|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **(a)** |  |  |  |  |  |  |  |  |  |  |
| **Experiment** | **Female size** | **Male size** | **Focal male** | **Explained** |  |  |  |   |   |   |
|   |  |  | **size** |  **variance in paternity** | *of which* |   |   |   |   |   |
|  |   |   |   |   | **Mating order** | **%** | **Repetitive mating** | **%** | **Remaining** | **%** |
| **Varying female** | Variable | Constant | Large | 0.499 | 0.446 | 89.33 | 0.045 | 9.12 | 0.008 | 1.55 |
| **Size** |  |   |   |   |   |   |   |   |   |   |
| **Varying male** | Constant | Variable | Large/Small | 0.665 | 0.584 | 87.90 | 0.001 | 0.15 | 0.069 | 11.95 |
| **Size** |   |   |   |   |   |   |   |   |   |   |
| **Varying female and male** | Variable | Variable | Large/Small | 0.583 | 0.488 | 83.60 | 0.005 | 0.08 | 0.090 | 16.32 |
| **sizes** |   |   |   |   |   |   |   |   |   |   |
| **(b)** |
| *per treatment* |
|  | Homogeneous | Homogenous | Large  | 0.998 | 0.235 | 23.68 | 0.005 | 0.59 | 0.758 | 75.73 |
|  | Large | Large |  |  |  |  |  |  |  |   |
| **Varying female** | Homogeneous | Homogeneous | Large  | 0.537 | 0.208 | 38.91 | 0.011 | 2.05 | 0.318 | 59.04 |
| **size (F)** | Small | Large |  |  |  |  |  |  |  |   |
|  | Heterogeneous | Homogeneous | Large  | 0.876 | 0.175 | 20.06 | 0.058 | 6.72 | 0.643 | 73.22 |
|  |   | Large |   |   |   |   |   |   |   |   |
|  | Homogenous | Homogenous | Large  | 0.933 | 0.129 | 13.86 | 0.254 | 27.26 | 0.55 | 58.88 |
| **Varying male** | Large | Large |  |  |  |  |  |  |  |   |
| **size (M)** | Homogenous | Homogenous | Small  | 0.619 | 0.182 | 29.51 | 0.003 | 0.52 | 0.434 | 69.97 |
|  | Large | Small |  |  |  |  |  |  |  |   |
|  | Homogenous | Heterogeneous | Large | 0.938 | 0.253 | 27.03 | 0.006 | 0.68 | 0.679 | 72.29 |
|  | Large |  |  |  |  |  |  |  |  |   |
|  | Homogenous | Heterogeneous | Small  | 0.947 | 0.864 | 91.21 | 0.000 | 0.01 | 0.083 | 8.78 |
|   | Large |   |   |   |   |   |   |   |   |   |
|   | Homogenous | Homogenous | Large | 0.789 | 0.191 | 24.51 | 0.004 | 0.55 | 0.594 | 74.94 |
| **Varying female and male** | Large | Large |  |  |  |  |  |  |  |   |
| **sizes (FM)** | Homogenous | Homogenous | Small | 0.888 | 0.421 | 47.39 | 0.052 | 5.93 | 0.415 | 46.68 |
|  | Small | High |  |  |  |  |  |  |  |   |
|  | Heterogeneous | Heterogeneous | Large | 0.884 | 0.773 | 87.37 | 0.000 | 0.02 | 0.111 | 12.61 |
|   | Heterogeneous | Heterogeneous | Small | 0.733 | 0.702 | 95.76 | 0.025 | 3.48 | 0.006 | 0.76 |

**Table 1.** Commonality analysis of male paternity, partitioning the explained variance into the contributions of male mating order (last male sperm precedence) and repetitive matings.*(a)*Overall analysis of variance portioning across all treatments within each experiment *per* focal male size. *(b)* Analysis of variance portioning *per* treatment and focal male size.