SUPPLEMENTARY MATERIALS

Table S1. Compounds in the cuticular extracts of queens. VIP (Variable Importance in Projection) scores (1st and 2nd component) of each compound on each component of the discriminant analysis (PLS-DA). Compounds highlighted in bold were retained in the analysis (a VIP score >1 denotes a highly influential compound in the discrimination between lowly and highly fertile queens). KI: Kovat's index.

			VIP score	
Peak	Compound	KI	Comp.1	Comp.2
1	n-C_{27}	2695	**1.52**	**1.44**
2	3-MeC_{27}	2769	**1.86**	**1.75**
3	5,9-diMeC_{27}	2777	**1.45**	**1.4**
4	n-C_{28}	2794	0.04	0.36
5	5,9-diMeC_{28}	2875	**2.06**	**1.97**
6	n-C_{29}	2895	0.32	0.55
7	7-/ 9-/ 11-/ 13- and 15-MeC_{29}	2926	0.12	0.15
8	11-MeC_{29}	2946	**1.41**	**1.33**
9	7,11-/ 9,15- and 11,15-diMeC_{29}	2959	0.12	0.48
10	7-MeC_{29}	2964	0.21	0.2
11	3-MeC_{29}	2969	0.75	0.73
12	5,15-diMeC_{29}	2975	0.63	0.6
13	x,15-diMeC_{29}	2987	0.91	0.89
14	n-C_{30}	3002	**1.11**	**1.05**
15	12,14-diMeC_{30}	3025	0.33	0.32
16	12,14-diMeC_{30}	3029	0.54	0.65
17	10,14-diMeC_{30}	3055	0.18	0.57
18	$C_{31:1}$	3074	**1.47**	**1.41**
19	n-C_{31}	3095	**2.16**	**2.09**
20	9-/ 11-/ 13- and 15-MeC_{31}	3127	0.45	0.61
21	9,x-diMeC_{31}	3152	0.29	0.27
22	7,17-/ 9,15-/ 9,17-/ 11,15- and 13,17-diMeC_{31}	3160	0.72	0.85
23	7-MeC_{31}	3164	0.1	0.32
24	3-MeC_{31}	3171	0.9	0.96
25	5,13- and 5,17-diMeC_{31}	3176	0.59	0.56
26	7,13,17-triMeC_{31}	3189	0.7	0.75
27	3,9-/ 3,11-/ 3,13-/ 3,15- and 3,19-diMeC_{31}	3200	0.47	0.62
28	10-/ 14- and 15-MeC_{32}	3224	**1.11**	**1.17**
29	4-MeC32 and 10,14-diMeC_{32}	3253	**1.39**	**1.41**
30	7-/ 9-/ 11-/ 13-/ 15-/ 17- and 19-MeC_{33}	3326	**1.43**	**1.42**
31	11,15-/ 13,17- and 15,19-diMeC_{33}	3352	0.65	0.64
32	9,15- and 11,17-diMeC_{33}	3357	**2**	**1.89**
33	5,13- 5,17-diMeC_{33}	3373	0.04	0.18
34	2-MeC_{33}	3386	0.78	0.74
35	n-C_{34}	3399	0.1	0.58
36	17-MeC_{34}	3422	1.02	0.98
37	10-MeC_{34}	3453	0.89	0.97
38	13-MeC_{35}	3523	0.68	0.88
39	12-MeC_{35}	3548	0.03	0.12
40	9-/ 11-MeC_{35}	3555	0.88	0.88
41	13,x-diMeC_{35}	3566	0.51	0.5
42	9-/ 11-MeC_{37}	3749	**1.05**	**1**

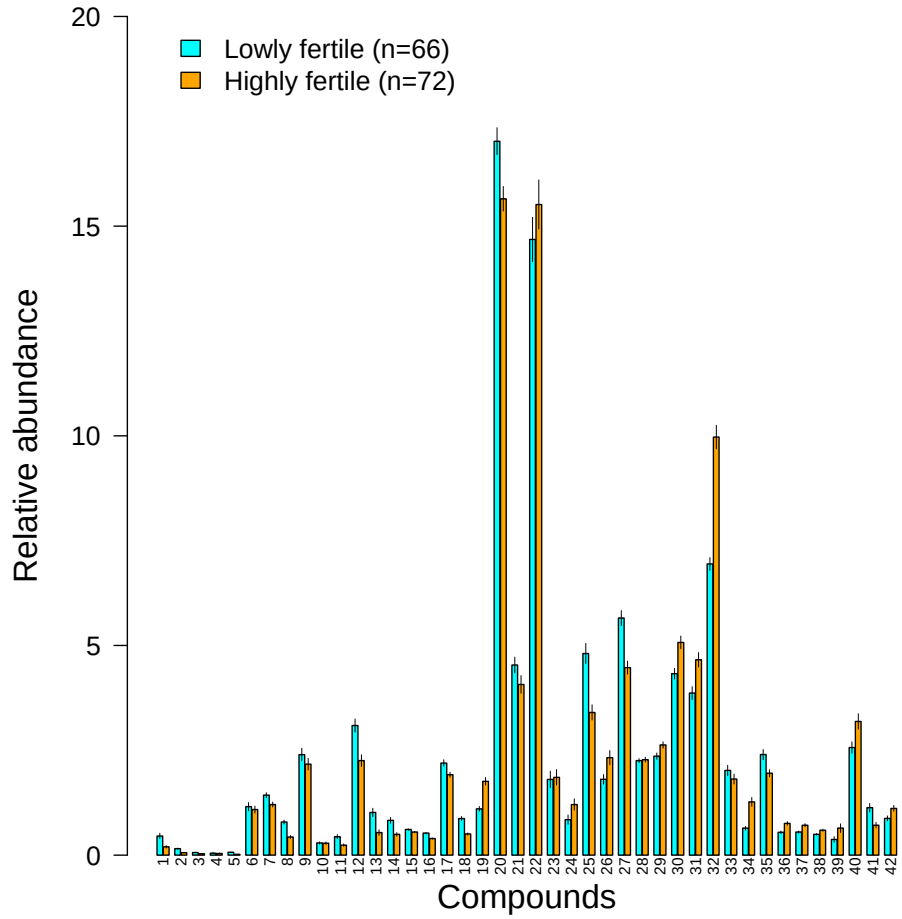

Figure S1. Relative abundance (mean ± SE) of hydrocarbons for lowly and highly fertile queens. The identity of each compound is reported in Table S1.

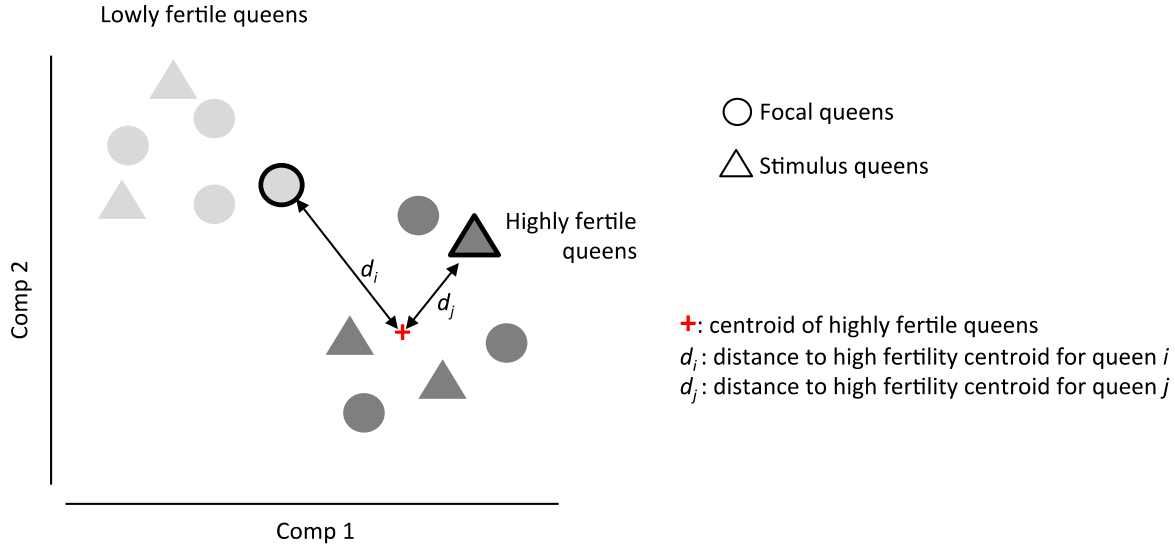

Figure S2. Schematic explanation of how the distance of each queen to high fertility signature was determined. The distance d_i is the distance of the focal queen *i* to the centroid of highly fertile queens and the distance d_j is the distance of the stimulus queen *j* to the centroid of highly fertile queens.