

Sexual selection favours good or bad genes for pathogen resistance depending on males' pathogen exposure

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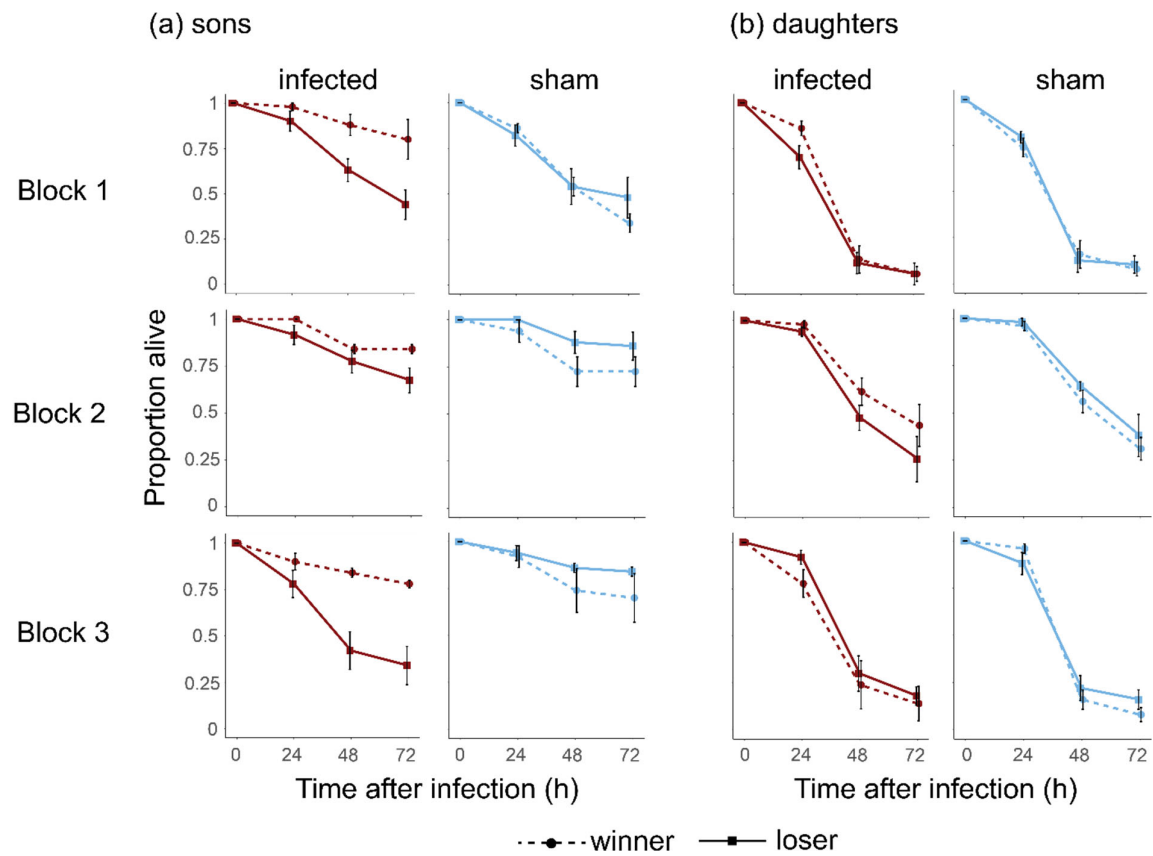
Supplementary material

Supplementary Figures S1 and S2.

Supplementary Tables S1 and S2.



Supplementary Figure 1. A scheme of the vial used for mating contests. Flies of the two sexes are placed on opposite sides of a cardboard divider and let acclimatize. The assay is initiated when the separator is removed through the slit in the plug.



Supplementary Figure S2. Post-infection survival curves of offspring of winner and loser fathers (the same data as in figure 2a,b) split by experimental block. (a) sons and (b) daughters. Symbols are means \pm SE.

Supplementary Table 1. The results of likelihood ratio tests of factors included in the generalized mixed model fitted to offspring survival until 48 h and until 72 h from the beginning of infection.

(a) Joint analysis of offspring of both sexes

Factor	48 h post-infection		72 h post-infection	
	χ^2_1	<i>p</i>	χ^2_1	<i>p</i>
Mating outcome (winner/loser)	2.8	0.091	2.1	0.14
Treatment (infection/sham)	0.3	0.58	0.02	0.89
Mating outcome \times treatment	17.2	< 0.0001	28.2	< 0.0001
Offspring sex	230.3	< 0.0001	303.5	< 0.0001
Mating outcome \times offspring sex	3.0	0.081	3.0	0.081
Treatment \times offspring sex	0.1	0.74	0.1	0.81
Mating outcome \times treatment \times offspring sex	8.0	0.0046	7.4	0.0067
Block (random)	22.9	< 0.0001	15.7	< 0.0001
Winner-loser duo (random)	3.8	0.051	10.1	0.0015

(b) Separate analysis for offspring of each sex

Factor	Sons 48 h		Daughters 48 h		Sons 72 h		Daughters 72 h	
	χ^2_1	<i>p</i>	χ^2_1	<i>p</i>	χ^2_1	<i>p</i>	χ^2_1	<i>p</i>
Mating outcome (winner/loser)	5.3	0.021	0.00	0.98	5.6	0.018	0.02	0.89
Treatment (infection/sham)	0.3	0.59	0.03	0.86	0.01	0.92	0.01	0.96
Mating outcome \times treatment	22.9	< 0.0001	0.9	0.33	38.6	< 0.0001	3.0	0.083
Block (random)	1.2	0.27	22.9	< 0.0001	4.2	0.041	10.2	0.0014
Winner-loser duo (random)	6.3	0.012	1.7	0.19	15.4	< 0.0001	10.8	0.0010

Supplementary Table 2. Likelihood ratio test of father's success versus father's post-infection survival as predictors of offspring survival 72 h post-infection (GLMM with binomial error distribution and logit link). Only sires subject to the infection treatment are included.

Factor	Sons		Daughters	
	χ^2_1	p	χ^2_1	p
Mating outcome (winner/loser)	33.9	<0.0001	0.1	0.75
Father's survival (dead/alive)	1.2	0.26	2.6	0.10
Mating outcome \times father's survival	1.8	0.18	0.0	0.98
Block (random)	4.5	0.033	15.3	< 0.0001