Supporting Information

Loivamäki *et al.* 10.1073/pnas.0804488105

Fig. S1. A female of the parasitic wasp *Diadegma* sp. parasitizing a *Plutella xylostella* larva. [Reproduced with permission from Tibor Bukovinszky, Wageningen University (Copyright 2005, BugsinthePicture.com).]

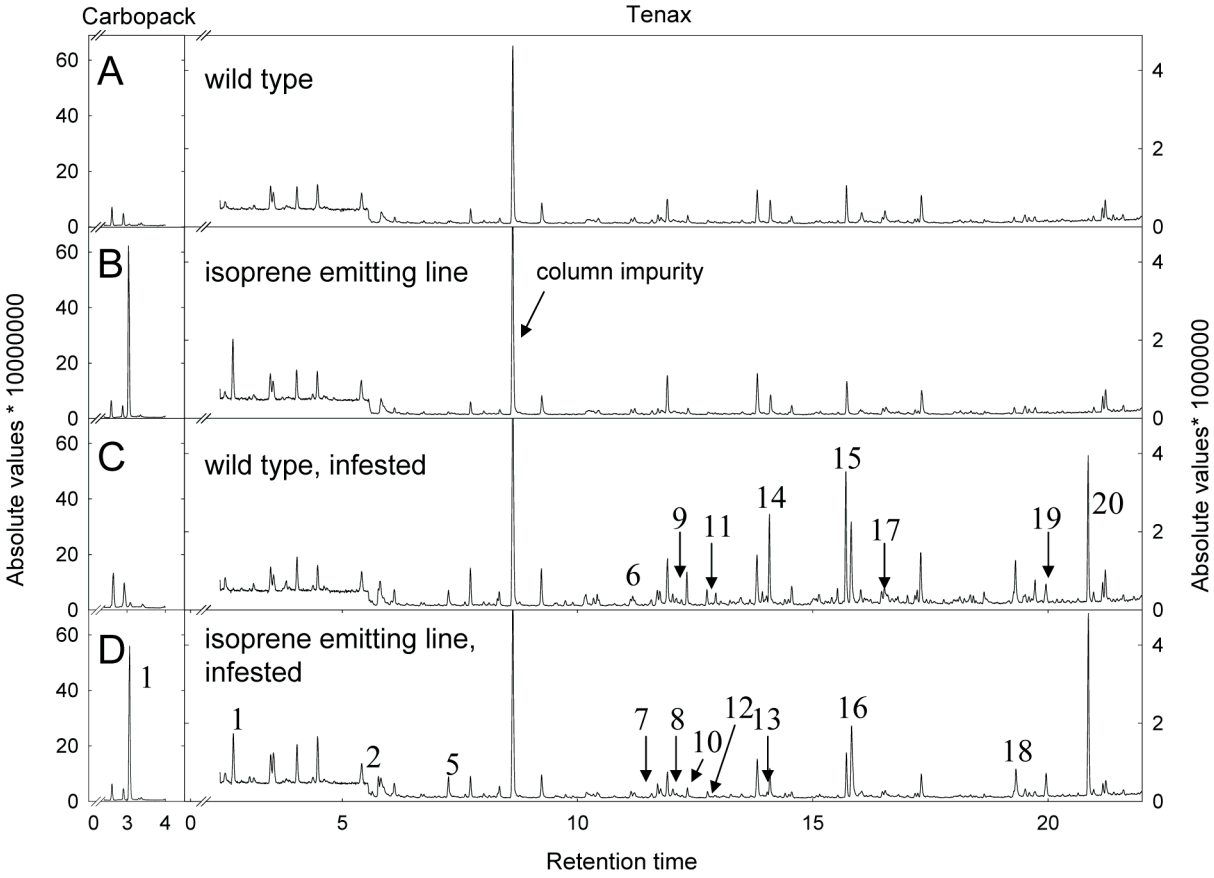

Fig. S2. Representative gas chromatography-mass spectrometry (TIC, total ion count) profiles of volatiles emitted by *Arabidopsis* plants. (*A*) Undamaged wild-type. (*B*) Undamaged transgenic isoprene emitting line. (*C*) Wild-type, infested with *Pieris rapae* for 24 h before headspace sampling. (*D*) Transgenic isoprene emitting line, infested with *P. rapae* for 24 h before headspace sampling. (*Left*) Headspace collection of isoprene on Carbopack X cartridges. (*Right*) Headspace collection of other volatiles on Tenax cartridges. Peak numbers refer to compound list shown in Table S1.

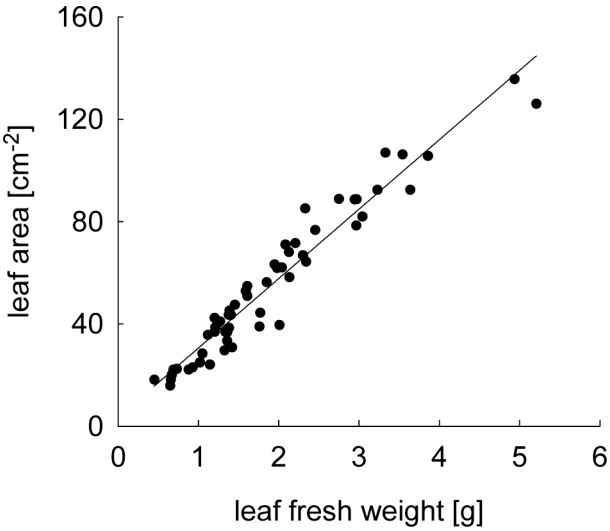

Fig. S3. Correlation between leaf area and leaf fresh weight of individual *Arabidopsis* plants. ($R = 0.993$, $n = 58$).

Table S1. Compounds detected by gas chromatography-mass spectrometry in headspace samples of plants infested with *Pieris rapae* for 24 h

	Herbivore-induced compounds	LRI	Group
1	Isoprene	512	ISP
2	1-Penten-3-ol	683	OxyVOC
3	Dimethyl disulfide	752	OxyVOC
4	Hexanal	801	OxyVOC
5	4-Hydroxy-4-methyl-2-pentanone	846	OxyVOC
6	α-Pinene	947	MT
7	Camphene	964	MT
8	Dimethyl trisulfide	990	OxyVOC
9	β-Myrcene	994	MT
10	Octanal	1007	OxyVOC
11	Limonene	1043	MT
12	Benzonitrile	1060	OxyVOC
13	Linalool	1106	MT
14	Nonanal	1109	OxyVOC
15	Decanal	1211	OxyVOC
16	Methyl salicylate	1220	MeSA
17	Benzothiazole	1264	
18	Unknown compound	1468	OxyVOC
19	α-Farnesene	1519	SQT
20	TMTT	1590	TMTT

Numbering of compound refers to the chromatograms shown in Fig. S2. Compounds were identified by comparing the mass spectra with those of authentic standards or with NIST 05 and Wiley library spectra. LRI, linear retention index; Group, structural clusters shown in Fig. S2.

Table S2. Statistic analysis of emission rates of WT and transgenic *Arabidopsis* rosettes with and without herbivory (Fig. 2)

VOC	df	*P* value Kruskall Wallis		*P* value Mann–Whitney
Isoprene	3	0.004	$wt_{(con)} - wt_{(infest)}$	0.200
			$wt_{(con)} - tr_{(con)}$	0.016
			$wt_{(con)} - tr_{(infest)}$	0.029
			$wt_{(infest)} - tr_{(con)}$	0.016
			$wt_{(infest)} - tr_{(infest)}$	0.29
			$tr_{(con)} - tr_{(infest)}$	0.19
Monoterpenes	3	0.728	—	
Sesquiterpenes	3	0.007	$wt_{(con)} - wt_{(infest)}$	0.29
			$wt_{(con)} - tr_{(con)}$	0.905
			$wt_{(con)} - tr_{(infest)}$	0.029
			$wt_{(infest)} - tr_{(con)}$	0.016
			$wt_{(infest)} - tr_{(infest)}$	0.486
			$tr_{(con)} - tr_{(infest)}$	0.016
TMTT	3	0.006	$wt_{(con)} - wt_{(infest)}$	0.29
			$wt_{(con)} - tr_{(con)}$	0.413
			$wt_{(con)} - tr_{(infest)}$	0.029
			$wt_{(infest)} - tr_{(con)}$	0.016
			$wt_{(infest)} - tr_{(infest)}$	0.486
			$tr_{(con)} - tr_{(infest)}$	0.016
MeSA	3	0.006	$wt_{(con)} - wt_{(infest)}$	0.29
			$wt_{(con)} - tr_{(con)}$	0.73
			$wt_{(con)} - tr_{(infest)}$	0.029
			$wt_{(infest)} - tr_{(con)}$	0.016
			$wt_{(infest)} - tr_{(infest)}$	0.200
			$tr_{(con)} - tr_{(infest)}$	0.016
OxyVOCs	3	0.452	—	

Table S3. Statistic analysis of EAG responses of antennae of *D. semiclausum* and *C. rubecula* females (Fig. 3)

	n	df	t	*P* value paired *t* test
EAG response of *D. semiclausum*				
0.1–1%	6	5	−1.152	0.190
1–10%	6	5	−2.958	0.032
0.1–10%	6	5	−4.577	0.006
EAG response of *C. rubecula*				
0.1–1%	8	7	2.20	0.063
1–10%	8	7	−2.056	0.078
0.1–10%	8	7	−0.968	0.365