

Supplementary information

Table S1. The effect of light (darkness/visible light), beetle collection month and pheromone on male *A. obscurus* walking and activity. A linear mixed model is was conducted and date of experiment was included as a random effect.

	Num DF	Den DF	F Value	Pr > F
Walking speed				
Pheromone	1	67	27.04	<0.001
Beetle collection	1	67	6.24	0.015
Light	1	66	0.02	0.884
Beetle collection*Pheromone	1	64	0.27	0.602
Light*Pheromone	1	63	0.27	0.605
Light*Beetle collection	1	65	0.31	0.580
Pheromone*Beetle collection*Light	1	62	0.96	0.331
Distance walked				
Pheromone	1	67	28.52	<0.001
Beetle collection	1	67	5.62	0.025
Light	1	66	0.14	0.707
Beetle collection*Pheromone	1	64	0.04	0.836
Light*Pheromone	1	63	0.03	0.859
Light*Beetle collection	1	65	0.51	0.476
Pheromone*Beetle collection*Light	1	62	1.28	0.263
Proportion time moving				
Pheromone	1	67	6.2	0.030
Beetle collection	1	67	0.58	0.449
Light	1	66	0.46	0.502
Beetle collection*Pheromone	1	63	0.00	0.983
Light*Pheromone	1	64	0.31	0.577
Light*Beetle collection	1	65	1.21	0.276
Pheromone*Beetle collection*Light	1	62	0.59	0.446

Table S2. The effect of the presence of visible light, beetle collection month and pheromone on male *A. obscurus* interaction with pheromone granules. A linear mixed model is was conducted unless otherwise stated. Date of experiment was included as a random effect.

	Num DF	Den DF	F Value	Pr>F
Reach zone*				
Pheromone	1		8.98	0.003
Beetle collection	1		2.49	0.115
Light	1		0.02	0.900
Beetle collection*Pheromone	1		0.15	0.70
Light*Pheromone	1		1.28	0.259
Light*Beetle collection	1		0.27	0.273
Pheromone*Beetle collection*Light	1		0.052	0.820
Frequency of contacts+				
Pheromone	1	46	6.49	0.014
Beetle collection	1	45	0.40	0.532
Light	1	44	0.01	0.943
Beetle collection*Pheromone	1	41	0.06	0.807
Light*Pheromone	1	42	0.09	0.765
Light*Beetle collection	1	43	0.40	0.530
Pheromone*Beetle collection*Light	1	40	3.07	0.088
Cumulative duration of contact+				
Pheromone	1	45	0.56	0.457
Beetle collection	1	46	7.47	0.009
Light	1	44	0.46	0.502
Beetle collection*Pheromone	1	42	0.29	0.596
Light*Pheromone	1	41	0.12	0.735
Light*Beetle collection	1	43	0.69	0.410
Pheromone*Beetle collection*Light	1	40	1.02	0.319

* Wald Chi-Square + Analysis only includes beetles that reach granule zone.

Table S3. LS mean (\pm SE) walking speed, distance walked, and proportion time moving for male *A. obscurus* beetles in different pheromone-light treatments, for beetles collected in April and May 2014. The presence of visible light had no effect on measurements and are the data shown are pooled across the light treatments.

		Walking Speed (cms-1)	Distance walked (cm)	Proportion time moving
April	Blank	0.84 (0.11)	470 (67.7)	0.62(0.12)
	Pheromone	1.37(0.11)	808 (63.0)	0.85(0.08)
May	Blank	0.52(0.12)	304 (72.9)	0.53(0.13)
	Pheromone	1.14(0.11)	670 (64.4)	0.79(0.09)

Table S4. Number of *A. obscurus* beetles used in Experiment 3 to examine the effect of month of collection on activity and response to pheromone.

	Number of groups				Number of beetles		
	Pheromone Treatment	17-18 days post collection	38-39 days post collection	Total	17-18 days post collection	38-39 days post collection	Total
March	Pheromone	12	10	22	60	50	110
	Blank	11	11	22	55	55	110
April	Pheromone	13	12	25	65	35	100
	Blank	11	11	22	54	34	88
May	Pheromone	12	12	24	60	40	100
	Blank	12	12	24	60	35	95