**Supplementary material, Table S1**. Survival data from experiments 1 and 2.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Royal jelly | *N* started | *N s*urvived | Percent survival |
| Experiment 1 |  | | | |
|  | 0% | 68 | 28 | 41.2 |
|  | 10% | 68 | 34 | 50.0 |
|  | 15% | 20 | 12 | 60.0 |
|  | 20% | 68 | 40 | 58.8 |
|  | 30% | 48 | 26 | 54.2 |
| Experiment 2 |  |  |  |  |
|  | 0% | 96 | 80 | 83.3 |
|  | 15% | 96 | 84 | 87.5 |

**Supplementary material, Table S2**. Summary statistics from the linear mixed model of 35-day-old adult *Gryllodes sigillatus* measurements from experiment 1: dose-response feeding curve for measurements included and combined into principal component 1 (body size).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model | *R*2 | Term | *df* | *F* | *P* |
| Head width | 0.41 | Diet | 1,270.90 | 0.037 | 0.850 |
|  |  | Diet2 | 1,272.40 | 0.280 | 0.790 |
|  |  | Sex | 1,270.10 | 115.550 | **< 0.001** |
|  |  | Diet\*sex | 1,270.30 | 0.660 | 0.790 |
|  |  | Diet2\*sex | 1,270.20 | 0.230 | 0.790 |
| Pronotum width | 0.41 | Diet | 1,271.20 | 2.860 | 0.230 |
|  |  | Diet2 | 1,272.80 | 0.920 | 0.450 |
|  |  | Sex | 1,270.10 | 133.830 | **< 0.001** |
|  |  | Diet\*sex | 1,270.40 | 0.850 | 0.450 |
|  |  | Diet2\*sex | 1,270.30 | 0.320 | 0.570 |
| Pronotum length | 0.62 | Diet | 1,270.30 | 0.570 | 0.730 |
|  |  | Diet2 | 1,271 | 0.0011 | 0.970 |
|  |  | Sex | 1,270 | 233.200 | **< 0.001** |
|  |  | Diet\*sex | 1,270.10 | 1.068 | 0.730 |
|  |  | Diet2\*sex | 1,270.10 | 0.310 | 0.730 |

**Supplementary material, Table S3**. Summary statistics from the linear model of 35-day-old adult *Gryllodes sigillatus* measurements from experiment 2: direct test of 15% royal jelly for measurements included and combined into principal component 1 (body size).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model | *R*2 | Term | *df* | *F* | *P* |
| Head width | 0.36 | Diet | 1, 156 | 0.28 | 0.850 |
|  |  | Sex | 1, 156 | 54.87 | **< 0.001** |
|  |  | Diet\*sex | 1, 156.1 | 0.035 | 0.850 |
| Pronotum width | 0.36 | Diet | 1, 156 | 1.81 | 0.270 |
|  |  | Sex | 1, 156 | 64.46 | **< 0.001** |
|  |  | Diet\*Sex | 1, 156.2 | 0.26 | 0.610 |
| Pronotum length | 0.60 | Diet | 1, 156 | 0.92 | 0.340 |
|  |  | Sex | 1, 156 | 121.40 | **< 0.001** |
|  |  | Diet\*sex | 1, 156 | 1.055 | 0.340 |