Results of florescent paint patterns on numbers and types of bees captured in bee bowls

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Data were collected on Patuxent Wildlife Research Center, Laurel, Maryland in 2001 on the following dates:

15-Aug
16-Aug
21-Aug
22-Aug
30-Aug
6-Sept

Note that all dates were late in the season.

The following genera were collected in the bowls.

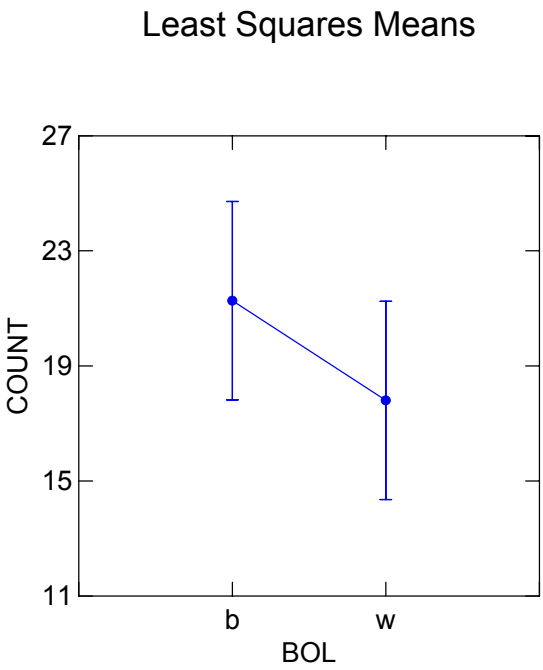
Agapostemon	47.
Apis	4.
Augochlora	154.
Augochlorella	20.
Augochloropsis	9.
Bombus	163.
Calliopsis	26.
Ceratina	79.
Coelioxys	3.
Halictus	109.
Hylaeus	5.
Lasioglossum	534.
Megachile	19.
Melissodes	5.
Psithyrus	4.
Ptilothrix	1.
Xylocpoa	1.

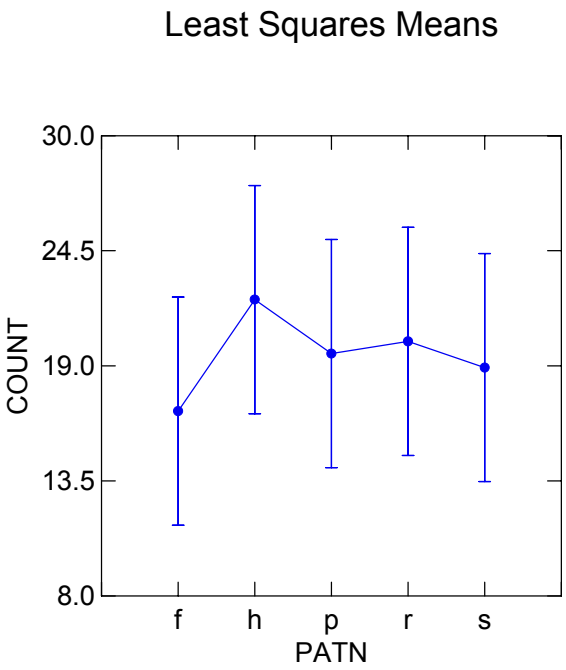
Both Dark Blue and White 12 oz. Solo Brand Bowls were painted. Dark Blue bowls were painted with florescent white Nocturn brand ultraviolet Fluorescent balance white paint and the white bowls painted with sky blue fluorescent paint. The following patterns were used. entire inside of bowl and rim (f), just the rim (r), the rim and the side of the bowl (h), and stripes from the rim to the center, but not including the center (s). In each case a plain bowl with no paint was also used (p). 10 bowls of each pattern were used in a transect with bowls spaced 4 m apart in a repeated progression of bowl patterns. Habitats were open meadow/brush/roadsides.

Data were normally distributed. A 2-way ANOVA was used to look at the effects of bowls and patterns. No significant differences were detected in either bowl color or pattern, but note that there were only 6 trials.

Source	Sum-of-Squares	df	Mean-Square	F-ratio
BOL$	180.267	1	180.267	0.505
PATN$	180.100	4	45.025	0.126
BOL$*PATN$	133.900	4	33.475	0.094
Error	17832.667	50	356.653	

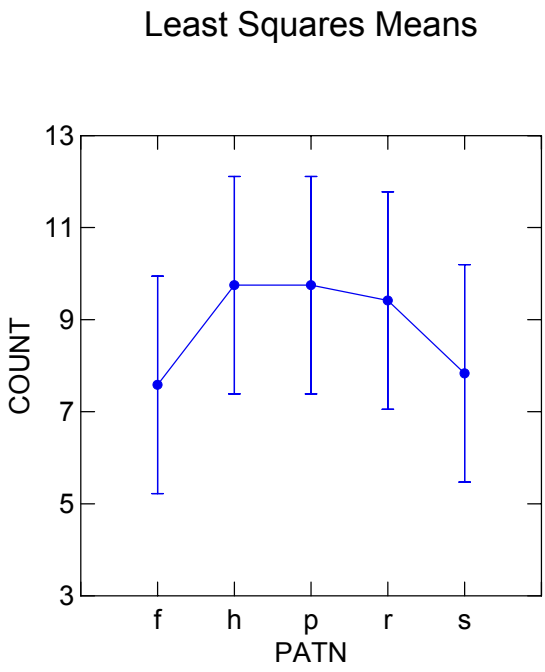
The graphs below indicate that with more sampling that dark blue bowls may become have a slightly higher capture rate and that painting a bowl with white or sky blue fluorescent paint may decrease the capture rate! Note that sky blue is a light blue not a dark blue. We will test this more extensively this summer.





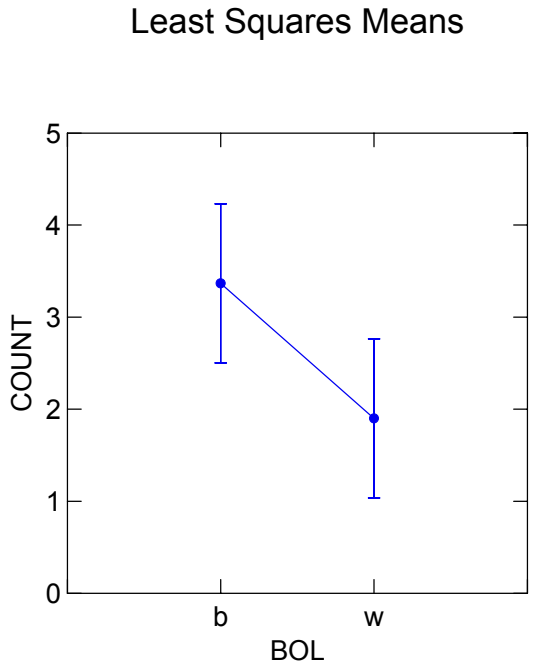
When just Lasioglossums were used, results were similar.

Source	Sum-of-Squares	df	Mean-Square	F-ratio
BOL$	0.267	1	0.267	0.004
PATN$	54.933	4	13.733	0.205
BOL$*PATN$	2.400	4	0.600	0.009
Error	3349.333	50	66.987	



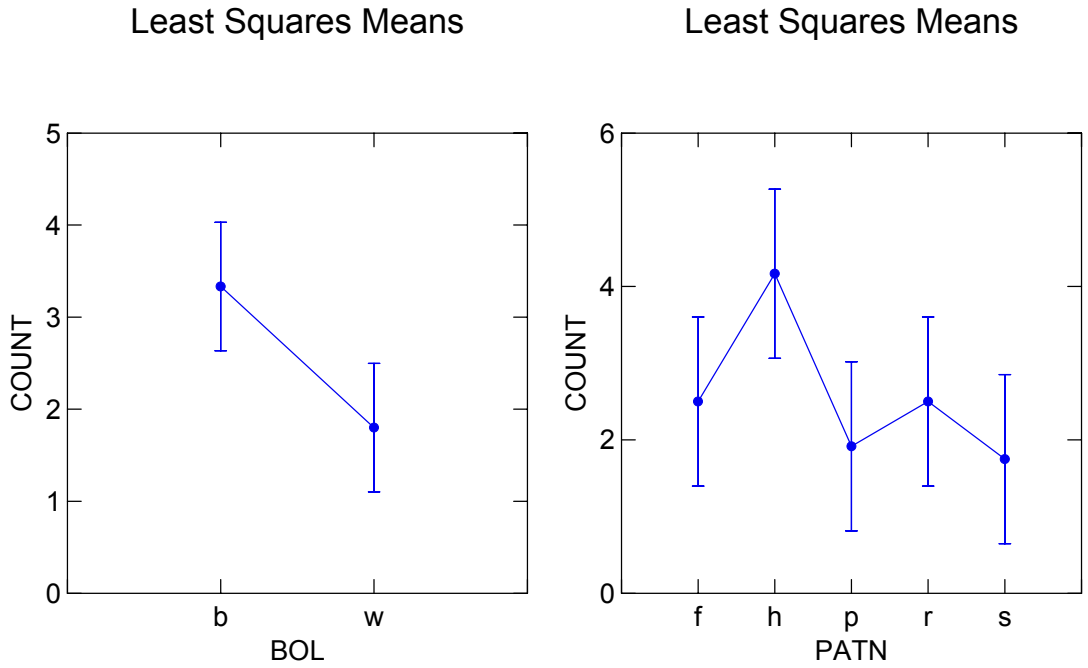
Bombus had similar results were similar.

Source	Sum-of-Squares	df	Mean-Square	F-ratio
BOL$	32.267	1	32.267	1.440
PATN$	22.767	4	5.692	0.254
BOL$*PATN$	42.567	4	10.642	0.475
Error	1120.333	50	22.407	



aAugochlora's results for color preference was closing in on significance.

Source	Sum-of-Squares	df	Mean-Square	F-ratio
BOL$	35.267	1	35.267	2.418
PATN$	43.900	4	10.975	0.752
BOL$*PATN$	26.233	4	6.558	0.450
Error	729.333	50	14.587	



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