SUPPLEMENTARY DATA

METHODS

Plant growth conditions

Root bulbils were planted in Pro-Mix 'BX' (Mycorise Pro) potting soil. Newly planted pots (6.5 × 6.5 × 9 cm) were placed in incubators (Percival Model I36LLVL) with moderate light intensity (40 micromoles photons m^{-2} s^{-1}) and a diurnal/nocturnal rhythm of 14h/10h (light/dark) and 15 °C during daytime and 10 °C at night. After approximately 2 weeks in the incubators, plants were transferred to growth chambers (Conviron, Model E-15) maintaining the same day length and temperature conditions but with increased light intensity (230 micromoles photons m^{-2} s^{-1}). After another fortnight, plants were well-established in the pots and moved into a green-house set to maintain a 14-h day length and to maintain temperatures between 12.6 °C (average night-time minimum temperature) and 20.9 °C (average daytime maximum temperature). Plants were watered every other day with deionized water, and were fertilized every two weeks with a dilute fertilizer (Dynagrow 7-9-5diluted 5 mL into 3 L of water).

Statistical analysis

Before multivariate analysis, each compound detected in the SPME data was standardized into expressing its proportion of the total scent sample and subsequently these data were arcsine-square root transformed to approach normality. For the dynamic headspace samples, the hourly emission rate of each compound in the floral bouquet per flower was estimated from the known mass of the internal toluene standard that was added to each sample using the method from Svensson *et al*. (2005). These data were square-root transformed to approach normality and to avoid ascribing too much weight to single large peaks. In cases when dynamic headspace data were compared with SPME data all data were transformed using the arcsine-square root of the standardized proportions.

The dissection data included compounds that were emitted only from the green parts, only from the petals, or from both these tissues. The latter group included both cases when the two tissues emitted similar amounts of a certain compound and cases when one tissue was the dominant scent source, but when trace amounts could be detected in the other tissue.

We analysed the dissection data also graphically by first calculating the average per-flower emission rate for the samples of intact flowers. To obtain a graphical representation of the relative emission of volatiles from the different tissues, the emission of each compound in each sample of the dissected flowers (either petals or non-petals) was divided by the emission of the same compound in the respective positive control (the intact flowers). The tissue-specific relative scent emission of each compound was then averaged over all samples of a species, and by multiplying this value with the

average emission of the same compound in the sample of intact flowers it was possible to obtain a direct comparison of the scent emitted from each of the two tissues (green parts and petals).

REFERENCE

Svensson GP, Hickman MO Jr, Bartram S, Boland W, Pellmyr O, Raguso RA. 2005. Chemistry and geographic variation of floral scent in *Yucca filamentosa* (Agavaceae). *American Journal of Botany* **92**: 1624–1631.

Fig. S1. The average floral dry weight (mg ± 95% confidence intervals) of the four different species. Letters denote significant patterns (Tukey' HSD test). Numbers adjacent to species' names denote sample sizes.

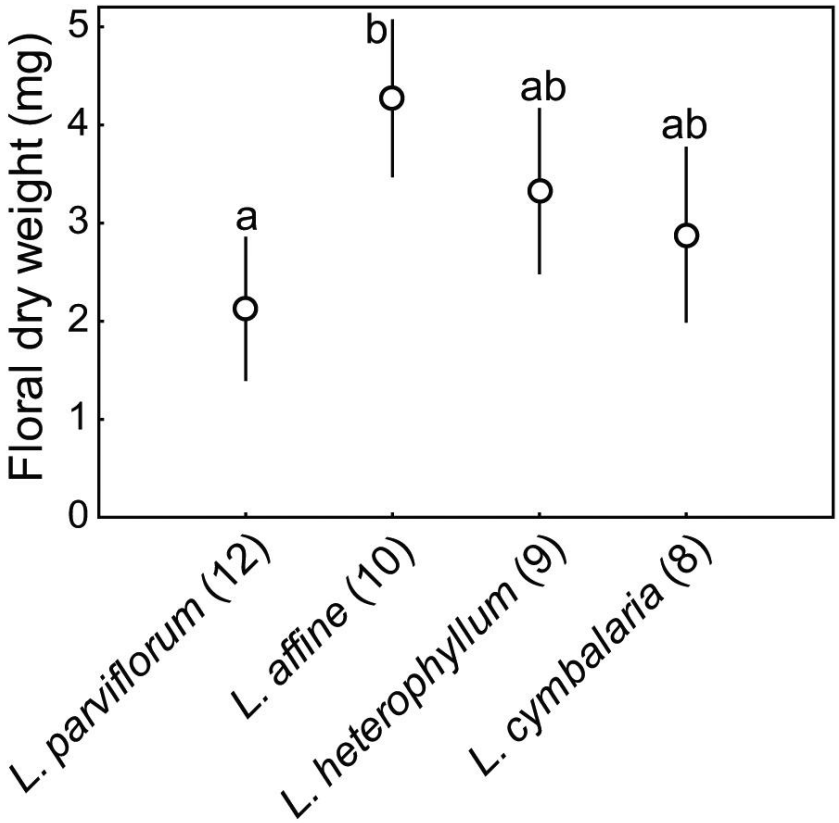

Fig. S2. (a) A two-dimensional MDS plot showing the floral scent composition of *L. affine* (circles) and *L. cymbalaria* (diamonds) measured at day 3 (white symbols), at day 6 (grey symbols) and at day 9 (black symbols). The lower panel diagrams show outliers (b) *L. affine*, individual 6311-F (days 6, 9), and (c) *L. affine* individual 6311-E (day 3), and their emission rate of different compounds (square-root transformed) in comparison to the average scent composition of the *L. affine* samples.