Table S1. Tukey’s post-hoc test results after false discovery rate correction to compare the heat resistance of hardened and non-hardened individuals at different life stages exposed to 25 ºC compared to corresponding 37 ºC test temperature. The table shows the sum of square (SS), Fdf ratio and the p-values.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Temperature (ºC) | Life stage | Hardening status | SS | F1 ratio | p value |
| 25 *vs.* 37 | *Larvae 1* | Yes | 0.6583 | 3.20 | 0.09 |
| 25 *vs.* 37 | *Larvae 2* | Yes | 0.0007 | 0.36 | 1 |
| 25 *vs.* 37 | *Larvae 3* | Yes | 0.0035 | 1.87 | 1 |
| 25 *vs.* 37 | *Puparia* | Yes | 0.0026 | 1.43 | 1 |
| 25 *vs.* 37 | *Pupae* | Yes | 0.0025 | 1.34 | 1 |
| 25 *vs.* 37 | Adult 1 | Yes | 0.0000 | 0 | 1 |
| 25 *vs.* 37 | Adult 2 | Yes | 0.0000 | 0 | 1 |
| 25 *vs.* 37 | *Larvae 1* | No | 0.0043 | 2.34 | 1 |
| 25 *vs.* 37 | *Larvae 2* | No | 0.7208 | 1.18 | 0.06 |
| 25 *vs.* 37 | *Larvae 3* | No | 0.0000 | 0 | 1 |
| 25 *vs.* 37 | *Puparia* | No | 0.0028 | 1.53 | 1 |
| 25 *vs.* 37 | *Pupae* | No | 0.1424 | 4.21 | 1 |
| 25 *vs.*37 | Adult 1 | No | 0.0000 | 0 | 1 |
| 25 *vs.* 37 | Adult 2 | No | 0.0035 | 1.87 | 1 |

Table S2. Tukey’s post-hoc test results after false discovery rate (FDR) correction to compare the heat resistance of life stage at different test temperatures. The table shows the Fdf ratio and the p-values with p < 0.05 in bold.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Test temperature (°C) | | | | | | | | | | | | |
|  |  | 37 |  | 38 |  | 39 |  | 40 |  | 41 |  |
|  |  | F1 | p | F1 | p | F1 | p | F1 | p | F1 | p |
| Non-hardened group | *Larva1 vs. Larva2* | 1.61 | 1.00 | 3.53 | 1.00 | 1.26 | 0.84 | 2.06 | 1.00 | 0.15 | 0.91 |
| *Larva1 vs. Larva3* | 0.10 | 1.00 | 1.61 | 1.00 | 6.52 | 0.66 | 1.51 | 0.30 | 6.91 | 0.34 |
| *Larva2 vs. Larva3* | 3.58 | 1.00 | 3.84 | 1.00 | 0.65 | 1.00 | 3.84 | 0.64 | 3.58 | 0.34 |
| *Larva1 vs. Puparium* | 5.56 | **0.00** | 29.45 | **0.00** | 47.28 | **0.00** | 33.66 | **0.00** | 7.23 | **0.00** |
| *Larva1 vs. Pupa* | 1.11 | **0.00** | 31.52 | **0.00** | 43.53 | **0.00** | 26.63 | **0.00** | 1.67 | **0.00** |
| *Larva2 vs. Puparium* | 2.00 | **0.00** | 44.25 | **0.00** | 63.37 | **0.00** | 40.29 | **0.00** | 2.10 | **0.00** |
| *Larva2 vs. Pupa* | 27.43 | **0.00** | 46.78 | **0.00** | 59.01 | **0.00** | 32.55 | **0.00** | 1.93 | **0.00** |
| *Larva3 vs. Puparium* | 6.30 | **0.00** | 34.90 | **0.00** | 68.33 | **0.00** | 57.62 | **0.00** | 35.55 | **0.00** |
| *Larva3 vs. Pupa* | 1.13 | **0.00** | 37.15 | **0.00** | 63.81 | **0.00** | 48.29 | **0.00** | 27.20 | **0.00** |
| *Larva1 vs.* Adult1 | 2.30 | **0.00** | 43.91 | **0.00** | 85.61 | **0.00** | 71.96 | **0.00** | 44.28 | **0.00** |
| *Larva1 vs.* Adult2 | 5.27 | **0.00** | 53.98 | **0.00** | 139.89 | **0.00** | 143.21 | **0.00** | 101.92 | **0.00** |
| *Larva2 vs.* Adult1 | 26.38 | **0.00** | 61.65 | **0.00** | 106.85 | **0.00** | 81.51 | **0.00** | 46.24 | **0.00** |
| *Larva2 vs.* Adult2 | 6.42 | **0.00** | 73.49 | **0.00** | 166.72 | **0.00** | 156.56 | **0.00** | 104.87 | **0.00** |
| *Larva3 vs.* Adult1 | 2.49 | **0.00** | 50.52 | **0.00** | 113.27 | **0.00** | 105.51 | **0.00** | 70.25 | **0.00** |
| *Larva3 vs.* Adult2 | 6.25 | **0.01** | 61.29 | **0.00** | 174.71 | **0.00** | 189.22 | **0.00** | 139.77 | **0.00** |
| *Puparium vs. Pupa* | 1.26 | 1.00 | 0.24 | 1.00 | 0.54 | 1.00 | 2.86 | 1.00 | 3.88 | 0.91 |
| *Puparium vs.* Adult1 | 0.73 | 1.00 | 3.09 | 1.00 | 4.70 | 0.09 | 1.59 | **0.04** | 6.13 | 0.08 |
| *Puparium vs.* Adult2 | 0.14 | 1.00 | 4.91 | 3.46 | 24.52 | **0.00** | 38.01 | **0.00** | 34.34 | **0.00** |
| *Pupa vs.* Adult1 | 0.07 | 1.00 | 0.22 | 1.00 | 0.63 | 0.06 | 0.74 | **0.01** | 0.60 | **0.01** |
| *Pupa vs.* Adult2 | 2.24 | 1.00 | 3.00 | 4.65 | 27.35 | **0.00** | 46.34 | **0.00** | 43.65 | **0.00** |
| Adult1 vs. Adult2 | 1.52 | 1.00 | 3.61 | 1.00 | 4.63 | 0.06 | 1.47 | **0.00** | 6.28 | **0.00** |
| Hardened group | *Larva1 vs. Larva2* | 4.61 | 1.00 | 2.04 | 0.14 | 2.65 | **0.00** | 27.05 | **0.00** | 4.04 | **0.00** |
| *Larva1 vs. Larva3* | 1.28 | 1.00 | 0.40 | 0.36 | 32.07 | **0.00** | 52.41 | **0.00** | 48.56 | **0.00** |
| *Larva2 vs. Larva3* | 3.84 | 1.00 | 1.69 | 1.00 | 6.22 | 1.00 | 1.24 | 1.46 | 3.39 | 0.10 |
| *Larva1 vs. Puparium* | 6.77 | 1.00 | 3.23 | 0.14 | 62.74 | **0.00** | 108.14 | **0.00** | 102.69 | **0.00** |
| *Larva1 vs. Pupa* | 6.18 | 1.00 | 6.06 | 0.12 | 64.62 | **0.00** | 110.51 | **0.00** | 104.56 | **0.00** |
| *Larva2 vs. Puparium* | 0.21 | 1.00 | 25.37 | **0.00** | 159.71 | **0.00** | 243.37 | **0.00** | 218.03 | **0.00** |
| *Larva2 vs. Pupa* | 0.12 | 1.00 | 26.18 | **0.00** | 162.70 | **0.00** | 246.91 | **0.00** | 220.75 | **0.00** |
| *Larva3 vs. Puparium* | 2.01 | 1.00 | 5.33 | **0.00** | 184.52 | **0.00** | 311.11 | **0.00** | 292.47 | **0.00** |
| *Larva3 vs. Pupa* | 6.18 | 1.00 | 3.47 | **0.00** | 187.74 | **0.00** | 315.12 | **0.00** | 295.63 | **0.00** |
| *Larva1 vs.* Adult1 | 6.01 | 0.40 | 1.08 | 0.22 | 3.01 | 2.81 | 2.25 | 1.00 | 0.27 | 1.00 |
| *Larva1 vs.* Adult2 | 0.52 | 0.38 | 2.29 | 0.22 | 0.54 | 2.81 | 2.13 | 1.00 | 0.35 | 1.00 |
| *Larva2 vs.* Adult1 | 0.99 | **0.04** | 5.85 | **0.00** | 41.62 | **0.00** | 33.29 | **0.00** | 5.44 | **0.00** |
| *Larva2 vs.* Adult2 | 2.92 | **0.04** | 1.49 | **0.00** | 41.81 | **0.00** | 33.12 | **0.00** | 3.66 | **0.00** |
| *Larva3 vs.* Adult1 | 1.07 | 0.93 | 2.51 | **0.00** | 54.73 | **0.00** | 60.97 | **0.00** | 45.85 | **0.00** |
| *Larva3 vs.* Adult2 | 2.21 | 0.91 | 4.79 | **0.00** | 54.94 | **0.00** | 60.74 | **0.00** | 45.46 | **0.00** |
| *Puparium vs. Pupa* | 0.00 | 1.00 | 0.01 | 1.00 | 0.10 | 1.00 | 0.09 | 1.00 | 0.01 | 1.00 |
| *Puparium vs.* Adult1 | 1.53 | **0.03** | 0.51 | 1.00 | 38.27 | **0.00** | 96.64 | **0.00** | 106.72 | **0.00** |
| *Puparium vs.* Adult2 | 3.57 | **0.03** | 0.38 | 1.00 | 38.09 | **0.00** | 96.92 | **0.00** | 107.32 | **0.00** |
| *Pupa vs.* Adult1 | 6.50 | **0.03** | 0.85 | 1.00 | 39.74 | **0.00** | 98.87 | **0.00** | 108.63 | **0.00** |
| *Pupae vs.* Adult2 | 1.61 | **0.03** | 0.68 | 1.00 | 39.56 | **0.00** | 99.16 | **0.00** | 109.24 | **0.00** |
| Adult1 vs. Adult2 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 |