Variance in Leg vs Nest Size

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AIC Values of all possible models with instar included

AIC_Diff	AIC	model	num.predictors
0	-102.2	relativeVar ~ I(logCtFm^2) + I(logCtFm^2):Instar + Instar + (1|NestID)	14
0.08	-102.1	relativeVar ~ logCtFm + Instar + (1|NestID)	9
0.15	-102	relativeVar ~ I(logCtFm^2) + Instar + (1|NestID)	9
0.2	-102	relativeVar ~ logCtFm + logCtFm:Instar + Instar + (1|NestID)	14
1.78	-100.4	relativeVar ~ logCtFm + I(logCtFm^2) + Instar + (1|NestID)	10
1.93	-100.2	relativeVar ~ logCtFm + I(logCtFm^2) + I(logCtFm^2):Instar + Instar + (1|NestID)	15
2.18	-99.97	relativeVar ~ logCtFm + logCtFm:Instar + I(logCtFm^2) + Instar + (1|NestID)	15
7.3	-94.86	relativeVar ~ logCtFm + logCtFm:Instar + I(logCtFm^2) + I(logCtFm^2):Instar + Instar + (1|NestID)	20

Graph with lowest AIC model superimposed

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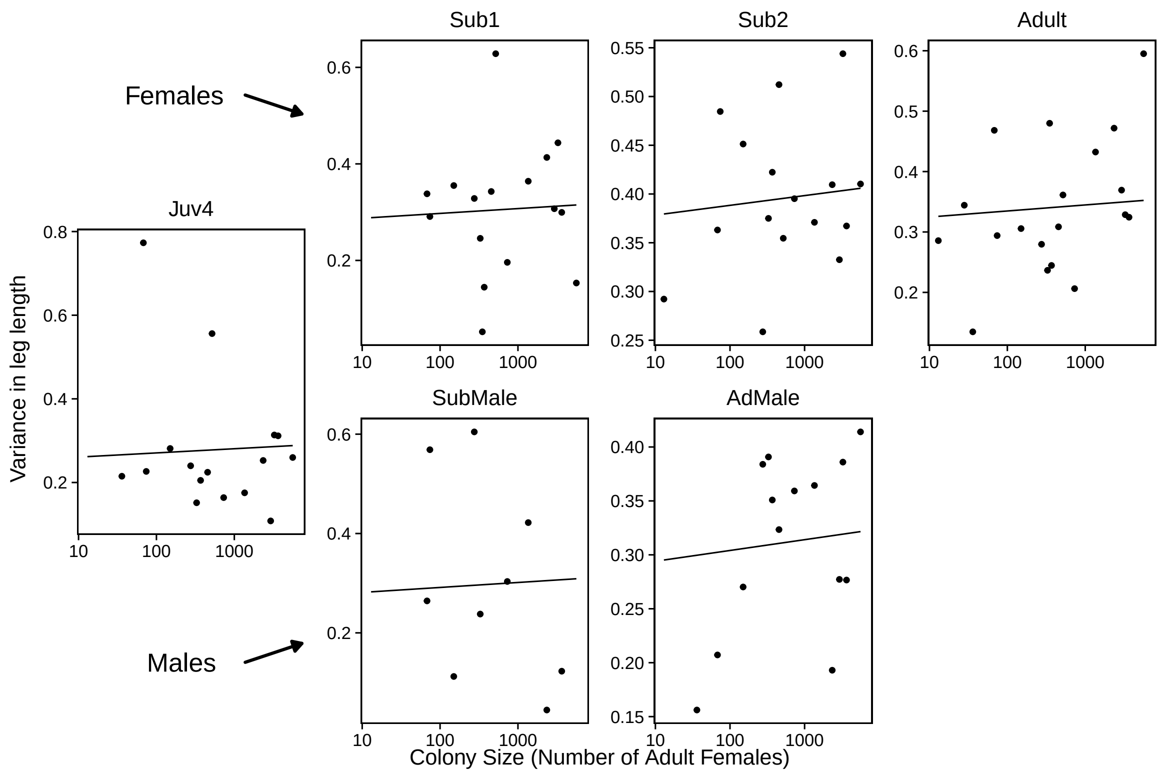

Statistics using model without squared values as the full model (Lowest AIC Model)

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Warning in summary.merMod(model, ddf = "lme4"): additional arguments
ignored
```

Full Model: relativeVar ~ logCtFm + Instar + (1 | NestID)

Table 2: Anova of full model alone

	Sum Sq	Mean Sq	NumDF	DenDF	F.value	Pr(>F)
logCtFm	0.004	0.004	1	18.967	0.235	0.633
Instar	0.135	0.027	5	73.654	1.810	0.121

Testing Individual Variables by preforming an Anova of full vs reduced model)

Table 3: Testing Instar Term against full model. - NOT significant

	Df	AIC	BIC	logLik	deviance	Chisq	Chi Df	Pr(>Chisq)
..1	4	-103.505	-93.506	55.753	-111.505			
object	9	-102.079	-79.581	60.040	-120.079	8.574	5	0.127

Reduced Model: relativeVar = logCtFm + (1 | NestID)

Table 4: Testing Nest Size against full model. - NOT significant

	Df	AIC	BIC	logLik	deviance	Chisq	Chi Df	Pr(>Chisq)
..1	8	-103.848	-83.850	59.924	-119.848			
object	9	-102.079	-79.581	60.040	-120.079	0.231	1	0.631

Reduced Model: relativeVar = Instar + (1 | NestID)