

## Supplementary Information

### Volatile fragrances associated with flowers mediate host plant alternation of a polyphagous mirid bug

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**Table S1. Quantification of the four active volatiles in flowering and non-flowering host-plant species.** 2: m-xylene; 3: Butyl acrylate; 4: Butyl propionate; 5: Butyl butyrate. NFP: Non-flowering (vegetative) plants; FP: Flowering plants. Means ( $\pm$  SE) followed by different letters within the same plant species denote significant differences between flowering and non-flowering stages ( $P < 0.05$ ). A total of six volatile samples were analyzed at each growth stage of each plant.

Plant species	Growth stage	The amount of active volatiles (ng/μl)			
		2	3	4	5
<i>Agastache rugosus</i> (Fisch. et Meyer) O. kuntze.	NFP	3.72 ± 0.10 a	4.43 ± 0.06 b	1.00 ± 0.05 b	4.30 ± 0.17 b
	FP	0.59 ± 0.02 b	24.53 ± 0.91 a	2.76 ± 0.17 a	7.65 ± 0.44 a
<i>Artemisia annua</i> L.	NFP	1.25 ± 0.04 b	15.36 ± 0.38 b	1.57 ± 0.09 b	5.62 ± 0.30 a
	FP	1.85 ± 0.10 a	31.46 ± 1.13 a	6.03 ± 0.20 a	6.13 ± 0.23 a
<i>Artemisia argyi</i> Lévl. et Vant.	NFP	1.73 ± 0.07 b	11.10 ± 0.39 b	1.20 ± 0.06 b	1.49 ± 0.12 b
	FP	5.83 ± 0.49 a	28.01 ± 0.99 a	6.35 ± 0.19 a	7.07 ± 0.67 a
<i>Artemisia lavandulaefolia</i> DC.	NFP	0.89 ± 0.04 b	19.12 ± 0.62 b	2.25 ± 0.08 b	4.29 ± 0.07 b
	FP	1.80 ± 0.06 a	39.29 ± 2.39 a	4.54 ± 0.08 a	9.12 ± 0.36 a
<i>Artemisia scoparia</i> Waldst. et Kit.	NFP	0.08 ± 0.00 b	20.70 ± 0.96 b	0.79 ± 0.09 b	0.52 ± 0.09 b
	FP	0.15 ± 0.00 a	40.85 ± 0.41 a	2.87 ± 0.01 a	1.60 ± 0.02 a
<i>Cannabis sativa</i> L.	NFP	0.03 ± 0.00 b	9.56 ± 0.57 b	1.10 ± 0.04 b	0.41 ± 0.01 b
	FP	0.20 ± 0.01 a	20.62 ± 0.54 a	2.05 ± 0.04 a	1.20 ± 0.07 a
<i>Chamaemelum nobile</i> (L.) All.	NFP	0.04 ± 0.00 b	1.48 ± 0.08 b	0.11 ± 0.01 b	1.13 ± 0.07 b
	FP	0.29 ± 0.01 a	10.85 ± 0.33 a	0.90 ± 0.03 a	2.63 ± 0.10 a
<i>Chrysanthemum coronarium</i> L.	NFP	0.43 ± 0.02 b	5.02 ± 0.29 b	1.37 ± 0.04 b	4.20 ± 0.15 b
	FP	0.66 ± 0.01 a	21.11 ± 1.09 a	3.03 ± 0.29 a	12.84 ± 0.89 a
<i>Coriandrum sativum</i> L.	NFP	0.02 ± 0.00 b	18.47 ± 1.03 b	1.22 ± 0.08 b	0.23 ± 0.01 b
	FP	0.09 ± 0.00 a	44.76 ± 1.30 a	2.24 ± 0.07 a	1.95 ± 0.06 a
<i>Fagopyrum esculentum</i> Moench	NFP	0.14 ± 0.00 b	8.97 ± 0.57 b	0.84 ± 0.06 b	2.11 ± 0.08 b
	FP	0.40 ± 0.02 a	43.70 ± 1.67 a	2.73 ± 0.08 a	7.40 ± 0.32 a
<i>Gossypium hirsutum</i> L.	NFP	2.67 ± 0.15 b	4.65 ± 0.47 b	2.47 ± 0.22 b	4.52 ± 0.27 b
	FP	4.09 ± 0.35 a	39.03 ± 1.61 a	3.81 ± 0.13 a	11.32 ± 0.95 a
<i>Helianthus annuus</i> L.	NFP	1.87 ± 0.04 a	2.07 ± 0.04 b	0.78 ± 0.04 b	6.39 ± 0.34 b
	FP	1.60 ± 0.06 b	12.11 ± 0.40 a	5.10 ± 0.15 a	8.68 ± 0.24 a
<i>Humulus scandens</i> (Lour.) Merr.	NFP	10.11 ± 0.48 a	4.13 ± 0.24 b	1.43 ± 0.10 b	5.67 ± 0.03 b
	FP	5.21 ± 0.33 b	19.88 ± 0.68 a	3.71 ± 0.15 a	10.84 ± 0.42 a
<i>Impatiens balsamina</i> L.	NFP	4.12 ± 0.09 b	3.32 ± 0.06 b	1.29 ± 0.06 b	4.05 ± 0.06 b
	FP	21.97 ± 0.14 a	51.56 ± 1.34 a	6.81 ± 0.10 a	19.53 ± 0.16 a
<i>Ocimum basilicum</i> L.	NFP	1.29 ± 0.02 b	3.05 ± 0.09 b	0.94 ± 0.04 b	4.17 ± 0.11 b
	FP	4.87 ± 0.14 a	9.65 ± 0.41 a	4.06 ± 0.20 a	7.93 ± 0.23 a
<i>Polygonum orientale</i> L.	NFP	0.03 ± 0.00 b	10.74 ± 0.76 b	0.54 ± 0.04 b	0.55 ± 0.02 b
	FP	0.15 ± 0.01 a	33.42 ± 1.31 a	2.82 ± 0.10 a	1.79 ± 0.13 a
<i>Ricinus communis</i> L.	NFP	0.16 ± 0.01 b	2.07 ± 0.03 b	0.97 ± 0.04 b	7.74 ± 0.22 b
	FP	10.15 ± 0.28 a	13.88 ± 0.23 a	6.18 ± 0.07 a	9.07 ± 0.25 a
<i>Vigna radiata</i> (L.) Wilczek	NFP	1.79 ± 0.10 a	1.56 ± 0.09 b	0.72 ± 0.04 b	9.19 ± 0.65 a
	FP	1.31 ± 0.07 b	15.48 ± 1.35 a	4.48 ± 0.24 a	9.51 ± 1.06 a

**Table S2. List of *Apolygus lucorum* host plants included in the study**

Scientific name	Common name	Variety	Source
<i>Agastache rugosus</i> (Fisch. et Meyer) O. kuntze.	Wrinkled giant hyssop herb		Bred by Institute of Vegetables and Flowers (IVF), Chinese Academy of Agricultural Sciences (CAAS) (Beijing, China)
<i>Artemisia annua</i> L.			Transplanted from agricultural fields
<i>Artemisia argyi</i> Lévl. et Vant.			Transplanted from agricultural fields
<i>Artemisia lavandulaefolia</i> DC.			Transplanted from agricultural fields
<i>Artemisia scoparia</i> Waldst. et Kit.			Transplanted from agricultural fields
<i>Cannabis sativa</i> L.	Hemp		Obtained from IVF, CAAS
<i>Chamaemelum nobile</i> (L.) All.	Chamomile		Obtained from IVF, CAAS
<i>Chrysanthemum coronarium</i> L.	Crowndaisy		Obtained from IVF, CAAS
<i>Coriandrum sativum</i> L.	Caraway		Obtained from IVF, CAAS
<i>Fagopyrum esculentum</i> Moench	Buckwheat		Obtained from IVF, CAAS
<i>Gossypium hirsutum</i> L.	Cotton	GK12	Bred by Biotechnology Research Institute, CAAS (Beijing, China)
<i>Helianthus annuus</i> L.	Sunflower		Obtained from IVF, CAAS
<i>Humulus scandens</i> (Lour.) Merr.	Scandent hop		Transplanted from agricultural fields
<i>Impatiens balsamina</i> L.	Balsam		Obtained from IVF, CAAS
<i>Ocimum basilicum</i> L.	Sweet basil		Obtained from IVF, CAAS
<i>Polygonum orientale</i> L.	Smartweed		Obtained from IVF, CAAS
<i>Ricinus communis</i> L.	Castor bean plant	Fengbi 6	Bred by Cash Crop Research Institute, Shanxi Academy of Agricultural Sciences (Taiyuan, China)
<i>Vigna radiata</i> (L.) Wilczek	Mungbean	JILVDOU2	Bred by Baoding Institute of Agricultural Sciences (Baoding, China)