**Supplementary Material**

**Table S1 Mean concentrations as naturally found in pollen and stimulus concentrations of amino acids (AA).** Essential amino acids according to DeGroot (1953) are marked in bold. For the final concentration, we added ten times the mean natural concentration (Concentration natural) and 26 ml of de-ionized water to 24 g of the pollen mix (10x AA) to create the stimulus for chemotactile proboscis extension response (PER) conditioning. Concentrations of amino acids as found in pollen of 142 plant species were obtained from Weiner et al. (2010) and averaged to calculate the mean natural concentration. All amino acids were purchased from Sigma-Aldrich, Taufkirchen, Germany.

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| **Amino acid** | **Concentration natural [mg/g]** | **Concentration 10x AA [mg/g]** |
| Alanine | 1.353 | 14.883 |
| Asparagine | 0.846 | 9.306 |
| Cysteine | 0.036 | 0.369 |
| Glutamic acid | 1.037 | 11.407 |
| Hydroxyproline | 1.473 | 15.807 |
| **Leucine** | 0.797 | 8.767 |
| **Lysine** | 1.007 | 11.077 |
| **Phenylalanine** | 0.502 | 5.522 |
| Proline | 12.975 | 142.725 |
| Serine | 1.001 | 11.011 |
| **Valine** | 0.705 | 7.755 |