

Figure S1. Images of (A) Adult *Aulacophora foveicollis* Lucas (Coleoptera: Chrysomelidae). (B), (C) and (D) damaged leaves and flower of *Cucurbita maxima*. (E) Trench feeding behavior shown by the pest

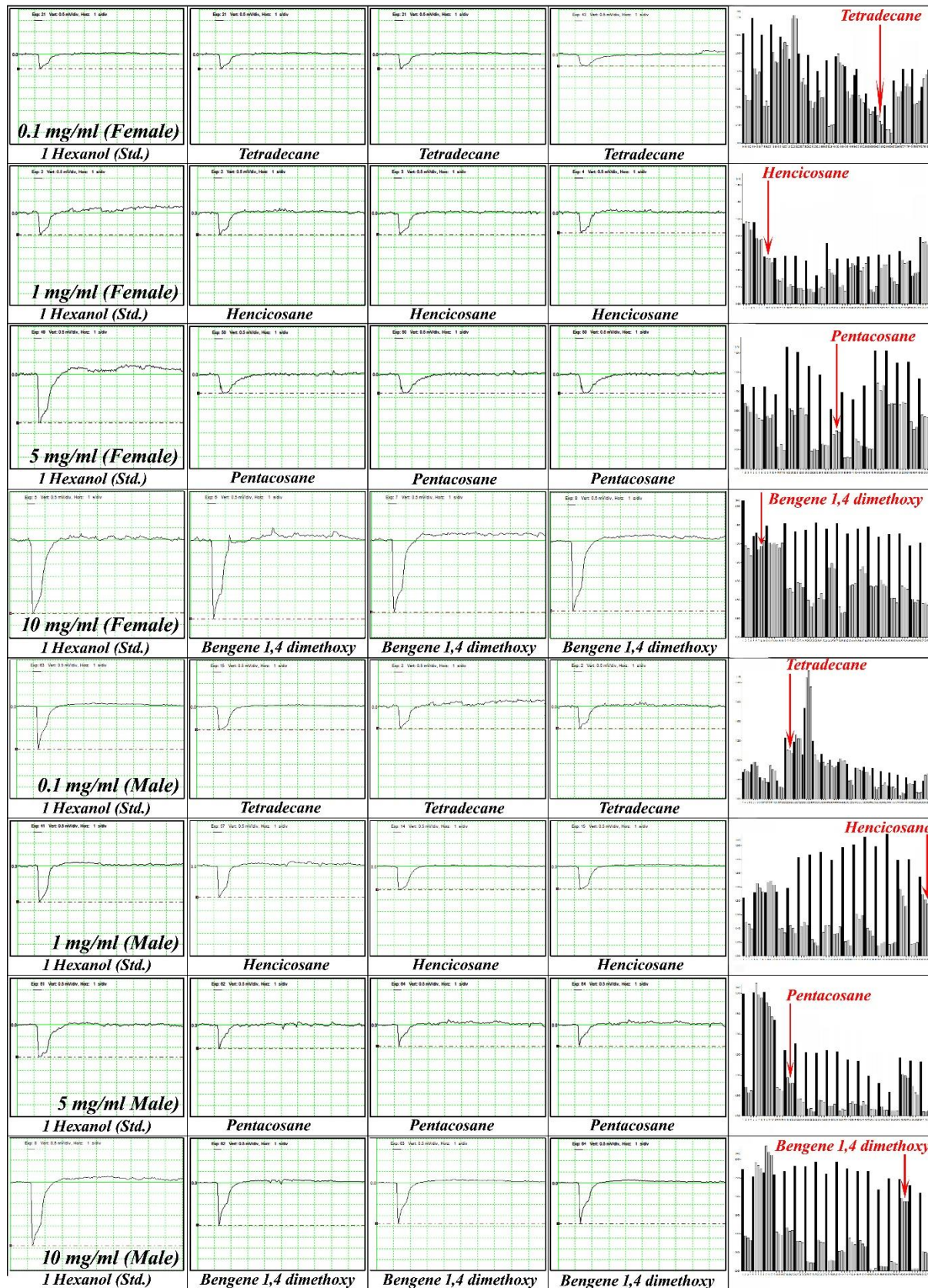


Fig. S3

Figure S2. Representative raw data of EAG spectra measured in mV of few stimulated odorant.

Table S1. List of chemical compounds used for EAG.		
List of Compounds	purity	Supplier
<i>Green Leaf volatile (GLV)</i>		
Trans-2-Hexenal	≥ 95%	Sigma-Aldrich
cis-3-Hexen-1-ol	97%	Sigma-Aldrich
Trans-2-hexenyl acetate	98%	Sigma-Aldrich
Hexanal	98%	Sigma-Aldrich
Decanal	≥ 98%	Sigma-Aldrich
<i>Aliphatic</i>		
1-Hexanol	99%	Sigma
1-Pentanol	99%	Aldrich
Hexyl acetate	99%	Sigma-Aldrich
trans-2-hexen-1-ol	96%	Aldrich
1-Octen-3-ol	≥ 98%	Aldrich
1-Heptanol	98%	Aldrich
1-Hepten-3-ol	≥ 98%	Aldrich
2-Nonanone	≥ 99%	Aldrich
Nonanal	95 %	Sigma-Aldrich
2 Heptanone	99%	Sigma-Aldrich
Nonadecane	99%	Sigma-Aldrich
Tetradecane	≥99%	Sigma-Aldrich
Pentacosane	99%	Sigma-Aldrich
Eicosane	99%	Sigma-Aldrich
Heptadecane	99%	Sigma-Aldrich
Cis-jasmone	> 95%	S H Kelkar & Co., Mumbai
3- Methyl butanol	≥99%	Sigma-Aldrich
Acetic acid	≥ 99.7%	Sigma-Aldrich
3 Hydroxy-2-butanone	≥ 99%	Sigma-Aldrich
Heptanoic acid	≥ 99%	Sigma-Aldrich
Nonanoic acid	≥ 97%	Sigma-Aldrich

Hexanoic acid	≥ 99%	Sigma-Aldrich
Butyric acid	≥99%	Sigma-Aldrich
6-methyl-5-hepten-2-one	99%	Sigma-Aldrich
2,3-Butanedione	97%	Sigma-Aldrich
Heptane	99%	Sigma-Aldrich
<i>Aromatic</i>		
Benzyl alcohol	≥99%	Sigma-Aldrich
Acetophenone	98%	Fluka
Benzaldehyde	99%	Fluka
Phenacetaldehyde	> 50%	Fluka
Isoeugenol	98%	Aldrich
Phenethyl alcohol	≥ 99%	Aldrich
2 methyl phenol	97%	Sigma-Aldrich
3-methyl phenol	99%	Sigma-Aldrich
Ethyl benzoate	≥99%	Sigma-Aldrich
4-methyl phenol	99%	Sigma-Aldrich
1,4 Dimethoxybenzene	99%	Sigma-Aldrich
Ethyl benzene	99%	Sigma-Aldrich
<i>Oxygenated monoterpenes</i>		
Geraniol	~ 98%	Sigma-Aldrich
Phytol	97%	Sigma-Aldrich
β-Citronellal	≥ 95%	Sigma-Aldrich
Eucalyptol	99%	Sigma-Aldrich
<i>Sesquiterpenes</i>		
α- Humulene	≥96%	Sigma-Aldrich
<i>Hydrocarbon monoterpenes</i>		
D (+)-Limonene	≥ 97%	Sigma-Aldrich
(1S)- (-)-α-pinene	≥ 81%	Sigma-Aldrich
Compounds in bold are present in the <i>C. maxima</i> volatile extract		

Table S2: Dose-dependent EAG amplitude (relative mean amplitude in %) of individual compound from different chemical classes in female <i>Aulacophora foveicollis</i>. Compounds in bold are present in the <i>C. maxima</i> volatile extract.				
	0.1mg/mL	1mg/mL	5 mg/mL	10 mg/mL
<i>Green Leaf volatiles (GLV)</i>				
Trans-2-Hexenal	51.95±1.26	73.84±2.52	61.052±1.64	57.59±1.17
cis-3-Hexen-1-ol	67.06±1.11	94.45±0.39	113.4±1.23	103.32±1.89
Trans-2-hexenyl acetate	45.25±1.86	71.52±2.60	60.558±1.93	64.13±1.73
Hexanal	82.68±6.95	72.80±1.61	60.363±1.61	68.63±0.56
Decanal	17.80±0.13	29.15±2.63	68.363±2.46	96.84±1.62
<i>Aliphatic compounds</i>				
1-Pentanol	57.67±1.04	71.45±2.56	72.005±2.08	97.68±2.02
Hexyl acetate	61.50±5.13	43.53±1.18	48.596±0.99	76.09±1.93
Trans-2-Hexen-1-ol	65.68±0.84	90.48±1.16	119.2±1.87	86.62±2.47
1-Octene-3-ol	46.89±1.27	12.25±0.94	77.656±3.08	98.93±6.14
1-Heptanol	88.45±1.07	85.75±1.97	90.523±1.96	102.50±0.85
1-hepten-3-ol	76.85±2.39	76.05±2.98	63.126±2.10	84.33±0.43
2-Nonanone	29.65±0.61	19.13±0.71	52.645±1.84	41.74±1.02
Nonanal	63.20±2.67	31.00±1.83	38.699±2.9128	62.22±1.78
2-Heptanone	45.57±1.05	16.53±0.72	50.165±1.93	49.94±1.35
Nonadecane	51.72±2.11	41.29±2.01	66.21±1.82	96.96±1.82
Tetradecane	40.21±1.11	31.29±1.11	69.0±2.32	89.31±1.62
Pentacosane	44.69±2.11	39.72±1.11	80.79±1.78	95.21±2.11
Heneicosane	50.26±1.21	39.29±0.96	79.21±1.21	100.21±2.32
Eicosane	41.21±1.99	52.32±1.62	60.7±0.79	78.21±1.21
Heptadecane	39.72±1.72	41.72±1.32	63.79±2.32	65.10±1.72
Cis-jasmone	33.71±1.92	24.51±0.64	61.382±1.33	52.85±0.70
3-Methyl butanol	32.88±1.24	46.41±1.57	64.306±1.30	82.77±1.33
Acetic acid	15.45±1.31	28.25±0.49	22.69±0.700	23.60±1.19
Lactic acid	21.79±0.77	24.43±2.21	69.841±1.295	8.76±1.17
3-Hydroxy-2-butanone	26.44±1.06	12.38±1.39	15.063±0.22	23.35±1.69
Heptanoic acid	95.57±4.09	52.56±0.30	44.698±1.58	51.70±0.99
Nonanoic acid	28.46±4.23	58.82±2.85	77.916±1.87	30.03±0.89
Hexanoic acid	63.47±2.55	80.76±2.07	57.502±1.69	42.08±1.37

Butyric acid	33.56±1.64	35.80±0.80	24.985±0.90	22.65±0.77
6-methyl-5-hepten-2-one	41.05±2.07	28.50±0.98	29.515±2.22	29.49±2.46
2,3-Butanedione	65.79±3.29	16.87±0.38	25.693±0.50	35.13±1.53
Heptane	38.54±1.49	16.65±0.03	33.492±2.07	37.64±2.88
<i>Aromatics compounds</i>				
Benzyl alcohol	74.59±2.80	66.76±2.34	92.713±0.98	100.99±1.83
Acetophenone	38.05±2.37	49.51±1.66	42.778±1.18	65.17±1.49
Benzaldehyde	55.14±0.98	31.10±1.00	22.242±0.51	51.06±0.56
Phenylacetaldehyde	44.73±0.09	44.43±1.49	62.036±1.79	53.75±1.84
Isoeugenol	38.44±1.95	37.23±1.41	40.048±2.25	40.08±0.99
Phenethyl alcohol	76.00±1.22	75.85±1.29	107.04±2.0328	119.37±1.09
2 methyl phenol	30.26±1.19	23.76±0.69	102.05±0.6878	136.51±0.97
3-methyl phenol	76.19±2.38	72.30±2.06	100.37±1.7913	120.08±2.26
Ethyl benzoate	24.76±2.49	38.40±0.98	34.253±0.2214	62.87±2.05
4-methyl phenol	7.71±0.75	28.18±0.54	88.905±0.73	66.49±1.59
1,4 dimethoxy benzene	69.16±1.11	95.50±0.49	122.4±1.23	119.82±1.89
Ethyl benzene	61.71±1.09	50.43±1.29	80.76±1.11	100.51±1.21
<i>Oxygenated monoterpenes</i>				
Phytol	45.00±1.61	39.27±1.61	91.473±2.310	48.93±0.08
Geraniol	33.93±0.41	19.41±0.77	55.062±1.242	53.95±2.42
β-Citronellal	35.46±0.93	36.95±1.48	56.83±1.51	79.30±1.00
Eucalyptol	34.32±0.81	39.21±1.31	61.83±1.41	76.13±1.92
<i>Sesquiterpenes</i>				
a- Humulene	31.75±1.51	38.17±1.37	51.08±0.387	12.20±0.46
<i>Hydrocarbon monoterpenes</i>				
D(+)-Limonene	26.43±0.72	34.68±0.76	58.39±0.8718	35.20±0.57
(1S)-(-)-α-pinene	29.89±0.72	27.04±2.12	79.517±2.96	55.48±1.35

Table S3: Dose-dependent EAG amplitude (relative mean amplitude in %) of individual compound from different chemical classes in male *Aulacophora foveicollis*. Compounds in bold are present in the *C. maxima* volatile extract

Compounds	0.1mg/mL	1mg/mL	5 mg/mL	10 mg/mL
<i>Green Leaf volatiles (GLV)</i>				
Trans-2-Hexenal	49.21±2.24	53.06±2.43	21.34±3.24	32.53±1.44
cis-3-Hexen-1-ol	62.33±3.34	94.95±2.46	86.5±3.34	121.70±2.44
Trans-2-hexenyl acetate	68.83±2.08	40.84±3.05	28.0±2.18	39.06±0.88
Hexanal	70.05±1.73	31.80±2.79	16.6±1.63	28.07±2.73
Decanal	22.97±0.87	10.96±1.42	17.47±0.77	33.55±4.84
<i>Aliphatic compounds</i>				
1-Pentanol	57.64±0.33	61.53±0.39	52.53±0.43	76.87±1.34
Hexyl acetate	44.54±1.71	39.91±2.41	33.4±1.41	41.40±2.71
Trans-2-Hexen-1-ol	65.17±1.80	108.46±2.89	116.1±1.60	111.70±2.80
1-Octene-3-ol	34.84±2.3	13.34±1.83	9.27±2.38	2.82±3.30
1-Heptanol	68.91±1.02	102.99±2.03	111.57±1.22	94.82±4.02
1-hepten-3-ol	63.28±1.82	103.27±2.86	116.01±1.22	126.11±2.82
2-Nonanone	35.75±3.90	49.32±1.99	66.94±3.60	55.28±4.90
Nonanal	39.78±1.05	18.65±2.04	31.93±1.25	45.40±1.48
2-Heptanone	22.36±1.31	19.44±2.36	31.10±1.21	33.23±2.31
Nonadecane	66.21±1.55	80.29±1.55	105.0±2.11	100.21±1.33
Tetradecane	60.72±0.62	87.60±2.11	97.32±1.78	106.92±1.99
Pentacosane	62.71±1.72	82.32±2.31	90.21±1.72	100.11±1.11
Heneicosane	65.00±1.72	101.21±1.21	129.3±1.99	111.99±1.81
Eicosane	49.99±2.01	52.96±2.01	62.9±1.11	82.40±1.48
Heptadecane	50.32±0.88	72.89±0.99	81.3±1.98	78.62±1.32
Cis-jasmone	18.71±1.05	17.45±1.15	6.37±1.45	11.59±4.05
3-Methyl butanol	42.19±2.62	21.28±2.24	51.62±2.62	40.97±3.62
Acetic acid	19.50±1.30	11.65±3.48	11.59±1.40	2.48±1.38
3-Hydroxy-2-butanone	22.22±0.56	10.68±1.22	10.71±0.66	3.31±2.56
Heptanoic acid	77.03±4.01	27.35±0.26	16.9±4.21	27.18±0.01
Nonanoic acid	51.90±2.82	35.83±2.64	16.0±7.22	18.34±2.82
Hexanoic acid	55.67±3.9	25.86±0.32	13.0±3.29	27.64±6.90
Butyric acid	36.27±2.39	14.31±3.32	7.3±2.39	11.31±1.39
6-methyl-5-hepten-2-one	22.49±3.56	19.73±4.57	32.30±3.46	16.23±3.76

2,3-Butanedione	55.84±1.78	13.09±6.72	29.30±1.68	18.99±1.28
Heptane	15.41±3.73	15.09±3.02	3.67±3.43	7.10±3.78
<i>Aromatics compounds</i>				
Benzyl alcohol	64.99±1.53	52.14±2.61	71.35±1.43	80.25±1.23
Acetophenone	37.62±4.07	15.69±4.02	31.54±4.47	35.49±4.57
Benzaldehyde	27.11±3.94	13.60±0.48	29.16±6.84	26.07±2.24
Phenylacetaldehyde	29.43±3.05	15.92±3.03	15.46±5.25	35.88±1.05
Isoeugenol	21.62±1.00	7.83±2.08	14.67±1.20	29.39±1.08
Phenethyl alcohol	46.31±2.94	51.68±0.86	73.05±6.24	81.50±2.82
2 methyl phenol	20.01±5.54	26.90±3.52	78.10±5.34	92.07±5.24
3-methyl phenol	39.57±2.54	46.70±4.42	75.56±2.34	86.30±1.58
Ethyl benzoate	27.43±5.90	21.05±3.04	11.05±5.40	21.52±5.96
4-methyl phenol	25.81±2.13	19.76±4.12	10.36±6.43	10.47±4.13
Benzene 1,4 dimethoxy	62.99±1.02	69.14±0.61	80.25±1.11	100.50±1.25
Ethyl benzene	40.20±0.3	46.70±1.11	69.00±1.39	26.40±1.31
<i>Oxygenated monoterpenes</i>				
Geraniol	29.25±1.54	22.55±3.48	67.58±1.34	27.67±2.54
Phytol	12.04±2.90	10.40±2.28	86.50±2.70	11.86±4.90
β-Citronellal	18.87±2.09	21.43±2.06	69.53±2.29	15.88±3.09
Eucalyptol	26.84±1.11	40.21±0.99	51.83±1.21	59.21±1.32
<i>Sesquiterpenes</i>				
α- Humulene	23.04±1.30	13.68±1.22	77.48±1.80	8.46±1.40
<i>Hydrocarbon monoterpenes</i>				
D(+)-Limonene	20.70±1.36	13.22±2.58	10.80±1.56	28.54±1.66
(1S)-(-)-α-pinene	33.01±2.30	24.69±2.63	58.94±1.30	15.09±1.90

Table S4: Representation of two-way ANOVA and post hoc tests analysis						
A Between-Subjects Factors						
		Value Label		N		
Gender	1	Male		200		
	2	Female		200		
Concentration	1	0.1 mg/mL concentration		100		
	2	1 mg/mL concentration		100		
	3	5 mg/mL concentration		100		
	4	10 mg/mL concentration		100		
Levene's Test of Equality of Error Variances ^a Dependent Variable: Score Amplitude						
F-value	Degrees of freedom (df)	p value (p<0.05)				
3.958	7	0				
	392					
Tests the null hypothesis that the error variance of the dependent variable is equal across groups. a. Design: Intercept + Gender + Concentration + Gender * Concentration						
B Descriptive Statistics						
Dependent Variable: Score Amplitude						
Gender	Concentration	Mean	Std. Deviation	N		
Male	0.1 mg/mL concentration	5.8518	1.46808	50		
	1 mg/mL concentration	5.0034	2.07574	50		
	5 mg/mL concentration	5.972	2.42685	50		
	10 mg/mL concentration	5.4352	2.52617	50		
	Total	5.5656	2.1815	200		
Female	0.1 mg/mL concentration	6.5502	1.50053	50		
	1 mg/mL concentration	6.2122	1.76869	50		
	5 mg/mL concentration	7.6254	1.66642	50		
	10 mg/mL concentration	7.422	1.97154	50		
	Total	6.9524	1.82019	200		
Total	0.1 mg/mL concentration	6.201	1.518	100		
	1 mg/mL concentration	5.6078	2.01244	100		
	5 mg/mL concentration	6.7987	2.23156	100		
	10 mg/mL concentration	6.4286	2.46561	100		
	Total	6.259	2.12319	400		
C Tests of Between-Subjects Effects						
Dependent Variable: Score Amplitude						
Source	Type III Sum of Squares	df	Mean Square	F-value	p value (p<0.05)	Partial Eta Squared
Corrected Model	290.498a	7	41.5	10.787	0	0.162
Intercept	15670.158	1	15670.158	4.07E+03	0	0.912
Gender	192.335	1	192.335	49.991	0	0.113

Concentration	74.747	3	24.916	6.476	0	0.047
Gender × Concentration	23.416	3	7.805	2.029	0.109	0.015
Error	1508.166	392	3.847			
Total	17468.821	400				
Corrected Total	1798.664	399				
a. R Squared = 0.162 (Adjusted R Squared = 0.147)						
D Univariate Tests Dependent Variable: Score Amplitude						
	Sum of Squares	df	Mean Square	F-value	p value(p <0.05)	Partial Eta Squared
Contrast	192.335	1	192.335	49.991	0	0.113
Error	1508.166	392	3.847			
E Pairwise Comparisons Dependent Variable: Score_Amplitude						
Gender	Gender	Mean Difference	Std. Error	p value	95% Confidence Interval for Difference ^a	
					Lower Bound	Upper Bound
Male	Female	-1.387*	0.196	0	-1.772	-1.001
Female	Male	1.387*	0.196	0	1.001	1.772
Based on estimated marginal means *. The mean difference is significant at the .05 level. a. Adjustment for multiple comparisons: Bonferroni.						
F Post Hoc Tests (Concentration) Multiple Comparisons of Score Amplitude Tukey HSD						
Concentration	Concentration	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
0.1 mg/mL concentration	1 mg/mL concentration	0.5932	0.27739	0.143	-0.1225	1.3089
	5 mg/mL concentration	-0.5977	0.27739	0.138	-1.3134	0.118
	10 mg/mL concentration	-0.2276	0.27739	0.845	-0.9433	0.4881
1 mg/mL concentration	0.1 mg/mL concentration	-0.5932	0.27739	0.143	-1.3089	0.1225
	5 mg/mL concentration	-1.1909*	0.27739	0	-1.9066	-0.4752
	10 mg/mL concentration	-0.8208*	0.27739	0.017	-1.5365	-0.1051
5 mg/mL concentration	0.1 mg/mL concentration	0.5977	0.27739	0.138	-0.118	1.3134
	1 mg/mL concentration	1.1909*	0.27739	0	0.4752	1.9066
	10 mg/mL concentration	0.3701	0.27739	0.542	-0.3456	1.0858
10 mg/mL concentration	0.1 mg/mL concentration	0.2276	0.27739	0.845	-0.4881	0.9433
	1 mg/mL concentration	.8208*	0.27739	0.017	0.1051	1.5365
	5 mg/mL concentration	-0.3701	0.27739	0.542	-1.0858	0.3456

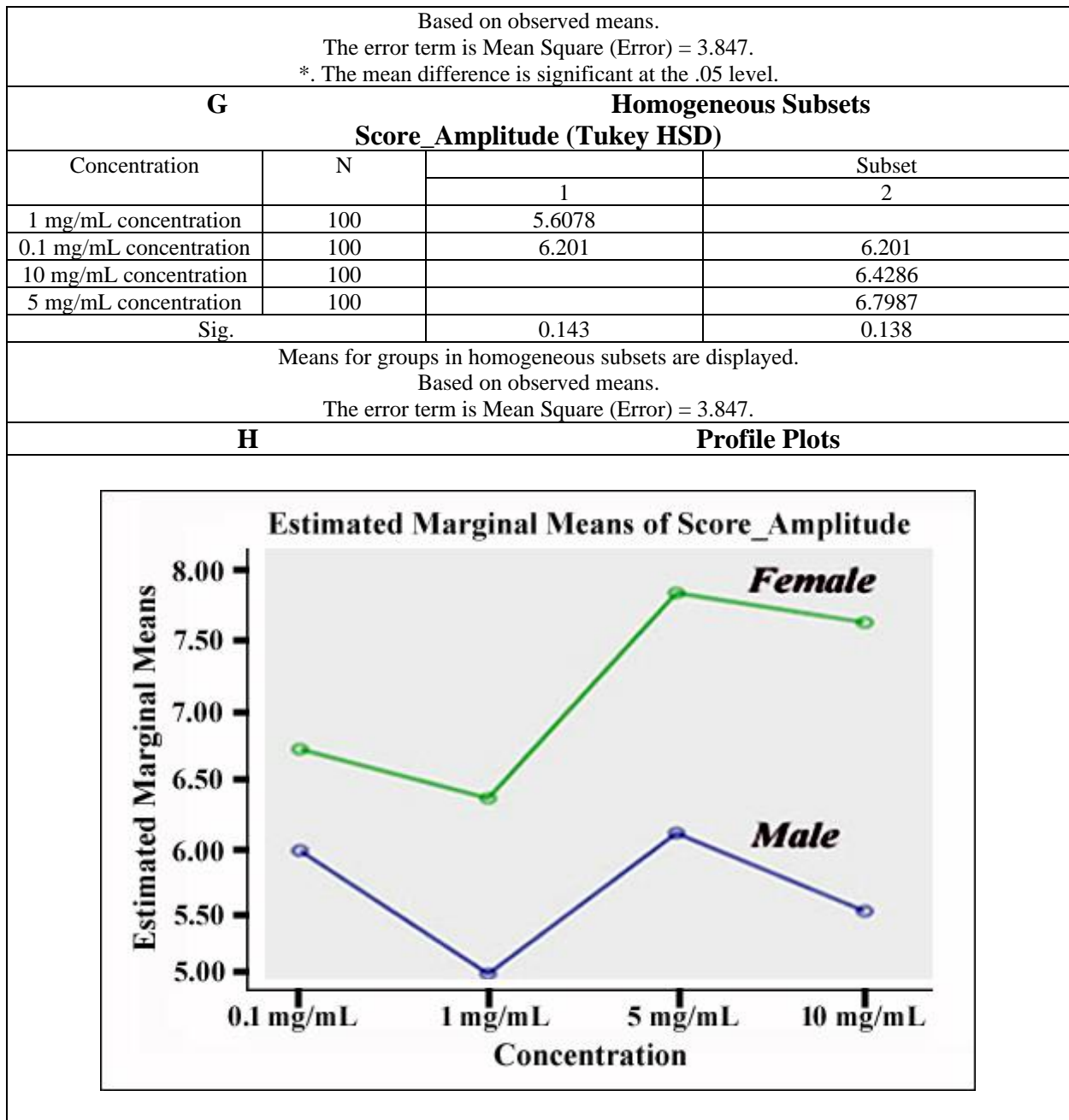


Table S5: Y-tube bioassay^a analysis in female and male *Aulacophora foveicollis*

Compounds	Mean			Standard deviation (SD)		
	Treatment	Control	No response	Treatment	Control	No response
A. Female insects						
(1S)-(-)- α -pinene	8.0	-8.6	3.4	0.7	1.1	1.1
Decanal	8.2	-6.8	5	0.8	0.8	0.7
Phytol	7.0	-9.0	4	0.7	0.7	1.0
Nonanal	8.4	-7.8	3.8	0.5	0.8	0.8
1,4 dimethoxybenzene	16.4	-3.0	0.6	0.9	0.7	0.5
Heneicosane	14.4	-3.4	2.2	0.5	0.5	0.4
Tetradecane	12.6	-5.0	2.4	0.5	0.7	0.5
Pentacosane	13.4	-4.4	2.2	0.5	0.5	0.8
Ethylbenzene	12.8	-5.0	2.2	0.8	0.7	1.3
Benzaldehyde	6.0	-10.0	4	0.7	1.0	1.0
D-limonene	9.4	-6.0	4.6	1.1	0.7	1.3
Nonadecane	8.6	-6.4	5	0.5	0.9	1.2
Eicosane	8.6	-7.0	4.4	0.5	0.7	0.9
B. Male insects						
(1S)-(-)- α -pinene	9.8	-7.6	2.6	0.8	0.9	0.9
Decanal	10.0	-7.4	2.6	1.0	0.5	0.9
Phytol	6.0	-10.0	4	0.7	1.0	0.7
Nonanal	8.2	-7.0	4.8	0.8	1.0	0.8
1,4 dimethoxybenzene	11.4	-4.6	4	0.9	0.5	0.7
Heneicosane	13.0	-4.0	3	0.7	0.7	0.7
Tetradecane	11.2	-5.0	3.8	0.4	1.0	0.8
Pentacosane	11.2	-5.4	3.4	0.8	0.5	1.3
Ethylbenzene	10.0	-6.2	3.8	0.7	0.8	1.3
Benzaldehyde	5.0	-11.0	4	1.0	0.7	0.7
D-limonene	6.4	-9.2	4.4	0.9	0.8	1.1
Nonadecane	10.0	-6.0	4	1.2	0.7	1.7
Eicosane	9.0	-7.6	3.4	0.7	0.5	0.5

^aTotal five replications were taken and twenty insects consisted per replication. Thus the mean value of responses of each compound (0.1 mg/mL) is an average of 100 insects. All the data were transformed using square root transformation before analysis.