**Supplementary File 1.** The calculated values and their confidence interval (CI) for the opportunity for selection (*I*) and sexual selection (*Is*) for both sexual roles, indicated with subscript m or f, over the weeks.

|  |  |  |  |
| --- | --- | --- | --- |
| ***I*** | **Week** | **I-value** | **±CI** |
| *Im* | 1 | 2.64 | 0.0095 |
|  | 2 | 2.05 | 0.0033 |
|  | 3 | 1.11 | 0.0012 |
|  | 4 | 0.83 | 0.0007 |
|  | 5 | 0.66 | 0.0004 |
|  | 6 | 0.52 | 0.0003 |
|  | 7 | 0.42 | 0.0002 |
|  | 8 | 0.41 | 0.0002 |
| *If* | 1 | 0.32 | 0.0011 |
|  | 2 | 0.30 | 0.0006 |
|  | 3 | 0.17 | 0.0003 |
|  | 4 | 0.12 | 0.0002 |
|  | 5 | 0.09 | 0.0001 |
|  | 6 | 0.09 | 0.0001 |
|  | 7 | 0.06 | 0.0001 |
|  | 8 | 0.07 | 0.0001 |
| *Ism* | 1 | 0.23 | 0.1346 |
|  | 2 | 0.10 | 0.0436 |
|  | 3 | 0.07 | 0.0249 |
|  | 4 | 0.05 | 0.0162 |
|  | 5 | 0.04 | 0.0120 |
|  | 6 | 0.04 | 0.0102 |
|  | 7 | 0.04 | 0.0081 |
|  | 8 | 0.03 | 0.0071 |
| *Isf* | 1 | 0.24 | 0.1244 |
|  | 2 | 0.17 | 0.0533 |
|  | 3 | 0.15 | 0.0354 |
|  | 4 | 0.15 | 0.0281 |
|  | 5 | 0.12 | 0.0208 |
|  | 6 | 0.10 | 0.0161 |
|  | 7 | 0.09 | 0.0127 |
|  | 8 | 0.05 | 0.0093 |

**Supplementary File 2.** Slope and confidence interval of the correlations between the different sexual selection measures. The values are only given for the significant (P<0.05, black) and near-significant (P<0.10, grey) slopes shown in Figures 2 and 3.

|  |  |  |  |
| --- | --- | --- | --- |
| **Beta** | **Week** | **Slope (β)** | **±CI** |
| *βmm* | 2 | 1.78 | 1.88 |
| *βmm* | 3 | 2.71 | 1.34 |
| *βmm* | 4 | 2.67 | 1.41 |
| *βmm* | 5 | 3.03 | 1.06 |
| *βmm* | 6 | 2.40 | 1.08 |
| *βmm* | 7 | 2.38 | 0.94 |
| *βmm* | 8 | 2.26 | 1.27 |
| *βfm* | 1 | 0.40 | 0.47 |
| *βfm* | 2 | 0.80 | 0.68 |
| *βmf* | 1 | 1.41 | 1.28 |
| *βff* | 6 | -0.37 | 0.40 |
| *βff* | 7 | -0.34 | 0.37 |
| *βff* | 8 | -0.52 | 0.58 |
|  |  |  |  |
| *βmPC1* | 5 | -0.95 | 0.92 |
| *βmPC1* | 8 | -1.22 | 1.09 |
| *βfPC1* | 6 | -0.38 | 0.40 |
| *βfPC1* | 7 | -0.35 | 0.37 |
| *βfPC1* | 8 | -0.51 | 0.56 |
| *βmPC2* | 1 | 1.87 | 1.57 |
| *βmPC2* | 2 | 2.21 | 1.98 |
| *βmPC2* | 3 | 2.60 | 1.51 |
| *βmPC2* | 4 | 2.61 | 1.72 |
| *βmPC2* | 5 | 2.85 | 1.43 |
| *βmPC2* | 6 | 2.33 | 1.13 |
| *βmPC2* | 7 | 2.35 | 0.97 |
| *βmPC2* | 8 | 1.79 | 1.67 |
| *βfPC2* | 1 | 0.73 | 0.52 |
| *βfPC2* | 2 | 1.01 | 0.71 |

**Supplementary File 3.** Slope comparisons between weeks for all the significant sexual selection gradients shown in Figures 2 and 3. For the top right of the table this shows the results for the regressions between relative male mating success (MSm) versus relative male reproductive success (RSm) and for bottom left (in italics) the results are shown for the regressions between relative principal component 2 (PC2) and relative male reproductive success (RSm). The first value column and row, respectively, indicate the sample size (*N*), the slope (*β*) and the standard error (*SE*) of the compared lines. The cells in the Week 1 row are left empty (-) because this line was not significant for relative MSm versus relative RSm and could thus not be compared with the other slopes.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **relative MSm versus relative RSm** | | | | | | | | |
| ***Relative PC2 versus relative RSm*** | *N* |  | - | 24 | 23 | 23 | 23 | 22 | 22 | 17 |
| *β* |  | - | 1.78 | 2.71 | 2.67 | 3.03 | 2.40 | 2.38 | 2.26 |
| *SE* |  | - | 0.91 | 0.65 | 0.68 | 0.51 | 0.52 | 0.45 | 0.60 |
|  | **Week** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** |
| *25* | ***1*** | *t* | - | - | - | - | - | - | - |
| *1.87* |  | *df* | - | - | - | - | - | - | - |
| *0.76* |  | *P* | - | - | - | - | - | - | - |
| *24* | ***2*** | *0.28* |  | 0.83 | 0.04 | 0.60 | 0.59 | 0.41 | 0.44 |
| *2.21* |  | *45* |  | 43 | 42 | 42 | 42 | 41 | 37 |
| *0.95* |  | *0.78* |  | 0.41 | 0.97 | 0.55 | 0.56 | 0.69 | 0.66 |
| *23* | ***3*** | *0.69* | *0.32* |  | 0.04 | 0.39 | 0.38 | 0.41 | 0.51 |
| *2.60* |  | *44* | *43* |  | 43 | 42 | 41 | 41 | 36 |
| *0.73* |  | *0.49* | *0.75* |  | 0.68 | 0.70 | 0.71 | 0.69 | 0.61 |
| *23* | ***4*** | *0.66* | *0.31* | *0.01* |  | 0.42 | 0.32 | 0.35 | 0.46 |
| *2.61* |  | *44* | *43* | *42* |  | 42 | 41 | 41 | 36 |
| *0.83* |  | *0.51* | *0.75* | *0.99* |  | 0.68 | 0.75 | 0.73 | 0.65 |
| *23* | ***5*** | *0.95* | *0.54* | *0.25* | *0.22* |  | 0.87 | 0.94 | 0.98 |
| *2.85* |  | *44* | *43* | *42* | *42* |  | 41 | 41 | 36 |
| *0.69* |  | *0.35* | *0.59* | *0.80* | *0.83* |  | 0.39 | 0.35 | 0.33 |
| *22* | ***6*** | *0.49* | *0.10* | *0.30* | *0.29* | *0.60* |  | 0.02 | 0.18 |
| *2.33* |  | *43* | *42* | *41* | *41* | *41* |  | 40 | 35 |
| *0.54* |  | *0.63* | *0.92* | *0.77* | *0.77* | *0.55* |  | 0.99 | 0.86 |
| *22* | ***7*** | *0.53* | *0.12* | *0.29* | *0.28* | *0.60* | *0.03* |  | 0.17 |
| *2.35* |  | *43* | *42* | *41* | *41* | *41* | *40* |  | 35 |
| *0.46* |  | *0.60* | *0.90* | *0.77* | *0.78* | *0.55* | *0.98* |  | 0.87 |
| *17* | ***8*** | *0.07* | *0.34* | *0.75* | *0.72* | *1.01* | *0.56* | *0.61* |  |
| *1.79* |  | *38* | *37* | *36* | *36* | *36* | *35* | *35* |  |
| *0.78* |  | *0.94* | *0.74* | *0.46* | *0.48* | *0.32* | *0.58* | *0.55* |  |

N.B. The other comparisons between slopes were between Week 5 and 8 for relative PC1 and relative RSm (t= 0.50, N=37, P=0.62) and Week 1 and 2 for relative PC2 and relative RSf (t=0.64, N=45, P=0.52). Please note that none of the comparisons reveal statistical differences between slopes.

**Supplementary file 4.** Results of the principal component analysis (PCA) for each week of the experiment. PC1 represents the sexual bias (the relative difference between MSm and MSf); PC2 represents the overall mating activity (the correlation component between MSm and MSf).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **PCA** | **Eigenvalue** | **Percentage** | **Eigenvector MSm** | **Eigenvector MSf** |
| Week 1 | PC1 | 0.319 | 66.9 | -0.682 | 0.732 |
|  | PC2 | 0.158 | 33.1 | 0.732 | 0.682 |
| Week 2 | PC1 | 0.187 | 69.0 | -0.377 | 0.926 |
|  | PC2 | 0.084 | 31.0 | 0.926 | 0.377 |
| Week 3 | PC1 | 0.157 | 71.6 | -0.266 | 0.964 |
|  | PC2 | 0.062 | 28.4 | 0.964 | 0.266 |
| Week 4 | PC1 | 0.158 | 80.5 | -0.288 | 0.957 |
|  | PC2 | 0.038 | 19.5 | 0.957 | 0.288 |
| Week 5 | PC1 | 0.124 | 78.3 | -0.302 | 0.953 |
|  | PC2 | 0.034 | 21.7 | 0.953 | 0.302 |
| Week 6 | PC1 | 0.102 | 71.3 | -0.122 | 0.993 |
|  | PC2 | 0.041 | 28.7 | 0.993 | 0.122 |
| Week 7 | PC1 | 0.088 | 71.1 | -0.047 | 0.999 |
|  | PC2 | 0.036 | 28.9 | 0.999 | 0.047 |
| Week 8 | PC1 | 0.059 | 71.3 | -0.364 | 0.831 |
|  | PC2 | 0.024 | 28.7 | 0.831 | 0.364 |