

Figure S1. The survival of hornets over 30 d. Survival of the three different castes after conditioning with the different odours. Only drones were conditioned to sex pheromone (4-ODA/4-OOA).

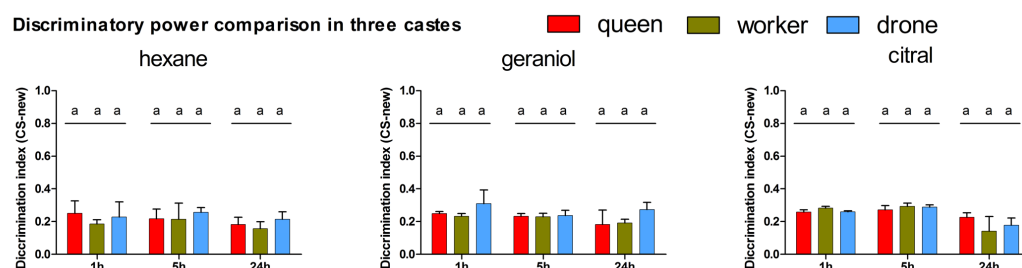


Figure S2. The Discrimination Index in three hornet castes. The Discrimination Index (DI) is the response to the CS minus the response to the unrewarded and novel control odour, nonanal. The DI therefore also compares responses to an odour to which hornets were trained with naïve responses to a novel odour. At each test time point per bee, the DI can have a value of 1, 0, or -1. At the tested memory retention time points, there were no significant differences between the three castes for the tested odours (Tukey HSD test, $P < 0.05$). In each plot, the mean \pm 95% CI is shown.

Table S1. The number of hornets used in each experiment to test memory (1 h, 5 h, or 24 h) and very long-lasting memory (30 d). The main components of gyne sex pheromone are 4-ODA and 4-OOA.

memory	Caste	Colony	odour			
			hexane	geraniol	citral	4-ODA/4-OOA
LTM	queen	C1	20	20	22	
		C2	20	20	22	
		C3	20	20	22	
	worker	C1	34	52	33	
		C2	34	52	33	
		C3	34	52	33	
	drone	C1	35	28	45	33
		C2	35	28	45	33
		C3	35	28	45	33
LLM	queen	C1	17	16	16	
		C2	17	16	16	
		C3	17	16	16	
	drone	C1	21	22	21	17
		C2	21	22	21	17
		C3	21	22	21	17