

Appendix 2. List of 41 alternative manifestations of 13 broad floral traits used to classify flowers into traditional pollination syndromes, each scored as 1 or 0, (i.e. present or absent in a given flower), and their correlations (r) with the first 3 axes from non-metric multidimensional scaling ordination (NMDS). Trait values that are highly correlated ($r \geq 0.5$) with an NMDS axis are shown in boldface. Some of the alternative trait values differ quantitatively (e.g. nectar volume abundant vs. moderate), whereas others differ qualitatively (e.g. anthers stiff vs. lax). In cases where a trait can be manifested as only two mutually-exclusive alternatives (e.g. nectar present vs. absent), the alternatives are coded as a single variable and are represented on a single line. Here a 1 encodes the first trait value, while a 0 encodes the alternative value (indicated in parentheses). In cases of more than two possible trait manifestations, each alternative is represented on a separate line. Here a 1 encodes presence of that value, and 0 encodes presence of a different trait value. Positive correlations are associated with the presence (1) of a trait along the positive direction of an axis, whereas negative correlations are associated with the absence (0) of the particular trait in that direction. For example, in the trait “timing of anthesis” the negative correlation with axis 1 suggests that flowers along the positive direction on axis 1 tend to open at night.

Feature	Floral Trait	Axis 1	Axis 2	Axis 3
		r	r	r
Shape	Trap Morphology	0.257	-0.238	-0.153
	Open Morphology	-0.134	-0.584	-0.291
	Bell Morphology	0.044	-0.257	0.062
	Brush Morphology	-0.221	0.352	0.090

	Gullet Morphology	-0.028	0.228	0.029
	Flag	0.192	0.247	0.281
	Tube	0.049	0.531	0.047
Symmetry	Zygomorphic (Actinomorphic)	0.538	0.394	0.242
Size	Medium or Small (Large)	0.706	0.498	-0.023
Strength	Mechanically Strong	-0.298	0.141	0.479
Flower Orientation	Pendant	-0.050	0.031	0.142
	Upright	0.206	0.072	0.039
	Horizontal	-0.129	-0.016	-0.108
Anthers	Anther robustness Stiff (Lax)	-0.399	0.086	0.741
	Anther position Exposed (Included)	-0.172	-0.642	-0.251
Tube width	Narrow	-0.305	0.299	-0.488
	Wide	0.193	0.123	0.119
Tube length	Short	0.075	-0.047	0.139
	Long	-0.311	0.443	-0.220
Time of Anthesis	Day (Night)	0.842	0.305	0.331
Odor Strength	Odor Strong (Weak)	-0.461	-0.829	-0.561
	No Odor	-0.094	0.439	0.619
Odor Type	Sweet	-0.510	0.081	-0.333
	Fruity	-0.020	-0.293	-0.399
	Fresh	0.634	0.582	0.101
	Musky	-0.347	-0.189	0.070
	Sour	-0.060	-0.269	0.049
	Decaying	0.201	-0.546	-0.182
Brightness	Vivid	0.383	0.877	0.472
	Drab	-0.295	-0.911	-0.366
Color	Brown	0.048	-0.345	0.103
	White	-0.474	-0.228	-0.691
	Red	0.041	0.309	0.262
	Green	-0.185	-0.055	0.403
	Yellow	0.408	0.117	-0.104
	Blue	0.191	0.398	0.291
	Purple	0.309	0.003	0.162
Nectar	Present (Absent)	-0.084	0.562	0.144

Nectar Guides	Present (Absent)	0.701	0.629	0.319
Nectar Volume	Abundant	-0.820	0.159	0.256
	Moderate	0.592	0.494	0.179
