

Impact of size, sex, and age on adult black soldier fly (*Hermetia illucens* L. (Diptera: Stratiomyidae) thermal preference

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Table S1. Feeding schedule for black soldier fly colony maintenance in FLIES Facility at Texas A&M University.

Day	Activity
1	Egg hatched and managed in EVO
7	Received as Bullet® Add 8 kg wet Gainesville diet plus ~0.7 kg dry Gainesville diet
14	Add 2 kg wet Gainesville diet
19	Sift out frass for pupation

Table S2. Feeding schedule for black soldier fly larvae used in the experiment.

Day	Activity
1	Egg hatched, and 40 g wet Gainesville diet added
4	14 g wet Gainesville diet added
6	54 g wet Gainesville diet added
8	54 g wet Gainesville diet added
9 and after	54 g wet Gainesville diet added daily until ~40% pupation

Table S3. Estimated regression parameters, degree of freedom, F-values and P-values of linear mixed-effect model for adult black soldier fly thermal preference differ in age, size, and sex in trial 1.

	Df	F value	P-value
Intercept	1	803.4206	<0.0001
Time	11	1.4304	0.1594
Age	1	23.4218	0.0002
Size	1	21.7087	0.0003
Sex	1	0.1187	0.7349
Age : Size	1	8.6823	0.0095
Age : Sex	1	0.4744	0.5008
Size : Sex	1	0.9654	0.3405
Age : Size : Sex	1	0.0005	0.9818

Table S4. Estimated regression parameters, degree of freedom, F-values and *P*-values of linear mixed-effect model for adult black soldier fly thermal preference differ in age, size, and sex in trial 2.

	Df	F value	<i>P</i> -value
Intercept	1	787.5253	<0.0001
Time	11	1.9214	0.0371
Age	1	38.1259	<0.0001
Size	1	5.5515	0.0315
Sex	1	0.6100	0.4462
Age : Size	1	0.5035	0.4882
Age : Sex	1	4.2376	0.0562
Size : Sex	1	0.3744	0.5492
Age : Size : Sex	1	0.1869	0.6713

Table S5. Adult black soldier fly thermal preference in each group (mean \pm SEM).

Trial	Age (d)	Size	Sex	Mean	SEM
1	1	Large	Female	30.6	1.10
1	1	Large	Male	33.8	0.78
1	1	Small	Female	20.0	1.05
1	1	Small	Male	20.3	0.93
1	7	Large	Female	19.3	0.30
1	7	Large	Male	20.4	0.43
1	7	Small	Female	18.0	0.24
1	7	Small	Male	16.0	0.09
2	1	Large	Female	35.1	1.09
2	1	Large	Male	30.2	1.18
2	1	Small	Female	32.6	0.45
2	1	Small	Male	27.0	1.01
2	7	Large	Female	20.8	0.46
2	7	Large	Male	24.9	1.04
2	7	Small	Female	17.1	0.21
2	7	Small	Male	17.5	0.27