

Honeybee colonies (*Apis mellifera* L) perform orientation aggressiveness which varies among bred lines

### Supplementary materials



(a)

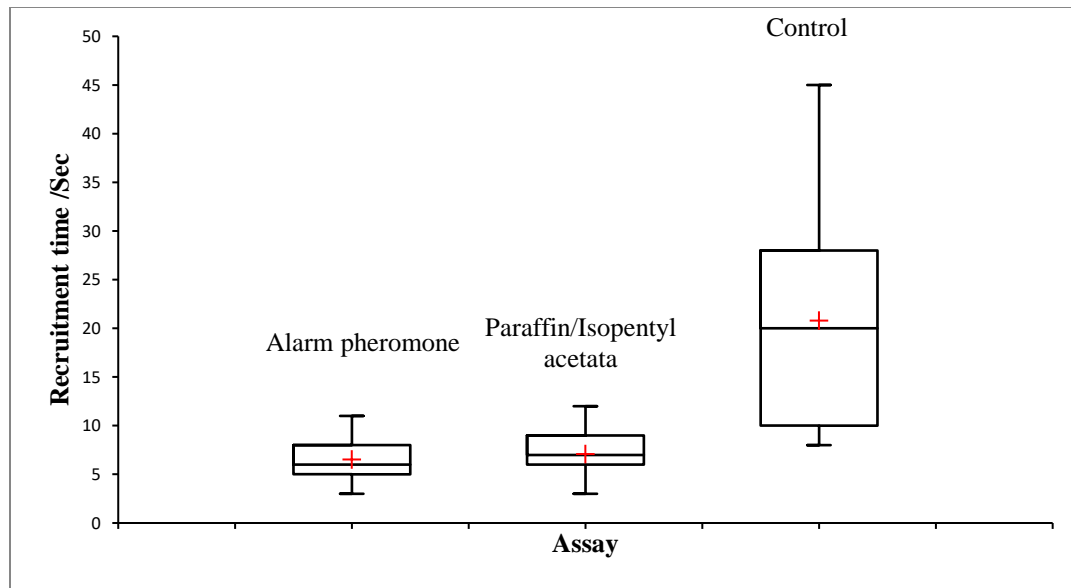


(b)



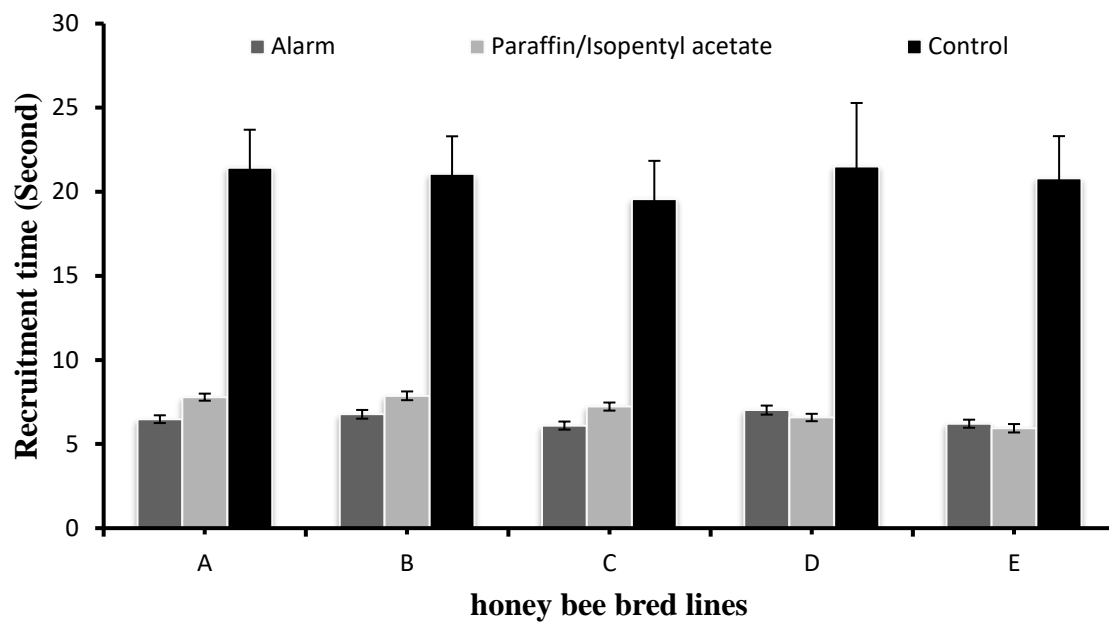
(c)

**Figure S1:** Dark leather suede used for evaluating aggressiveness in honey bees. Marked suede in squares of 5 by 5 cm (a), square suede treated with chemical assays (b), square suede containing honey bee stings (c).



**Figure S2:** Box plot for the time of recruitment of honey bee per assay

The time at which honey bees responded to the alarm pheromone assay was lesser compared to paraffin mixed with isopentyl acetate while honey bees took more time to respond to the empty suede.



**Figure S3:** Variation in the recruitment time among bred lines of honey bee colonies.

**Table S1:** Mean number of stings of honey bee in response to assays at different time of sampling

Time	Assays		
	Alarm pheromone	Paraffin/isopentyl acetate	Control
	Mean $\pm$ SE	Mean $\pm$ SE	Mean $\pm$ SE
10Sec	0.33 $\pm$ 0.14a	0.25 $\pm$ 0.08a	0.07 $\pm$ 0.04a
30Sec	2.32 $\pm$ 0.82a	1.65 $\pm$ 0.43a	0.03 $\pm$ 0.02b
60Sec	3.2 $\pm$ 0.89a	2.85 $\pm$ 0.66a	0.32 $\pm$ 0.17b
90Sec	10.67 $\pm$ 2.35a	6.85 $\pm$ 1.57a	0.42 $\pm$ 0.17b

\*Means in a row with same letter are not significantly different. One-way ANOVA,  $P < 0.05$

**Table S2:** Variation in the mean number of stings among bred lines when colonies were marbled and when not marbled.

Bred lines	Marbled		U - value	P-value (Alarm vs Paraffin)	Non-marbled		U - value	P-value (Alarm vs Paraffin)
	Alarm pheromone (Mean $\pm$ SE)	Paraffin (Mean $\pm$ SE)			Alarm pheromone (Mean $\pm$ SE)	Paraffin (Mean $\pm$ SE)		
A	10.81 $\pm$ 1.69a	9.31 $\pm$ 1.76ab	1258	0.438	2.1 $\pm$ 0.44a	1.23 $\pm$ 0.36a	1387	0.063
B	10.9 $\pm$ 1.83a	8.37 $\pm$ 1.63a	1275	0.363	2.02 $\pm$ 0.44a	0.83 $\pm$ 0.21a	1456	0.016
C	27.06 $\pm$ 3.71b	15.5 $\pm$ 2.36ab	1467	0.021	4.42 $\pm$ 0.75ab	1.56 $\pm$ 0.41a	1611.5	0.0004
D	24.52 $\pm$ 3.26ab	19.6 $\pm$ 3.02b	1280	0.348	4.42 $\pm$ 0.95ab	1.56 $\pm$ 0.33a	1443.5	0.027
E	28.92 $\pm$ 3.71b	17 $\pm$ 2.4b	1432	0.04	6.48 $\pm$ 1.24b	4.23 $\pm$ 1.15a	1454	0.024

\*Means with different small letter in a column are significantly different at  $P < 0.05$ , Kruskal-Wallis test.