074
	Latitude	Wing	0.210 ± 0.230	-0.129	0.824	0.524 ± 0.278	0.040	1.184
	Altitude	Thorax	0.626 ± 0.440	-0.478	1.161	0.626 ± 0.440	-0.478	1.161
	Altitude	Wing	0.583 ± 0.238	0.224	1.175	0.958 ± 0.300	0.178	1.487
	Thorax	Wing	0.599 ± 0.162	0.243	0.863	0.599 ± 0.162	0.243	0.863
Females	Latitude	Thorax	0.621 ± 0.241	0.168	1.142	0.621 ± 0.241	0.168	1.142
	Latitude	Wing	0.164 ± 0.189	-0.083	0.659	0.598 ± 0.251	0.200	1.176
	Altitude	Thorax	0.980 ± 0.282	0.235	1.431	0.980 ± 0.282	0.235	1.431
	Altitude	Wing	0.399 ± 0.195	0.155	0.922	1.083 ± 0.251	0.533	1.618
	Thorax	Wing	0.698 ± 0.112	0.428	0.865	0.698 ± 0.112	0.428	0.865
Females (+ Ovariole number)	Latitude	Thorax	0.621 ± 0.249	0.188	1.151	0.621 ± 0.249	0.188	1.151
	Latitude	Wing	0.164 ± 0.201	-0.096	0.691	0.598 ± 0.261	0.216	1.248
	Latitude	Ovariole number	0.799 ± 0.255	0.126	1.202	1.038 ± 0.166	0.721	1.375
	Altitude	Thorax	0.980 ± 0.292	0.281	1.482	0.980 ± 0.292	0.281	1.482
	Altitude	Wing	0.399 ± 0.207	0.159	0.991	1.083 ± 0.257	0.528	1.642
	Altitude	Ovariole number	0.305 ± 0.291	-0.473	0.778	0.683 ± 0.163	0.371	1.008
	Thorax	Wing	0.698 ± 0.118	0.404	0.881	0.698 ± 0.118	0.404	0.881
	Thorax	Ovariole number	0.385 ± 0.196	0.086	0.864	0.385 ± 0.196	0.086	0.864

Table S5. Comparison of path coefficients between sexes, based on bootstrap *t*-test. See text for further details.

		***t*-statistic**	***P*-value**
Latitude	Thorax	0.29	0.39
Latitude	Wing	0.23	0.41
Altitude	Thorax	0.87	0.19
Altitude	Wing	0.59	0.28
Thorax	Wing	0.25	0.40

Table S6. Factor loadings. See text for further details.

	Factor 1	**Factor 2**	**Factor 3**
Altitude	0.75	-0.37	0.35
Latitude	-0.83	-0.31	-0.40
Longitude	0.78	0.04	-0.16
Mean annual temperature	0.51	0.86	0.03
Mean seasonal temperature	0.07	0.96	-0.003
Temperature of the hottest month (MAX)	0.04	0.95	-0.26
Temperature of the coldest month (MIN)	0.68	0.68	0.22
Annual MAX – MIN temperature	-0.83	-0.21	-0.45
Seasonal MAX – MIN temperature	-0.16	0.36	-0.74
Mean monthly precipitation	0.15	0.07	0.96
Mean monthly precipitation (during season)	0.09	0.01	0.96
Length of the season	0.87	0.42	0.07

Table S7. Multiple regression analyses of the effects of the three factors with the largest eigenvalues (obtained from factor analysis) and sex on variation in morphological traits. e(number) = $10^{(number)}$. See text for further details.

		Sex	**Factor 1**	**Factor 2**	**Factor 3**	**Sex x Factor 1**	**Sex x Factor 2**	**Sex x Factor 3**	***F*-ratio**	R^2
Thorax length	Coefficient	0.07 ± 4.0 e-3	5.0 e-3 ± 4.3 e-3	-0.8 e-3 ± 4.3 e-3	-2.0 e-3 ± 4.3 e-3	1.9 e-3 ± 4.3 e-3	-3.0 e-3 ± 4.3 e-3	2.2 ± 4.3 e-3	$F_{7, 30} = 41.89$	0.91
	F-ratio	$F_{1, 30} = 287.12$	$F_{1, 30} = 1.31$	$F_{1, 30} = 3.69$	$F_{1, 30} = 0.21$	$F_{1, 30} = 0.19$	$F_{1, 30} = 0.48$	$F_{1, 30} = 0.26$		
	P-value	< 0.0001	0.26	0.06	0.65	0.67	0.50	0.61		
Wing area	Coefficient	0.22 ± 0.02	0.051 ± 0.02	-0.08 ± 0.02	0.03 ± 0.02	6.4 e-3 ± 0.02	-0.02 ± 0.02	0.01 ± 0.02	$F_{7, 30} = 17.06$	0.80
	F-ratio	$F_{1, 30} = 97.96$	$F_{1, 30} = 5.12$	$F_{1, 30} = 14.18$	$F_{1, 30} = 1.27$	$F_{1, 30} = 0.08$	$F_{1, 30} = 0.71$	$F_{1, 30} = 0.21$		
	P-value	< 0.0001	0.03	0.0007	0.27	0.78	0.41	0.65		
Wing loading	Coefficient	0.05 ± 4.0 e-3	-9.1 e-3 ± 4.0 e-3	0.02 ± 4.0 e-3	-0.01 ± 4.0 e-3	1.8 e-3 ± 4.0 e-3	8.4 e-5 ± 4.0 e-3	1.1 e-3 ± 4.0 e-3	$F_{7, 30} = 26.01$	0.86
	F-ratio	$F_{1, 30} = 149.55$	$F_{1, 30} = 5.34$	$F_{1, 30} = 16.21$	$F_{1, 30} = 10.7$	$F_{1, 30} = 0.21$	$F_{1, 30} = 0.0005$	$F_{1, 30} = 0.08$		
	P-value	< 0.0001	0.03	0.0004	0.003	0.65	0.98	0.79		
Ovariole number	Coefficient	-	-0.99 ± 0.48	-1.36 ± 0.47	-0.49 ± 0.47	-	-	-	$F_{3, 15} = 4.56$	0.48
	F-ratio	-	$F_{1, 15} = 4.28$	$F_{1, 15} = 8.23$	$F_{1, 15} = 1.06$	-	-	-		
	P-value	-	0.06	0.01	0.32	-	-	-		
Ovariole index	Coefficient	-	-1.58 ± 0.42	0.01 ± 0.41	-0.71 ± 0.41	-	-	-	$F_{3, 15} = 5.84$	0.54
	F-ratio	-	$F_{1, 15} = 14.47$	$F_{1, 15} = 0.0009$	$F_{1, 15} = 2.98$	-	-	-		
	P-value	-	0.002	0.98	0.11	-	-	-		
Cell number	Coefficient	483.3 ± 109.1	197.6 ± 113.0	-432.0 ± 112.3	19.0 ± 112.3	19.6 ± 113.0	-31.7 ± 112.3	-1.9 ± 112.3	$F_{7, 30} = 5.36$	0.56
	F-ratio	$F_{1, 30} = 19.63$	$F_{1, 30} = 3.06$	$F_{1, 30} = 14.79$	$F_{1, 30} = 0.03$	$F_{1, 30} = 0.03$	$F_{1, 30} = 0.08$	$F_{1, 30} = 0.0003$		
	P-value	0.0001	0.09	0.0006	0.87	0.86	0.78	0.99		
Cell size	Coefficient	13.8 ± 0.8	1.4 ± 0.8	-0.4 ± 0.8	1.9 ± 0.8	-0.5 ± 0.8	-0.4 ± 0.8	0.4 ± 0.8	$F_{7, 30} = 43.91$	0.91
	F-ratio	$F_{1, 30} = 297.81$	$F_{1, 30} = 2.87$	$F_{1, 30} = 0.61$	$F_{1, 30} = 5.5$	$F_{1, 30} = 0.42$	$F_{1, 30} = 0.27$	$F_{1, 30} = 0.22$		
	P-value	< 0.0001	0.10	0.61	0.03	0.52	0.61	0.65		

Table S8. Linear regressions between individual morphological traits.

Trait 1	Trait 2	Population	Slope	Intercept	*F*-ratio	R^2	*P*-value
Thorax length	Wing area	Austria	2.09 ± 0.25	-0.47 ± 0.25	$F_{1, 28} = 69.00$	0.71	< 0.0001
		Ethiopia	3.46 ± 0.21	-1.52 ± 0.21	$F_{1, 18} = 265.44$	0.94	< 0.0001
Thorax length	Wing loading	Austria	1.04 ± 0.1	-0.42 ± 0.1	$F_{1, 28} = 113.45$	0.80	< 0.0001
		Ethiopia	0.62 ± 0.06	-0.1 ± 0.06	$F_{1, 18} = 115.65$	0.87	< 0.0001
Thorax length	Ovariole number	Austria	61.12 ± 12.01	-21.11 ± 12.09	$F_{1, 28} = 25.92$	0.48	< 0.0001
		Ethiopia	57.92 ± 17.67	-17.8 ± 17.55	$F_{1, 18} = 10.74$	0.39	0.004
log(wing area)	log(cell number)	Austria	0.71 ± 0.09	3.8 ± 0.02	$F_{1, 28} = 56.21$	0.67	< 0.0001
		Ethiopia	0.62 ± 0.1	3.85 ± 0.03	$F_{1, 18} = 36.89$	0.67	< 0.0001
log(wing area)	log(cell size)	Austria	0.3 ± 0.09	2.2 ± 0.02	$F_{1, 28} = 9.87$	0.26	0.004
		Ethiopia	0.39 ± 0.1	2.14 ± 0.03	$F_{1, 18} = 14.48$	0.45	0.001

Table S9. Spearman rank correlation coefficients (ρ) for pairwise correlations between morphological traits and fecundity, measured in females from the outbred Austrian and Zambian populations. $^{***}P < 0.0001$; $^{**}P < 0.001$; $^{*}P < 0.05$; all P values after Bonferroni-Holm correction. See text for further details.

		Fecundity	**Fecundity per ovariole**
Thorax length	Austria 25°C	0.5^{***}	0.23
	Austria 18°C	0.34^{*}	-0.05
	Zambia 25°C	0.26	0.06
	Zambia 18°C	0.21	-0.04
Ovariole number	Austria 25°C	0.33	-0.4^{*}
	Austria 18°C	0.31	-0.46^{***}
	Zambia 25°C	0.5^{***}	-0.39^{*}
	Zambia 18°C	0.51^{***}	-0.41^{*}
Ovariole index	Austria 25°C	-0.17	-0.59^{***}
	Austria 18°C	0.04	-0.42^{**}
	Zambia 25°C	0.27	-0.4^{*}
	Zambia 18°C	0.28	-0.42^{*}

Table S10. Two-way analysis of variance (ANOVA) for ovariole index and egg production rate per ovariole. *df* - degrees of freedom; SSQ - the sum of squares for each source of variation.

Trait	Source of variation	*df*	SSQ	*F*-ratio	*P*-value
Ovariole index	Population	1	665.24	35.28	< 0.0001
	Temperature	1	2408.45	127.71	< 0.0001
	Population × Temperature	1	0.72	0.04	0.85
	Error	277	5223.86	-	-
Egg production rate per ovariole	Population	1	15.8	2.29	0.13
	Temperature	1	102.02	14.78	0.0002
	Population × Temperature	1	49.92	7.23	0.008
	Error	277	1912.74	-	-