

| category                        | group1(lay>=20)            | group2(lay>=20)             | n1     | mean1 | n2    | mean2 | differential hatch:<br>mean1-mean2 | proportion<br>hatch/day:<br>mean2/mean1 | test                                        | p-value                |
|---------------------------------|----------------------------|-----------------------------|--------|-------|-------|-------|------------------------------------|-----------------------------------------|---------------------------------------------|------------------------|
| wild type<br>(WT) fertility     | WT_OreR_wMel               | WT_OreR_uninf               | 76     | 88.40 | 104   | 83.18 | 5.22                               | 0.94                                    | Wilcoxon rank sum                           | 3.46E-07               |
|                                 | WT_OreR_uninf              | WT_F10_OreR_uninf           | ""     | ""    | 64    | 80.88 | 2.30                               | 0.97                                    | Wilcoxon rank sum                           | 1.17E-01               |
|                                 | WT_OreR_wMel               | WT_F10_OreR_uninf           | ""     | ""    | ""    | ""    | 7.51                               | 0.92                                    | Wilcoxon rank sum                           | 8.98E-03               |
|                                 | nos:Gal4>RFP_wMel          | nos:Gal4>RFP_uninf          | 12     | 88.49 | 16    | 90.50 | -2.01                              | 1.02                                    | Wilcoxon rank sum                           | 9.82E-01               |
|                                 | WT_OreR_wMel               | nos:Gal4>RFP_wMel           | ""     | ""    | ""    | ""    | 0.09                               | 1.00                                    | Wilcoxon rank sum                           | 7.15E-01               |
|                                 | WT_OreR_uninf              | nos:Gal4>RFP_uninf          | ""     | ""    | ""    | ""    | 7.32                               | 1.09                                    | Wilcoxon rank sum                           | 5.01E-03               |
|                                 | CyO/nos:Gal4_wMel          | CyO/nos:Gal4_uninf          | 66     | 91.31 | 31    | 88.83 | 2.47                               | 0.97                                    | Wilcoxon rank sum                           | 2.08E-03               |
|                                 | Sb/nos:Gal4_wMel           | Sb/nos:Gal4_uninf           | 33     | 88.66 | 22    | 89.55 | -0.89                              | 1.01                                    | Wilcoxon rank sum                           | 8.37E-01               |
| F mei-P26<br>knockdown          | nos:Gal4>meiP26RNAi_F_wMel | nos:Gal4>meiP26RNAi_F_uninf | 53     | 74.45 | 33    | 49.63 | 24.81                              | 0.67                                    | Wilcoxon rank sum                           | 2.64E-08               |
|                                 | mei-P26[1]_F_wMel          | mei-P26[1]_F_uninf          | 27(73) | 24.91 | 5(45) | 18.47 | 6.43                               | 0.74                                    | Fisher's exact test<br>(with/without_hatch) | 2.55E-03               |
|                                 | mei-P26[1/mfs1]_F_wMel     | mei-P26[1/mfs1]_F_uninf     | 7(42)  | 27.74 | 5(35) | 0.00  | 27.74                              | 0.00                                    | Wilcoxon rank sum<br>(Fisher's exact test)  | 4.20E-03<br>(1.00E+00) |
|                                 | mei-P26[mfs1]_F_wMel       | mei-P26[mfs1]_F_uninf       | 5(25)  | 0.00  | 5(19) | 0.00  | 0.00                               | 0.00                                    | NA - no females laid<br>>=20 eggs/day       | NA                     |
| WT vs F<br>mei-P26<br>knockdown | WT_OreR_wMel               | nos:Gal4>meiP26RNAi_F_wMel  | ""     | ""    | ""    | ""    | 13.95                              | 0.84                                    | Wilcoxon rank sum                           | 9.11E-07               |
|                                 | WT_OreR_uninf              | nos:Gal4>meiP26RNAi_F_uninf | ""     | ""    | ""    | ""    | 33.55                              | 0.60                                    | Wilcoxon rank sum                           | 4.32E-15               |
|                                 | WT_OreR_wMel               | nos:Gal4>meiP26RNAi_F_uninf | ""     | ""    | ""    | ""    | 38.76                              | 0.56                                    | Wilcoxon rank sum                           | 3.57E-14               |
|                                 | WT_OreR_uninf              | nos:Gal4>meiP26RNAi_F_wMel  | ""     | ""    | ""    | ""    | -8.73                              | 0.90                                    | Wilcoxon rank sum                           | 1.38E-02               |
|                                 | nos:Gal4>RFP_wMel          | nos:Gal4>meiP26RNAi_F_wMel  | ""     | ""    | ""    | ""    | 14.04                              | 0.84                                    | Wilcoxon rank sum                           | 1.42E-02               |
|                                 | nos:Gal4>RFP_uninf         | nos:Gal4>meiP26RNAi_F_uninf | ""     | ""    | ""    | ""    | 40.86                              | 0.55                                    | Wilcoxon rank sum                           | 1.93E-08               |
|                                 | nos:Gal4>RFP_wMel          | nos:Gal4>meiP26RNAi_F_uninf | ""     | ""    | ""    | ""    | 38.85                              | 0.56                                    | Wilcoxon rank sum                           | 8.26E-07               |
|                                 | nos:Gal4>RFP_uninf         | nos:Gal4>meiP26RNAi_F_wMel  | ""     | ""    | ""    | ""    | 16.05                              | 0.82                                    | Wilcoxon rank sum                           | 3.56E-03               |
|                                 | WT_OreR_uninf              | mei-P26[1]_F_wMel           | ""     | ""    | ""    | ""    | 8.73                               | 0.90                                    | Wilcoxon rank sum                           | 1.38E-02               |
|                                 | WT_OreR_wMel               | mei-P26[1]_F_wMel           | ""     | ""    | ""    | ""    | 63.49                              | 0.28                                    | Wilcoxon rank sum                           | 4.82E-13               |
|                                 | WT_OreR_uninf              | mei-P26[1]_F_uninf          | ""     | ""    | ""    | ""    | 64.71                              | 0.22                                    | Wilcoxon rank sum                           | 2.93E-04               |
|                                 | WT_OreR_wMel               | mei-P26[1/mfs1]_F_wMel      | ""     | ""    | ""    | ""    | 60.66                              | 0.31                                    | Wilcoxon rank sum                           | 5.32E-05               |
|                                 | WT_OreR_uninf              | mei-P26[1/mfs1]_F_uninf     | ""     | ""    | ""    | ""    | 83.18                              | 0.00                                    | Wilcoxon rank sum                           | 1.97E-04               |
|                                 | WT_OreR_wMel               | mei-P26[mfs1]_F_wMel        | ""     | ""    | ""    | ""    | 88.40                              | 0.00                                    | Wilcoxon rank sum                           | 2.41E-04               |
|                                 | WT_OreR_uninf              | mei-P26[mfs1]_F_uninf       | ""     | ""    | ""    | ""    | 83.18                              | 0.00                                    | Wilcoxon rank sum                           | 1.97E-04               |

|                           |                            |                             |    |       |    |       |        |       |                   |          |
|---------------------------|----------------------------|-----------------------------|----|-------|----|-------|--------|-------|-------------------|----------|
| M mei-P26 knockdown       | nos:Gal4>meiP26RNAi_M_wMel | nos:Gal4>meiP26RNAi_M_uninf | 28 | 90.58 | 26 | 72.61 | 17.97  | 0.80  | Wilcoxon rank sum | 3.42E-03 |
|                           | mei-P26[1]_M_wMel          | mei-P26[1]_M_uninf          | 21 | 94.86 | 16 | 90.64 | 4.22   | 0.96  | Wilcoxon rank sum | 1.03E-01 |
|                           | mei-P26[mfs1]_M_wMel       | mei-P26[mfs1]_M_uninf       | 15 | 71.00 | 2  | 0.00  | 71.00  | 0.00  | Wilcoxon rank sum | 1.07E-01 |
| WT vs M mei-P26 knockdown | WT_OreR_wMel               | nos:Gal4>meiP26RNAi_M_wMel  | "" | ""    | "" | ""    | -2.18  | 1.02  | Wilcoxon rank sum | 1.65E-02 |
|                           | WT_OreR_uninf              | nos:Gal4>meiP26RNAi_M_uninf | "" | ""    | "" | ""    | 10.57  | 0.87  | Wilcoxon rank sum | 9.00E-01 |
|                           | WT_OreR_wMel               | mei-P26[1]_M_wMel           | "" | ""    | "" | ""    | -6.46  | 1.07  | Wilcoxon rank sum | 4.72E-04 |
|                           | WT_OreR_uninf              | mei-P26[1]_M_uninf          | "" | ""    | "" | ""    | -7.46  | 1.09  | Wilcoxon rank sum | 5.00E-03 |
|                           | WT_OreR_wMel               | mei-P26[mfs1]_M_wMel        | "" | ""    | "" | ""    | 17.39  | 0.80  | Wilcoxon rank sum | 4.01E-01 |
|                           | WT_OreR_uninf              | mei-P26[mfs1]_M_uninf       | "" | ""    | "" | ""    | 83.18  | 0.00  | Wilcoxon rank sum | 1.73E-02 |
| CI crosses                | WT_OreR_Dmel_reciprocal-5d | WT_OreR_wMel                | 10 | 78.17 | "" | ""    | -10.22 | 1.13  | Wilcoxon rank sum | 0.612    |
|                           | WT_OreR_Dmel_reciprocal-5d | WT_OreR_uninf               | "" | ""    | "" | ""    | -5.01  | 1.06  | Wilcoxon rank sum | 9.91E-04 |
|                           | WT_OreR_Dmel_CI-0d         | WT_OreR_Dmel_rescue-0d      | 33 | 66.10 | 33 | 84.03 | -17.93 | 1.27  | Wilcoxon rank sum | 4.63E-04 |
|                           | WT_OreR_Dmel_CI-0d         | WT_OreR_Dmel_reciprocal-0d  | "" | ""    | 9  | 93.21 | -27.11 | 1.41  | Wilcoxon rank sum | 4.56E-05 |
|                           | WT_OreR_Dmel_rescue-0d     | WT_OreR_Dmel_reciprocal-0d  | "" | ""    | "" | ""    | -9.18  | 1.11  | Wilcoxon rank sum | 1.25E-01 |
|                           | WT_OreR_Dmel_CI-5d         | WT_OreR_Dmel_rescue-5d      | 20 | 89.22 | 45 | 88.66 | 0.56   | 0.99  | Wilcoxon rank sum | 9.15E-01 |
|                           | WT_OreR_Dmel_CI-5d         | WT_OreR_Dmel_reciprocal-5d  | "" | ""    | "" | ""    | 11.05  | 0.88  | Wilcoxon rank sum | 2.09E-01 |
|                           | WT_OreR_Dmel_rescue-5d     | WT_OreR_Dmel_reciprocal-5d  | "" | ""    | "" | ""    | 10.49  | 0.88  | Wilcoxon rank sum | 9.72E-02 |
|                           | Dsimulans_CI-0d            | Dsimulans_rescue-0d         | 24 | 6.07  | 28 | 68.43 | -62.36 | 11.27 | Wilcoxon rank sum | 5.64E-08 |
|                           | Dsimulans_CI-5d            | Dsimulans_rescue-5d         | 10 | 26.52 | 17 | 69.04 | -42.51 | 2.60  | Wilcoxon rank sum | 3.63E-04 |

**table S6.** Fecundity statistics: percentage of eggs that hatched from single female-by-single male crosses that laid  $\geq 20$  eggs. Experimental genotypes, infection statuses, and sexes are listed. The mate for each cross was OreR, of the same infection status, and of the opposite sex as the experimental fly. Males were aged 3-6 days, except for the young male CI crosses, which were aged zero days (distinguished with “-0d” and “-5d” labels). Sample counts (n1,n2) in parentheses are for Fisher Exact Tests (samples with hatched eggs vs no hatched eggs, opposed to % hatch for samples with 20 or more eggs laid). P-values  $<0.01$  are in light green and  $<0.05$  are in dark green for clarity.