Myrmecological News
myrmecologicalnews.org
Myrmecol. News 34
Digital supplementary material

Digital supplementary material to

DUNN, J.D., HODAPP, D., MENZEL, F. & KOHLMEIER, P. 2024: Larval chemical cues induce rapid changes in foraging preferences of ant workers (Hymenoptera: Formicidae). – Myrmecological News 34: 71-79.

Data S1: Per capita honey and fly foraging activity in subcolonies with and without brood. (separate .txt file)

Data S2: Number of observations foragers and non-foragers were found on brood. These data were originally produced in Kohlmeier & al. (2018). (separate .txt file)

Data S3: Per capita honey and fly foraging activity in colonies exposed to larval CHCs or hexane. (separate .txt file)

Data S4: Raw data of GC-MS analysis of larva and worker CHCs. (separate .txt file)

Script S1: R script for the statistical analysis. (separate .R file)

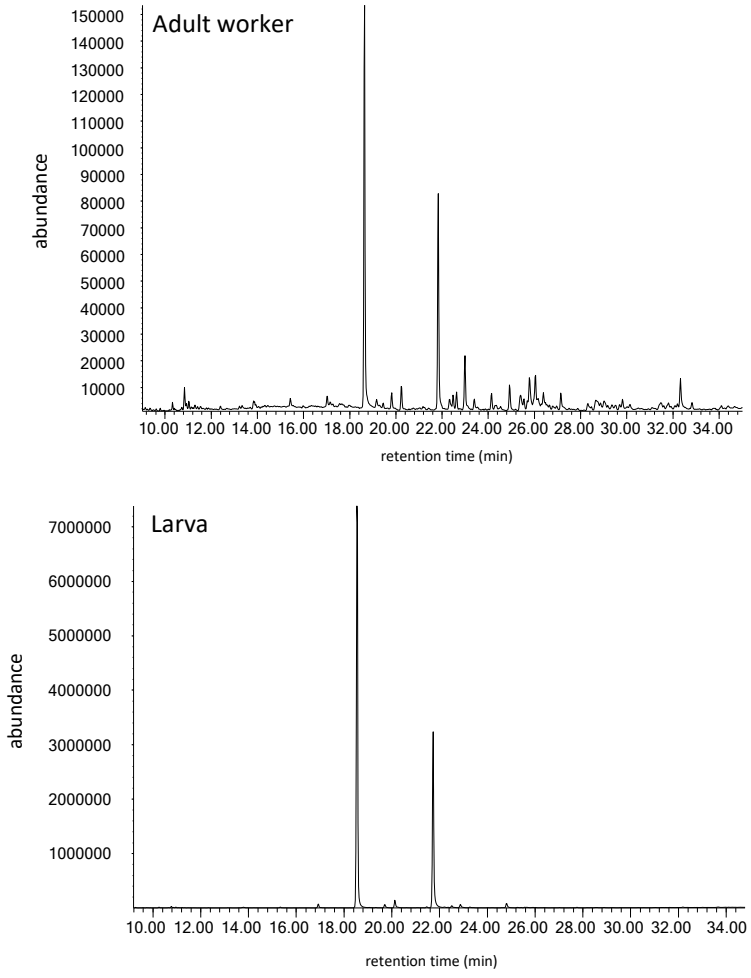

Fig. S1 Representative GC-MS data from CHC extracts. The figure shows extracts of a single adult worker (above) and a single larva (below).

Table S1 List of the compounds found in *Temnothorax longispinosus* adults and la

	Retention time	Retention Index	Adults	Larvae	diagnostic ions
n- C25	15.4	2500	0.79 ± 0.1	0.05 ± 0.02	---
n- C26	17	2600	0.85 ± 0.08	1.21 ± 0.22	---
n- C27	18.6	2700	29.41 ± 1.27	63.02 ± 1.16	---
11-;13-MeC27	19.14	2733	0.84 ± 0.1	0.18 ± 0.03	168 196 224 252
7-MeC27	19.26	2740	0.07 ± 0.02	0 ± 0	112 309
5-MeC27	19.42	2750	0.21 ± 0.03	0.11 ± 0.02	85 337
11,15-DiMeC27	19.6	2762	0.19 ± 0.05	0.03 ± 0.01	168 196 238 267
3-MeC27	19.8	2775	1.75 ± 0.33	1.22 ± 0.17	57 365
n- C28	20.22	2800	2.71 ± 0.15	1.58 ± 0.16	---
unknown hydrocarbon	20.34	2809	0.04 ± 0.02	0.17 ± 0.04	---
12-;13-MeC28	20.64	2827	0.02 ± 0.01	0.04 ± 0.01	182 196 239 252
unknown hydrocarbon	20.74	2833	0.26 ± 0.03	0.5 ± 0.1	---
unknown hydrocarbon	20.88	2841	0.07 ± 0.01	0.04 ± 0.01	---
unknown hydrocarbon	21.02	2850	0.09 ± 0.01	0.06 ± 0.01	---
4-MeC28	21.14	2857	0.34 ± 0.04	0.12 ± 0.03	71 365
3-MeC28	21.22	2862	0.1 ± 0.03	0.12 ± 0.03	57 379
C29-ene	21.38	2872	0.12 ± 0.01	0.05 ± 0.01	---
n- C29	21.8	2900	15.54 ± 0.86	22.98 ± 0.77	---
11-;13-;15-MeC29	22.3	2929	2.39 ± 0.28	0.3 ± 0.04	168 196 224 253 281
7-MeC29	22.46	2940	0.74 ± 0.08	0.16 ± 0.03	112 337
5-MeC29	22.6	2949	0.85 ± 0.09	0.7 ± 0.08	85 365
11,15-;13,17-DiMeC29	22.74	2958	0.97 ± 0.29	0.08 ± 0.02	168 196 224 238 267 294
3-MeC29	22.96	2972	5.14 ± 0.31	1.55 ± 0.14	57 393
5,x-DiMeC29[1]	23.08	2980	0.07 ± 0.03	0.02 ± 0.01	85 379
n- C30	23.34	3000	1.07 ± 0.09	0.29 ± 0.08	---
3,7-DiMeC29*	23.5	3007	0.09 ± 0.04	0 ± 0	57 407 127 337
11-;12-;13-;14-MeC30	23.84	3029	0.41 ± 0.04	0.04 ± 0.01	168 182 196 210 252 267 281 294
unknown hydrocarbon	23.98	3038	0.09 ± 0.05	0.03 ± 0.01	---
3-MeC30	24.12	3047	0.53 ± 0.1	0.11 ± 0.02	57 407
x,y-DiMeC30[1]	24.3	3058	0.83 ± 0.05	0.21 ± 0.03	---
unknown hydrocarbon	24.5	3071	0.12 ± 0.02	0.04 ± 0.01	---
n- C31	24.9	3100	1.78 ± 0.13	1.1 ± 0.09	---
9-;11-;13-;15-MeC31	25.36	3128	3.67 ± 0.32	0.36 ± 0.05	140 168 196 224 239 281 308 337
7-MeC31	25.52	3139	0.43 ± 0.07	0.18 ± 0.02	112 365
unknown hydrocarbon	25.66	3148	0 ± 0	0.15 ± 0.04	---
7,11-DiMeC31	25.82	3159	5.33 ± 0.62	0.61 ± 0.11	112 182 309 379

3-MeC31	26	3171	1.57 ± 0.18	0.22 ± 0.03	47 421
11,15,19-TriMeC31	26.12	3179	0.34 ± 0.11	0.13 ± 0.04	168 196 238 267 308 337
7,15,21-TriMeC31	26.3	3192	0.68 ± 0.19	0.19 ± 0.06	112 168 239 267 337 392
3,11-DiMeC31[2]	26.46	3202	0.54 ± 0.09	0.1 ± 0.02	57 182 308 453
3,25-DiMeC31[3]	26.62	3213	0.03 ± 0.01	0 ± 0	47 112 379 435
3,x,y-TriMeC31[1]	26.84	3227	0.58 ± 0.07	0 ± 0	57 449
unknown hydrocarbon	26.98	3237	0.16 ± 0.08	0.08 ± 0.02	---
3-MeC32	27.14	3247	0.92 ± 0.1	0.15 ± 0.03	57 435
unknown hydrocarbon	27.34	3260	0.15 ± 0.05	0.04 ± 0.01	---
unknown hydrocarbon	27.84	3293	0.13 ± 0.02	0.11 ± 0.02	---
11-;13-;15-;17-MeC33	28.28	3324	1.83 ± 0.21	0.15 ± 0.02	168 196 224 252 281 309 337
unknown hydrocarbon	28.44	3335	0.05 ± 0.02	0.07 ± 0.01	---
x,y-DiMeC33[4]	28.68	3352	4.38 ± 0.41	0.32 ± 0.04	---
5,x-DiMeC33[1]	28.98	3373	0.88 ± 0.1	0.11 ± 0.03	85 435
unknown hydrocarbon	29.16	3385	0.05 ± 0.02	0.01 ± 0	---
3,9-;3,11-DiMeC33	29.34	3398	0.39 ± 0.04	0 ± 0	57 154 182 337 365 463
unknown hydrocarbon	29.7	3425	0.48 ± 0.06	0.03 ± 0.01	---
unknown hydrocarbon	29.88	3438	0.16 ± 0.07	0.02 ± 0	---
unknown hydrocarbon	30.06	3452	0.43 ± 0.05	0.03 ± 0.01	---
unknown hydrocarbon	30.5	3485	0.08 ± 0.02	0.03 ± 0.01	---
unknown hydrocarbon	30.66	3497	0 ± 0	0.03 ± 0.01	---
11-;13-;15-MeC35	31.06	3526	0.39 ± 0.06	0.07 ± 0.01	168 196 224 309 337 365
11,x-;13,x-;15,x-DiMeC35	31.44	3553	2.1 ± 0.22	0.12 ± 0.02	168 196 351 379
unknown hydrocarbon	31.58	3563	0 ± 0	0.1 ± 0.02	---
unknown hydrocarbon	31.74	3575	0.61 ± 0.09	0.05 ± 0.01	---
unknown hydrocarbon	31.88	3585	0 ± 0	0.01 ± 0	---
unknown hydrocarbon	32.08	3600	0.27 ± 0.04	0.02 ± 0	---
unknown hydrocarbon	32.16	3605	0.01 ± 0.01	0.01 ± 0	---
unknown hydrocarbon	32.3	3615	3.27 ± 0.18	0 ± 0	---
unknown hydrocarbon	32.48	3629	0.1 ± 0.04	0.01 ± 0.01	---
unknown hydrocarbon	32.78	3650	0.24 ± 0.03	0.02 ± 0	---
unknown hydrocarbon	33.06	3671	0.04 ± 0.01	0.04 ± 0.01	---
unknown hydrocarbon	33.34	3691	0 ± 0	0.01 ± 0	---
unknown hydrocarbon	33.7	3718	0.17 ± 0.02	0.16 ± 0.01	---
11,x-;13,x-;15,x-DiMeC37[1]	34.06	3747	0.74 ± 0.07	0.09 ± 0.01	168 196 224 351 379 407
unknown hydrocarbon	34.34	3769	0.22 ± 0.04	0.03 ± 0.01	---
unknown hydrocarbon	34.68	3796	0.06 ± 0.01	0.03 ± 0.01	---

[1]position of methyl groups indicated with "x" or "y" is unknown

[2]possibly other 3,X-DiMe compounds

[3]identification tentative

[4]x = 11,13 and 15; y = 17, 19 and 21; combination of first and second methyl group unknown

Table S2: Overview of the tests run to confirm model fit and to check for potential deviations from uniformity

Model	Figure	KS test	Dispersion test	Outlier test	Within-group deviation from uniformity
glm(diff_food~foodsource)	2A	p = 0.63572	p = 0.96	p = 0.26214	ns
glm(sqrt(trips.chc)~treatment.chc*food.chc)	3B+C	p = 0.13176	p = 0.952	p = 1	ns
lmer(nAlk~Stage + (1|Population)	4B	p = 0.52007	p = 0.904	p = 0.41958	ns
lmer(CHCs[,3]~Stage) : n-C27	4B	p = 0.7799	p = 0.96	p = 1	ns
lmer(CHCs[,18]~Stage) : n-C29	4B	p = 0.9666	0.976	p = 1	ns
lmer(sqrt(CHCs[,9])~Stage) : n-C28	None	p = 0.36998	p = 0.888	p = 0.41958	ns
lmer(sqrt(CHCs[,32])~Stage) : n-C31	None	p = 0.89748	p = 0.912	p = 1	ns