



## **eLife's transparent reporting form**

We encourage authors to provide detailed information *within their submission* to facilitate the interpretation and replication of experiments. Authors can upload supporting documentation to indicate the use of appropriate reporting guidelines for health-related research (see [EQUATOR Network](#)), life science research (see the [BioSharing Information Resource](#)), or the [ARRIVE guidelines](#) for reporting work involving animal research. Where applicable, authors should refer to any relevant reporting standards documents in this form.

If you have any questions, please consult our Journal Policies and/or contact us: [editorial@elifesciences.org](mailto:editorial@elifesciences.org).

### **Sample-size estimation**

- You should state whether an appropriate sample size was computed when the study was being designed
- You should state the statistical method of sample size computation and any required assumptions
- If no explicit power analysis was used, you should describe how you decided what sample (replicate) size (number) to use

Please outline where this information can be found within the submission (e.g., sections or figure legends), or explain why this information doesn't apply to your submission:

Information does not apply: We investigated the combined effects of breeding treatment (2 factor levels) plant sex (2 factor levels) and population origin (2 factor levels) on floral attractiveness expressed as spatial, color, olfactory and rewarding traits (subject Plant Ecology). For the computation of required sample sizes prior to the start of the experiment we would have needed detailed information about variance in each of the response variables and the expected effect sizes, which was not available from previous studies. We thus designed the study to have 40 replicates for each of the eight possible breeding treatment x plant sex x population origin combinations (groups) with a total n of 320. This design holds appropriate sample sizes for a range of effect sizes and response variances.

### **Replicates**

- You should report how often each experiment was performed
- You should include a definition of biological versus technical replication
- The data obtained should be provided and sufficient information should be provided to indicate the number of independent biological and/or technical replicates
- If you encountered any outliers, you should describe how these were handled
- Criteria for exclusion/inclusion of data should be clearly stated
- High-throughput sequence data should be uploaded before submission, with a private link for reviewers provided (these are available from both GEO and ArrayExpress)

Please outline where this information can be found within the submission (e.g., sections or figure legends), or explain why this information doesn't apply to your submission:



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Each part of the study was conducted once. Hence there is no technical replicate (subject Plant Ecology).

Few statistical outliers were detected in some of the models (see R-scripts for details), but the regarding data points were retained after we have reassured that they do not result from technical or methodological errors. See r-script and data for further details.



### Statistical reporting

- Statistical analysis methods should be described and justified
- Raw data should be presented in figures whenever informative to do so (typically when N per group is less than 10)
- For each experiment, you should identify the statistical tests used, exact values of N, definitions of center, methods of multiple test correction, and dispersion and precision measures (e.g., mean, median, SD, SEM, confidence intervals; and, for the major substantive results, a measure of effect size (e.g., Pearson's r, Cohen's d)
- Report exact p-values wherever possible alongside the summary statistics and 95% confidence intervals. These should be reported for all key questions and not only when the p-value is less than 0.05.

Please outline where this information can be found within the submission (e.g., sections or figure legends), or explain why this information doesn't apply to your submission:

A detailed description of sample sizes<sup>(a)</sup>, statistical analyses<sup>(b)</sup>, model<sup>(c)</sup> composition and model checking procedures<sup>(d)</sup> can be found in (i) manuscript section "2.2 Plant material p 7, ll 120-143 →<sup>a</sup>; (ii) manuscript section "2.5 Statistical analyses", p 11, ll 258-283 →<sup>b, c, d</sup>; (iii) Table 1, p 27 →<sup>a</sup>; and (iv) Table 2, p 28 →<sup>c</sup>. Moreover, we have provided all data and the full r-script with model syntax, model checking plots and tests, significance tests, model parameter estimates and plots **for review only**.

(For large datasets, or papers with a very large number of statistical tests, you may upload a single table file with tests, Ns, etc., with reference to sections in the manuscript.)

### Group allocation

- Indicate how samples were allocated into experimental groups (in the case of clinical studies, please specify allocation to treatment method); if randomization was used, please also state if restricted randomization was applied
- Indicate if masking was used during group allocation, data collection and/or data analysis

Please outline where this information can be found within the submission (e.g., sections or figure legends), or explain why this information doesn't apply to your submission:

A detailed description of group compositions<sup>(a)</sup> and randomization<sup>(b)</sup> can be found in (i) manuscript section "2.2 Plant material p 7, ll 120-143 →<sup>a, b</sup>; and Table 1, p 27 →<sup>a</sup>.

### Additional data files ("source data")

- We encourage you to upload relevant additional data files, such as numerical data that are represented as a graph in a figure, or as a summary table
- Where provided, these should be in the most useful format, and they can be uploaded as "Source data" files linked to a main figure or table
- Include model definition files including the full list of parameters used
- Include code used for data analysis (e.g., R, MatLab)
- Avoid stating that data files are "available upon request"

Please indicate the figures or tables for which source data files have been provided:



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A detailed description of model parameters can be found in the manuscript in Table 2 p 28. Moreover, we have provided all data and the full r-script with model syntax, model checking plots and tests, significance tests, model parameter estimates and plots **for review only**.