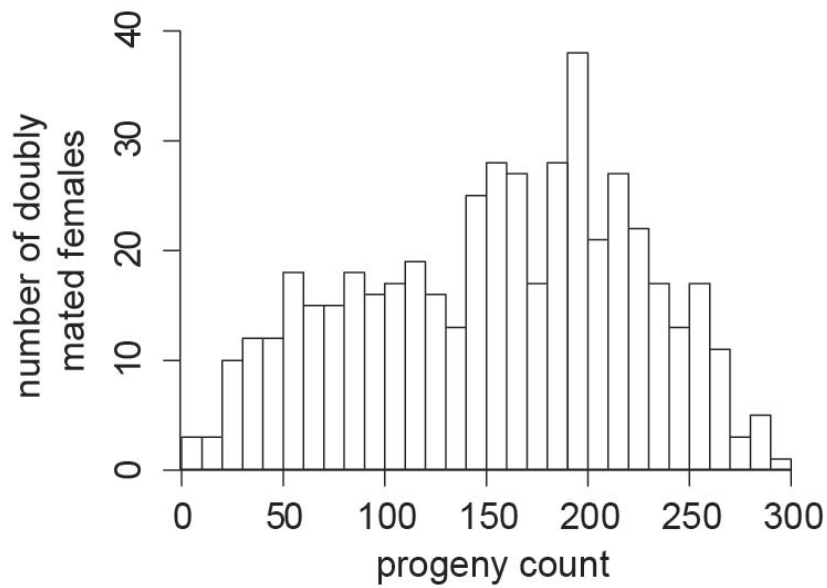


Supplemental Figure 1a



Supplemental Figure 1b

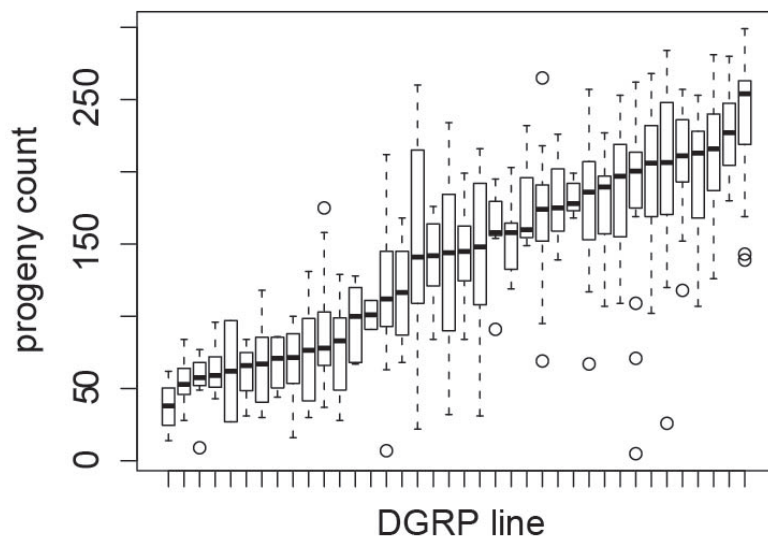


Figure S1 Progeny counts. (a) Histogram showing the distribution of progeny counts from all doubly-mated females. (b) There is a significant effect of DGRP female phenotype in progeny count ($P < 3.92 \times 10^{-13}$). See Table S1 for line numbers.

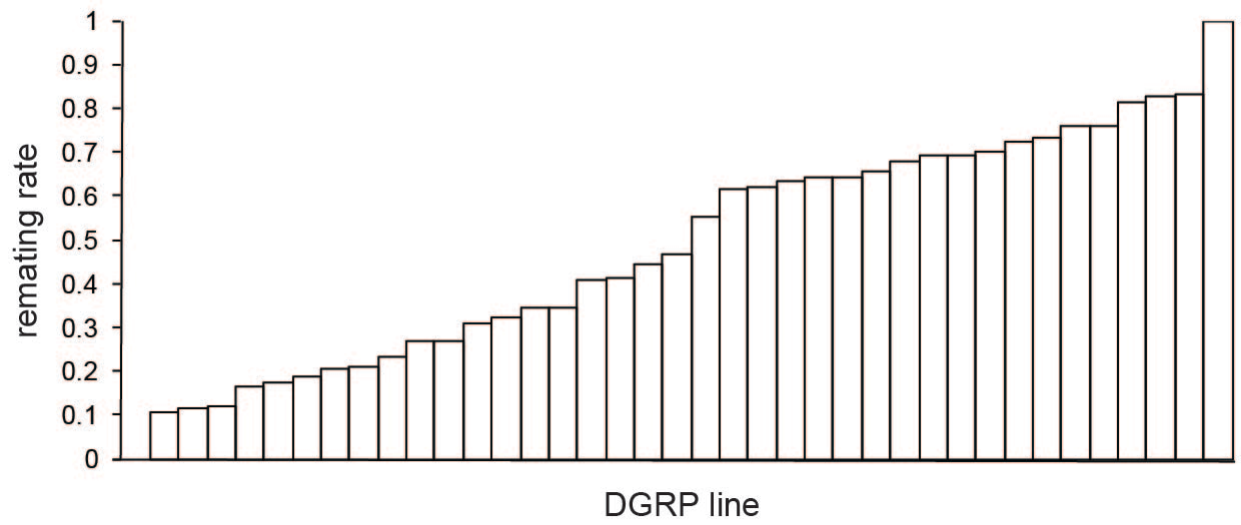


Figure S2 Remating rate. There is a significant effect of DGRP female genotype on remating rate ($P=0.003$). Remating rate is the proportion of females that mated twice ($N=30$ for each line). See Table S1 for line numbers.

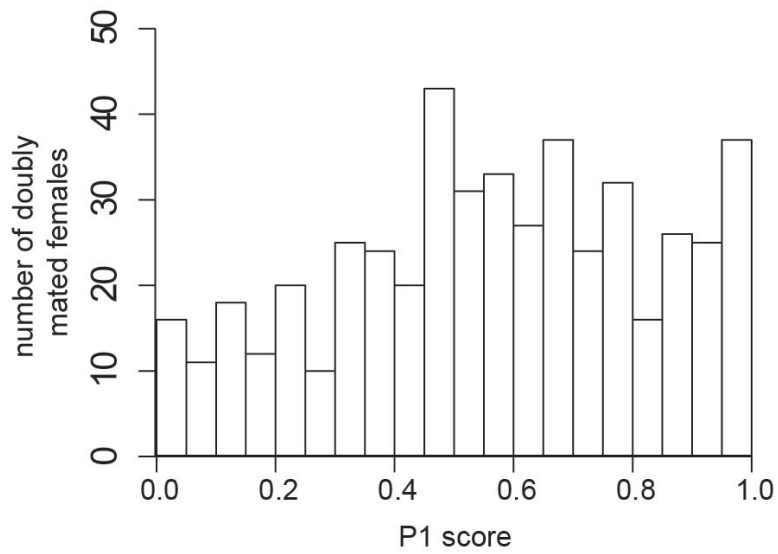


Figure S3 P1 Scores. Histogram of the distribution of P1 scores from all doubly-mated females.

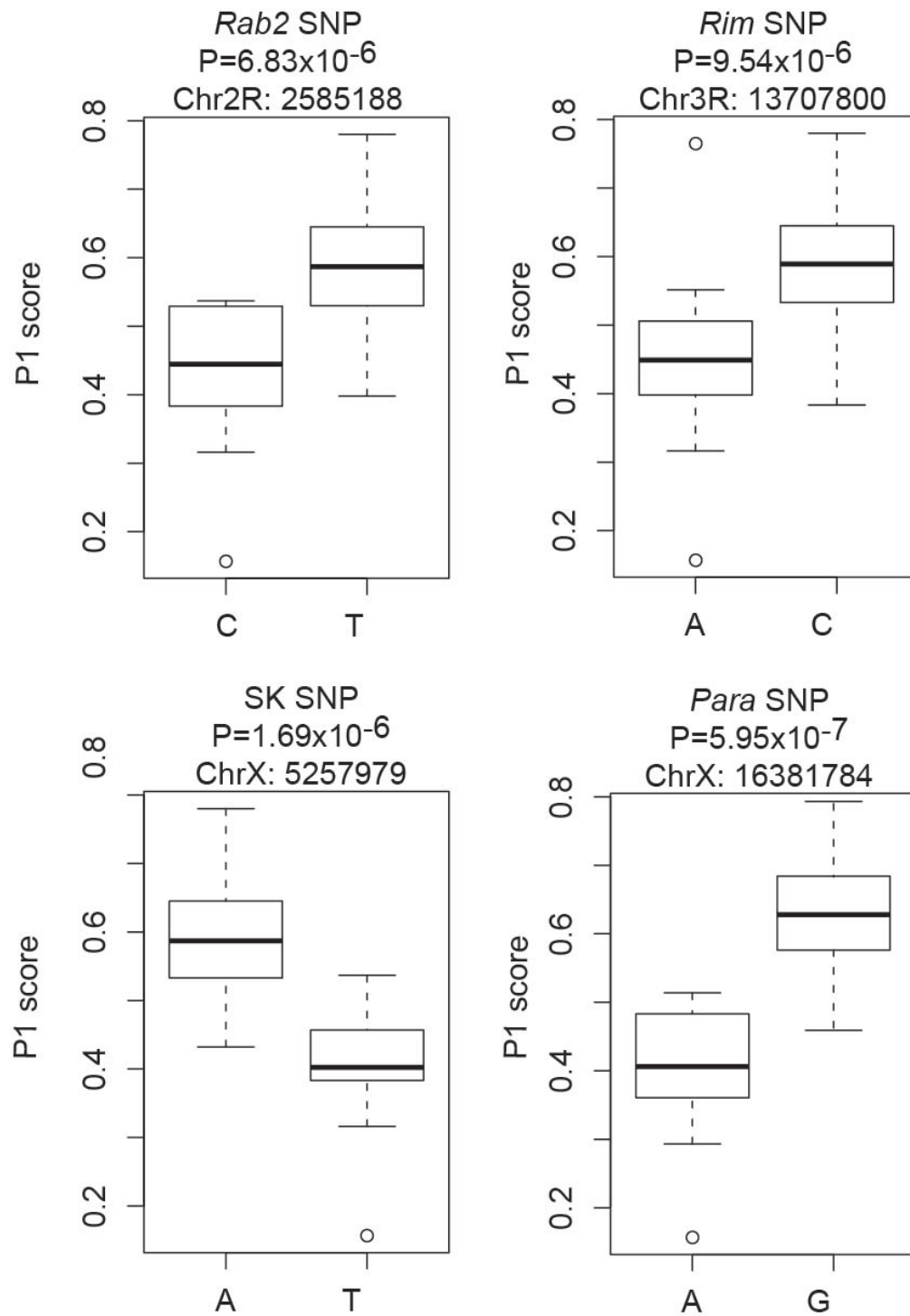
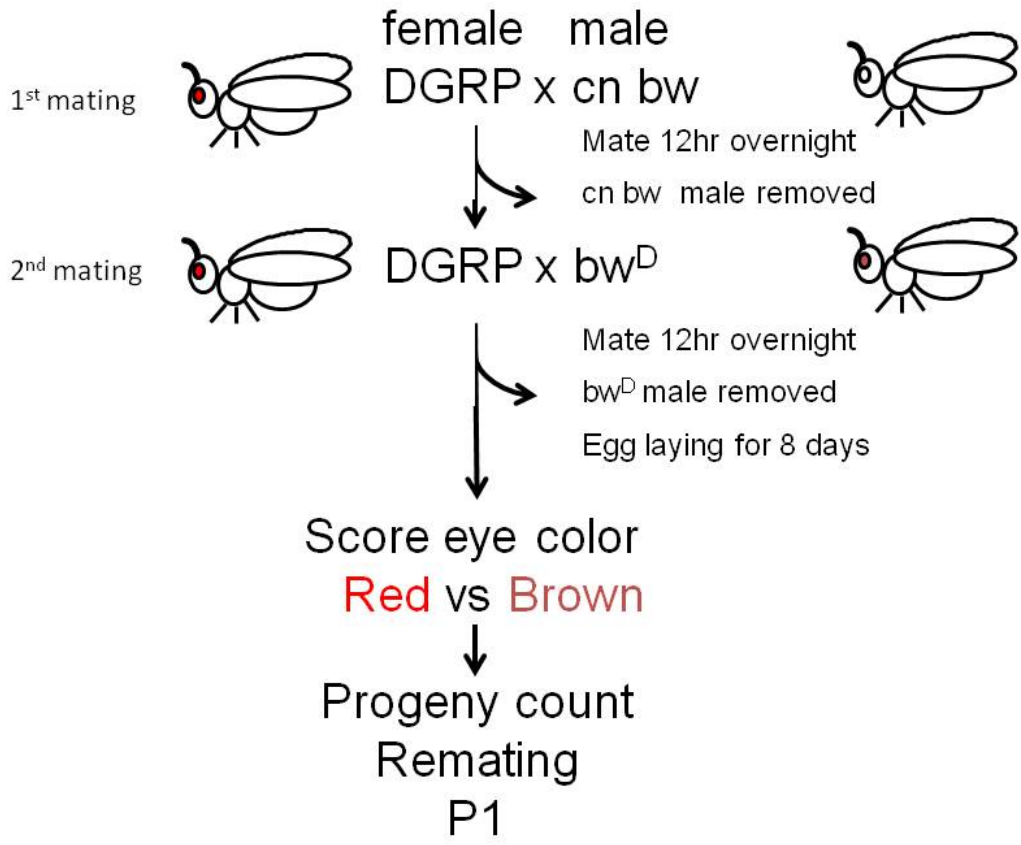


Figure S4 SNP effects for genes functionally tested. Box plots of the most significant SNP associations in the four genes functionally tested. For each SNP, the lines are partitioned into two groups representing each allele. The individual box plots represent the P1 scores for the lines carrying the particular allele listed on the X-axis.



P1 – proportion of 1st male progeny, after 2nd mating

Figure S5 Crossing scheme employed in this study. Eye colors are indicated in the cartoon flies. See methods for complete details.

Table S1 Phenotypes measured in the DGRP lines

line	P1*	progeny*	remate
RAL208	0.56	236.36	0.73
RAL301	0.53	208.25	0.70
RAL303	0.62	179.50	0.63
RAL304	0.61	197.86	0.81
RAL306	0.48	68.00	0.17
RAL307	0.77	96.60	0.35
RAL313	NA	NA	0.00
RAL315	0.40	60.33	0.12
RAL324	0.59	202.71	0.83
RAL335	0.64	227.50	0.55
RAL357	0.32	117.87	0.64
RAL358	0.38	182.00	0.17
RAL360	0.50	66.75	0.64
RAL362	0.43	187.64	0.69
RAL365	0.51	213.32	0.83
RAL375	0.72	167.59	0.62
RAL379	0.65	90.29	0.68
RAL380	0.38	144.00	0.69
RAL391	0.57	183.55	0.72
RAL399	0.65	159.13	0.27
RAL427	0.60	177.14	0.76
RAL437	0.53	67.42	0.44
RAL486	0.65	37.58	0.41
RAL514	0.54	180.33	0.21
RAL517	0.71	118.36	0.47
RAL555	0.52	75.13	0.62
RAL639	0.55	54.33	0.41
RAL705	0.46	55.13	0.27
RAL707	0.45	64.20	0.21
RAL712	0.54	77.60	0.19
RAL714	0.56	200.36	1.00
RAL730	0.16	62.00	0.11
RAL732	0.70	139.00	0.66
RAL765	0.59	153.00	0.23
RAL774	0.53	138.45	0.76
RAL786	0.41	153.43	0.32
RAL799	0.54	101.00	0.12
RAL820	0.78	143.78	0.31
RAL852	0.60	179.44	0.34

*mean values

Table S2 Genes with SNPs associated with progeny count

rank order*	Gene	chrs	position		P-value [#]
1	ssp3	2L	18933865	intronic	1.77E-07
2	ena	2R	15049085	synonymous	4.48E-06
3	mamo	X	13823859	intronic	5.95E-06
4	Sr-CI	2L	4126958	downstream	7.27E-06
5	GalNAc-T1	2R	11398750	upstream	7.74E-06
6	lr52d	2R	11398750	downstream	7.74E-06
7	Sema-1a	2L	8632293	intronic	8.63E-06
8	Samuel	2L	11054465	intronic	8.92E-06

* rank order of the most significant associated SNP in a particular gene.

[#] P-value cutoff of $P < 10^{-6}$

Table S3 Genes with SNPs associated with remating rate

rank order*	Gene	chrs	position		P-value [#]
1	Gr28b	2L	7456217	synonymous	1.34E-06
2	gish	3R	12113328	intronic	1.35E-06
3	CG11883	2R	6527136	synonymous	3.61E-06
4	CG2816	2L	3703331	intergenic	4.06E-06
5	CG43145	2L	3703331	intergenic	4.06E-06
6	Gr28b	2L	7456118	synonymous	5.00E-06
7	Zfrp8	2R	20021812	intronic	5.45E-06
8	kirre	X	3020302	intronic	5.99E-06
9	CG11034	2L	5809499	intergenic	6.53E-06
10	sr	3R	13942698	intronic	6.63E-06

* rank order of the most significant associated SNP in a particular gene.

[#] P-value cutoff of $P < 10^{-6}$

Table S4 All associated SNPs with a nominal $P \leq 0.05$

Available for download at <http://www.genetics.org/lookup/suppl/doi:10.1534/genetics.112.146357/-/DC1> as a csv file.