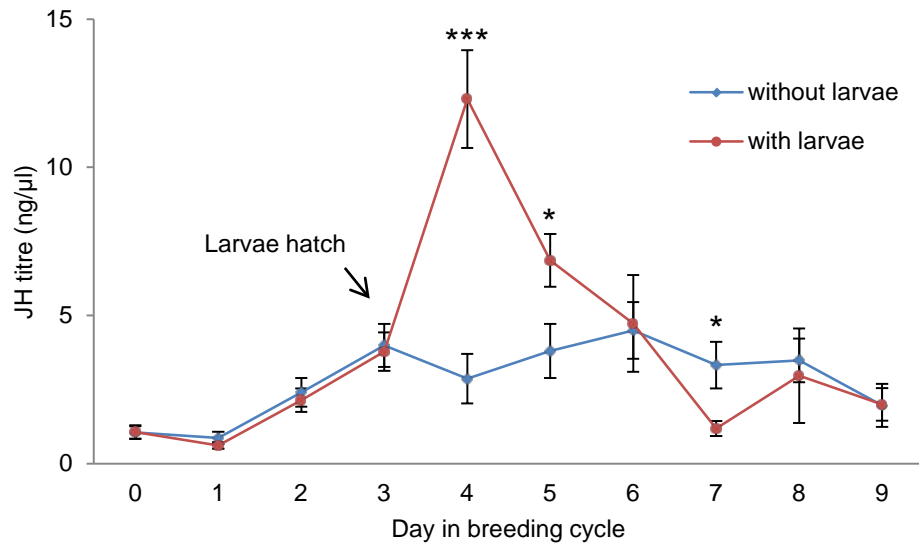
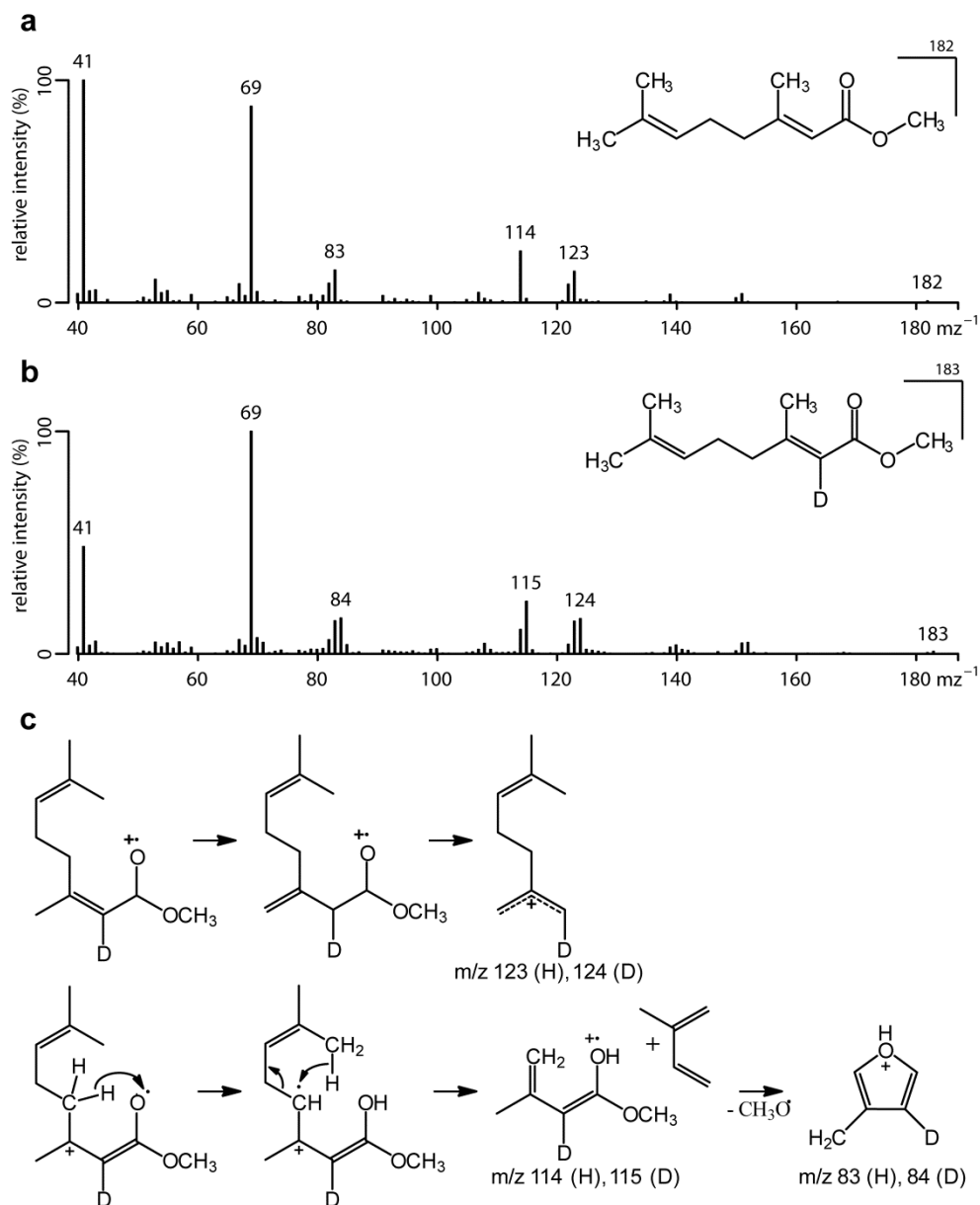


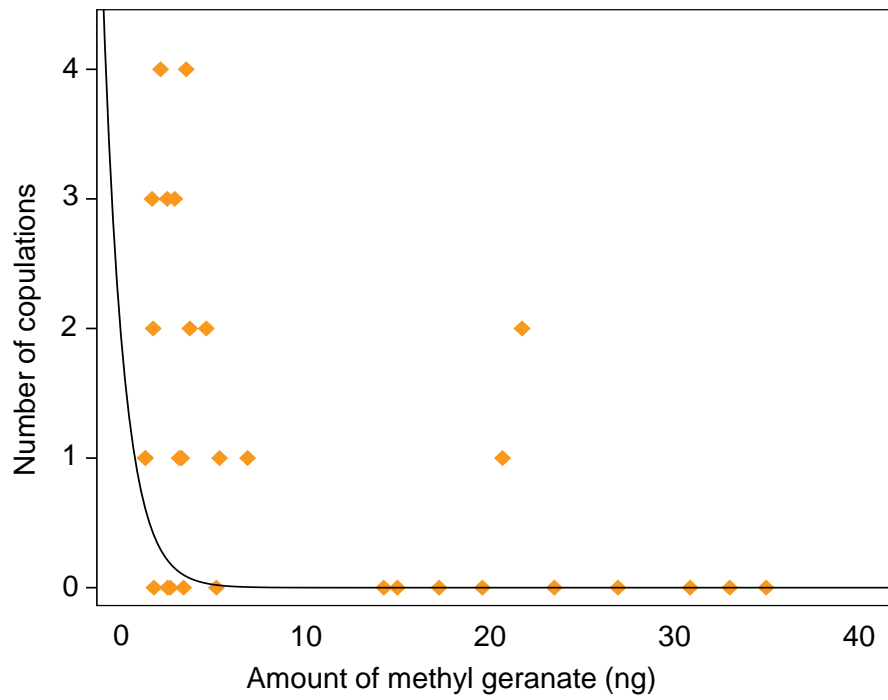
## Supplementary Figures



**Supplementary Figure 1 | Juvenile hormone III haemolymph titres.** JH III titres (mean  $\pm$  SE) of females during an entire breeding cycle. Females were either allowed to care for their larvae ('with larvae',  $N = 184$ ;) or withheld from their larvae upon hatching ('without larvae',  $N = 185$ ). There was an interaction effect of treatment group and day (Gaussian GLM:  $F_{9,349} = 7.54$ ,  $P < 0.0001$ ). Females of the treatment group "with larvae" had significantly higher JH III titres on day 4 and 5 than females of the treatment group "without larvae". Females of the treatment group "without larvae" had significantly higher JH III titres on day 7 than females of the treatment group "with larvae" (\*  $P = 0.05$ , \*\*  $P = 0.01$ , \*\*\* $P = 0.001$ ). Note: on day 3 larvae hatched, but had not yet arrived on the carcass.



**Supplementary Figure 2 | Biosynthesis of methyl geranate. a, b** Mass spectra (EI) of methyl geranate released by an untreated *N. vespilloides* female (**a**) and a female injected with the deuterium labelled geranyl pyrophosphate [ $2\text{-}^2\text{H}$ ]-GPP (**b**). Note the mass shifts for the diagnostic ions  $m/z$  83/84, 114/115, 123/124, and 182/183. Inserts show the structure of methyl geranate without and with the deuterium label, respectively. **c**, Mass spectrometric fragmentation of methyl geranate explaining the diagnostic ions  $m/z$  83, 114, and 123.



**Supplementary Figure 3 | Effect of methyl geranate emission on the number of copulations per female.** Females with lower amounts of methyl geranate received more copulations than females with higher amounts of methyl geranate. Symbols represent original data. Curve represents the calculated Poisson distribution. ( $N = 31$ , Poisson-GLM: Wald-  $\chi^2_{1,29} = 7.7$ ,  $P = 0.006$ ).

**Supplementary Table 1. Sample sizes for each subgroup of juvenile hormone III and methylgeranate measurements during an entire breeding cycle shown in Fig. 1b & d. ‘MG + JH III’ indicates those cases, where both measurements were obtained from the same individual.**

Day	With larvae				Without larvae			
	total	JH III	MG	MG + JH III	total	JH III	MG	MG + JH III
0	19	17	16	14	19	19	18	18
1	19	19	19	19	18	18	17	17
2	19	19	18	18	19	19	19	19
3	23	23	18	18	19	18	15	14
4	19	19	17	17	19	19	18	18
5	21	21	16	16	19	18	18	17
6	17	17	15	15	21	20	17	16
7	20	19	18	17	19	18	17	16
8	21	19	18	16	21	21	17	17
9	18	18	15	15	17	16	13	13
total	196	191	170	165	191	186	169	165

Abbreviations: MG = methylgeranate; JH III = juvenile hormone III