Variance in Condition vs Nest Size

Ruth Sharpe

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AIC Values of all possible models with instar included

AIC_Diff	AIC	model	num.predictors
0	-133.2	relativeVar ~ logCtFm + Instar + (1|NestID)	9
0.07	-133.1	relativeVar ~ I(logCtFmˆ2) + Instar + (1|NestID)	9
1.98	-131.2	relativeVar ~ logCtFm + I(logCtFmˆ2) + Instar + (1|NestID)	10
4.31	-128.8	relativeVar ~ logCtFm + logCtFm:Instar + Instar + (1|NestID)	14
5.57	-127.6	relativeVar ~ I(logCtFmˆ2) + I(logCtFmˆ2):Instar + Instar + (1|NestID)	14
6.21	-126.9	relativeVar ~ logCtFm + logCtFm:Instar + I(logCtFmˆ2) + Instar + (1|NestID)	15
6.77	-126.4	relativeVar ~ logCtFm + logCtFm:Instar + I(logCtFmˆ2) + I(logCtFmˆ2):Instar + Instar + (1|NestID)	20
7.46	-125.7	relativeVar ~ logCtFm + I(logCtFmˆ2) + I(logCtFmˆ2):Instar + Instar + (1|NestID)	15

Graph with lowest AIC model superimposed

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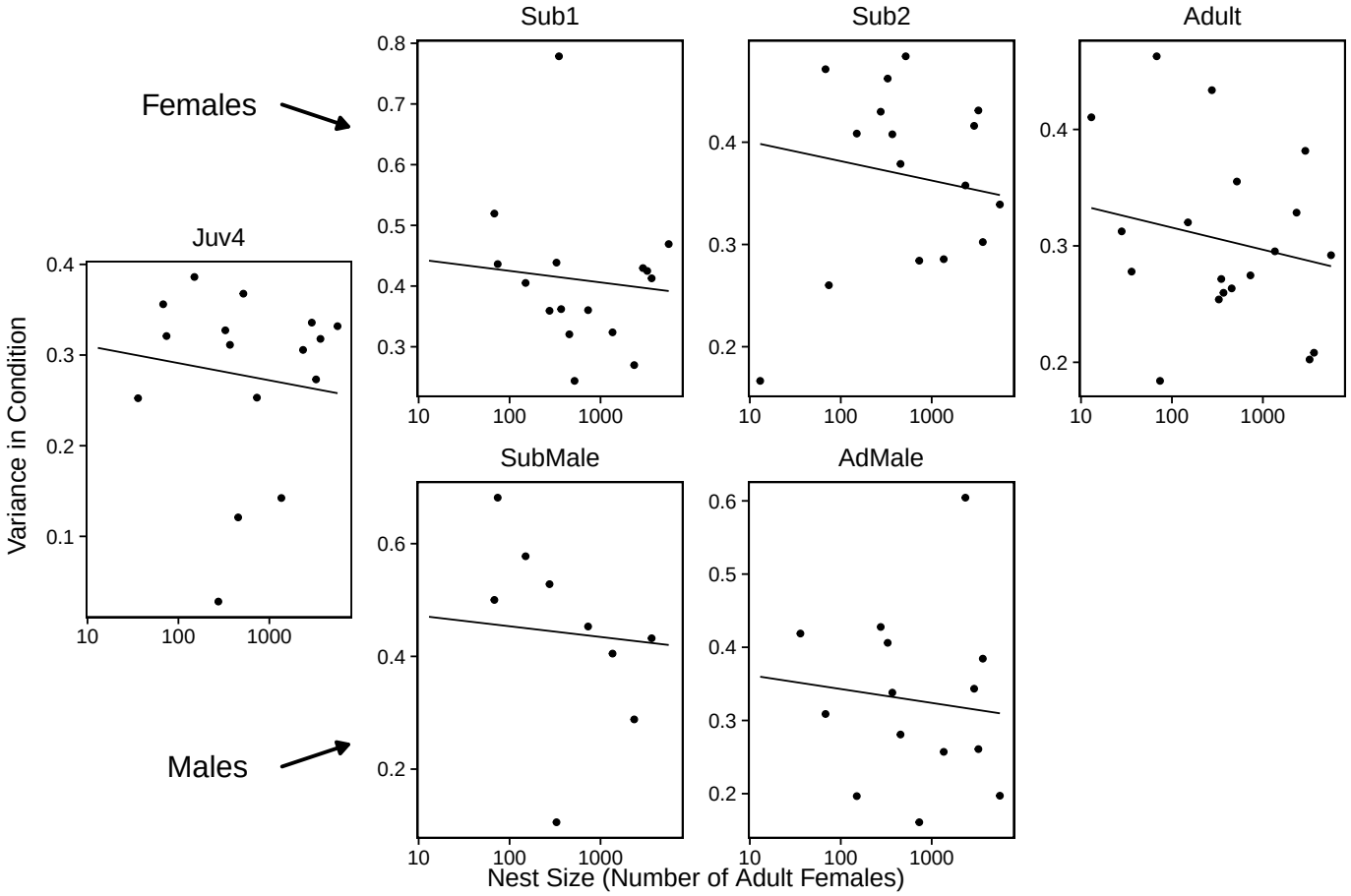

Statistics using model without squared values as the full model (Lowest AIC Model)

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	0.015	0.015	1	90.000	1.331	0.252
Instar	0.271	0.054	5	90.000	4.958	0.0005

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

Table 3: Testing Instar Term against full model

	Df	AIC	BIC	logLik	deviance	Chisq	Chi Df	Pr(>Chisq)
..1	4	-121.251	-111.252	64.626	-129.251			
object	9	-133.147	-110.649	75.573	-151.147	21.896	5	0.001

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

Table 4: Testing Nest Size against full model

	Df	AIC	BIC	logLik	deviance	Chisq	Chi Df	Pr(>Chisq)
..1	8	-133.826	-113.828	74.913	-149.826			
object	9	-133.147	-110.649	75.573	-151.147	1.321	1	0.250

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

Note: See next page for graph

Graph of condition variance against instar