Weight Vs Colony Size Results

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Leg Vs. Colony Size

The model with the lowest AIC included colony size, instar and instar x colony size interaction. Using this as the full model we found that leg length increases as colony size increases (lmer; $\chi^2_{8,14}$= 36.62, p = < 0.001 ***).

Leg length is significantly correlated with instar, but that is not surprising (lmer; $\chi^2_{4,14}$= 4405.96, p = < 0.001 ***).

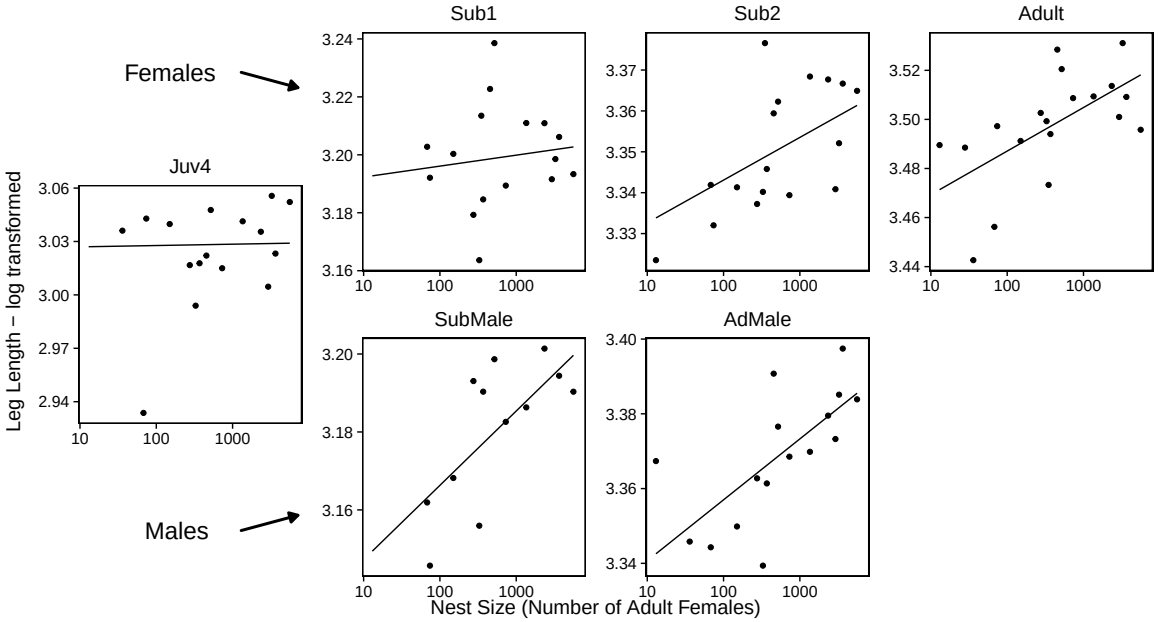
There is a significant interaction between instar and colony size (lmer; $\chi^2_{9,14}$ = 27.91, p = < 0.001 ***).

Testing each instar separately, the only juvenile stage 4 and subadult stage 1 spiders did not show a significant decrease in leg length with colony size (table 1).

Instar	χ^2	p value
Juv4	1.48	0.224
Sub1	0.29	0.588
Sub2	10.66	< 0.001 ***
Adult	8.54	0.003 **
Sub Male	6.7	0.01 **
Adult Male	11.8	< 0.001 ***

Table 1: Statistical results of leg length against colony size for each instar tested individually

`Note: If line on graph is blue R could not plot the lmer, plotting a simple lm instead`



(1) Figure: Leg length against colony size. The overlaid model is logLeg ~ logCtFm + Instar + logCtFm:Instar + (1 | NestID). Overall leg length decreases with colony size (p = < 0.001 ***) and there is a significant interaction with instar(p = < 0.001 ***).

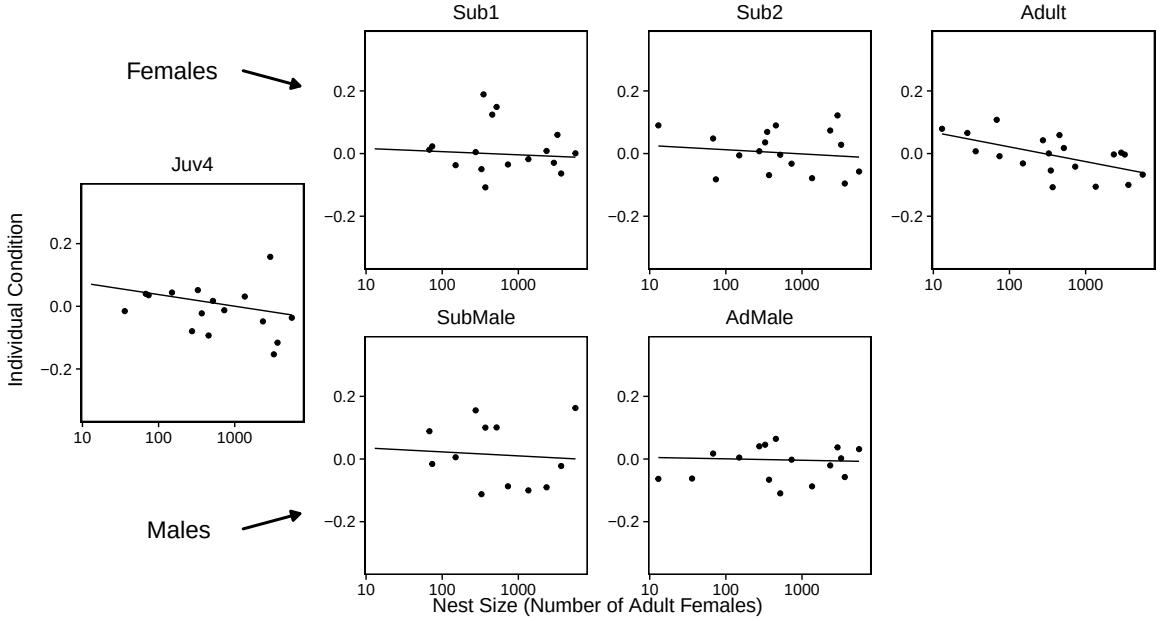
Condition Vs. Colony Size

Again the model with the lowest AIC included colony size, instar and instar x colony size interaction. Condition decreases as colony size increases (lmer; $\chi^2_{8,14}$= 17.13, p = 0.009 **).

Condition is significantly correlated with instar (lmer; $\chi^2_{4,14}$= 20.45, p = 0.025 *).

Again there is a significant interaction between instar and colony size (lmer; $\chi^2_{9,14}$ = 12.32, p = 0.031 *). When performing ad-hoc tests on the instars individually we find that only adult condition decreases with colony size (lmer; $\chi^2_{3,4}$ = 7.64, p = 0.006 **).

`Note: If line on graph is blue R could not plot the lmer, plotting a simple lm instead`



(2) Figure : Individual condition against colony size. The overlaid model is condResiduals ~ logCtFm + Instar + logCtFm:Instar + (1 | NestID). Overall leg length decreases with colony size (p = 0.009 **) and there is a significant interaction with instar(p = 0.025 *).

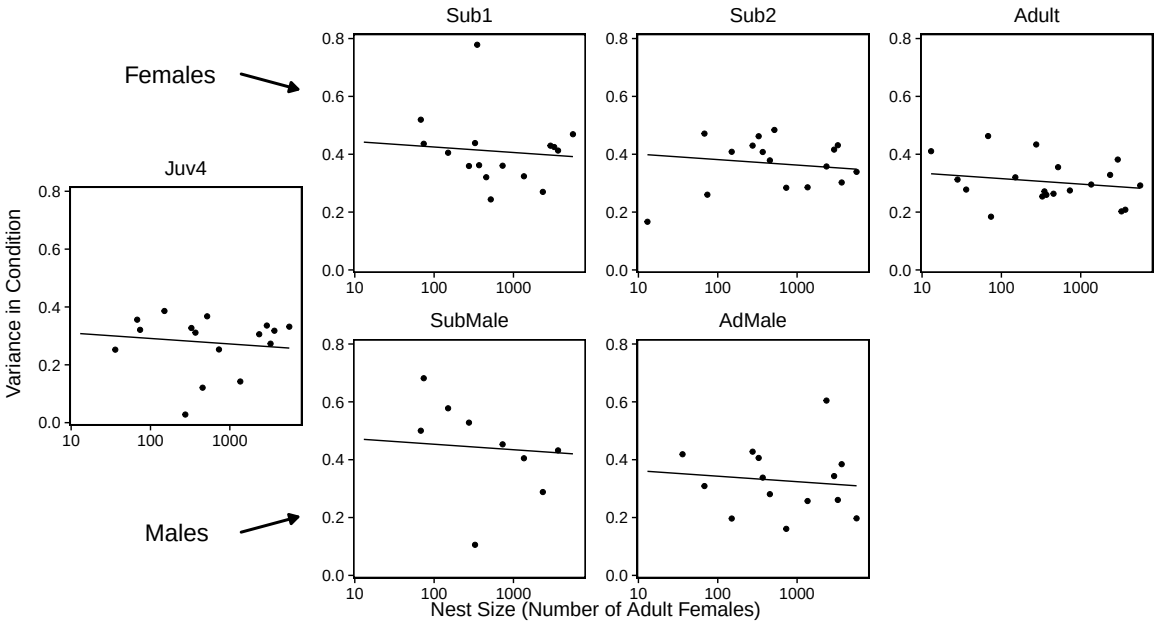
Within Nest Variance Vs. colony size

Condition Variance

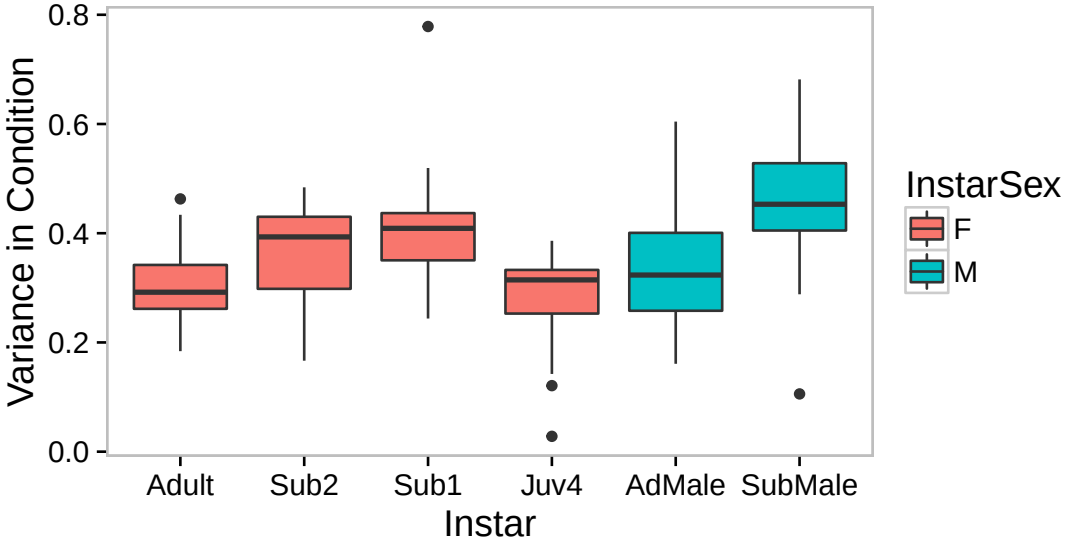
Condition Variance

The model with the lowest AIC value only included colony size and instar as explantory factors. Instar was significant (lmer; $\chi^2_{9,9}$= 21.9, p = < 0.001 ***), however colony size was not (lmer; $\chi^2_{8,9}$= 1.32, p = 0.25).

Note: If line on graph is blue R could not plot the lmer, plotting a simple lm instead



(3) Figure : Variance in condition against nest size

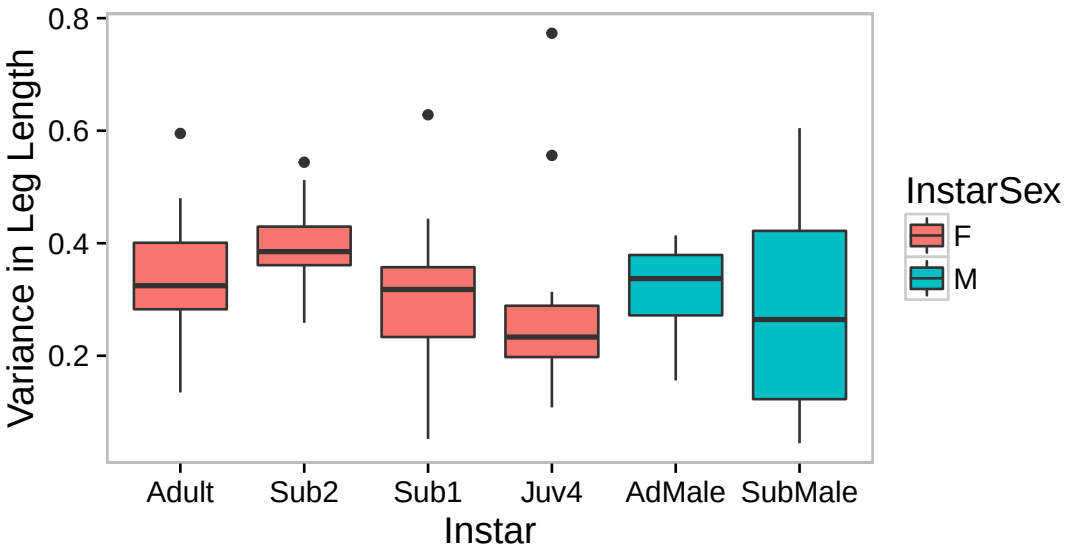


(4) Figure :Condition variance within colonies by instar. I am not sure yet whether this is a real results and/or intereseting to the story

Leg Length Variance

Leg Length Variance

The model with the lowest AIC value only included colony size and instar as explantory factors. Instar was not significant (lmer; $\chi^2_{9,9} = 8.57$, p = 0.127), neither was colony size (lmer; $\chi^2_{8,9} = 0.23$, p = 0.631).

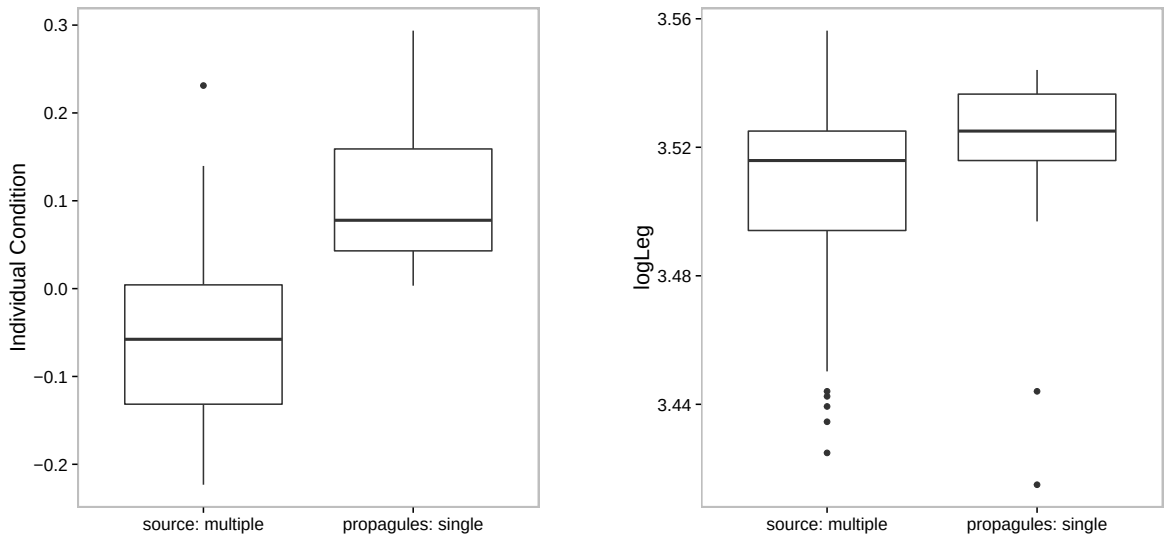


(5) Figure :Leg length variance within colonies by instar. I am not sure yet whether this is a real results and/or intereseting to the story

Original Nest Vs Propagule

Leg length is larger in propagules compared to the source nest (lmer; $\chi^2_{4,5} = 3.9$, p = 0.048 *).

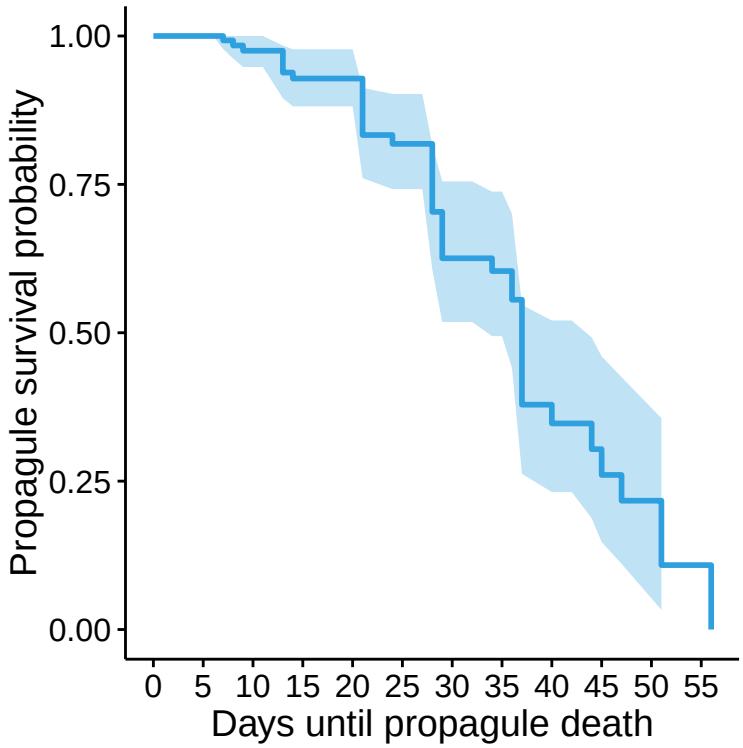
Individuals in propagules have greater conditions compared to those in the original nests (lmer; $\chi^2_{4,5} = 9.45$, p = 0.002 **).



(6) Figure: Condition and leg length of adult females in propagues and their source nest

Propagule survival

We found that nests with single females spiders had a very low survival rate (figure 5).



(7) Figure: The survival function of 40 propagules from 10 source nests.