

Variance in Leg vs Nest Size

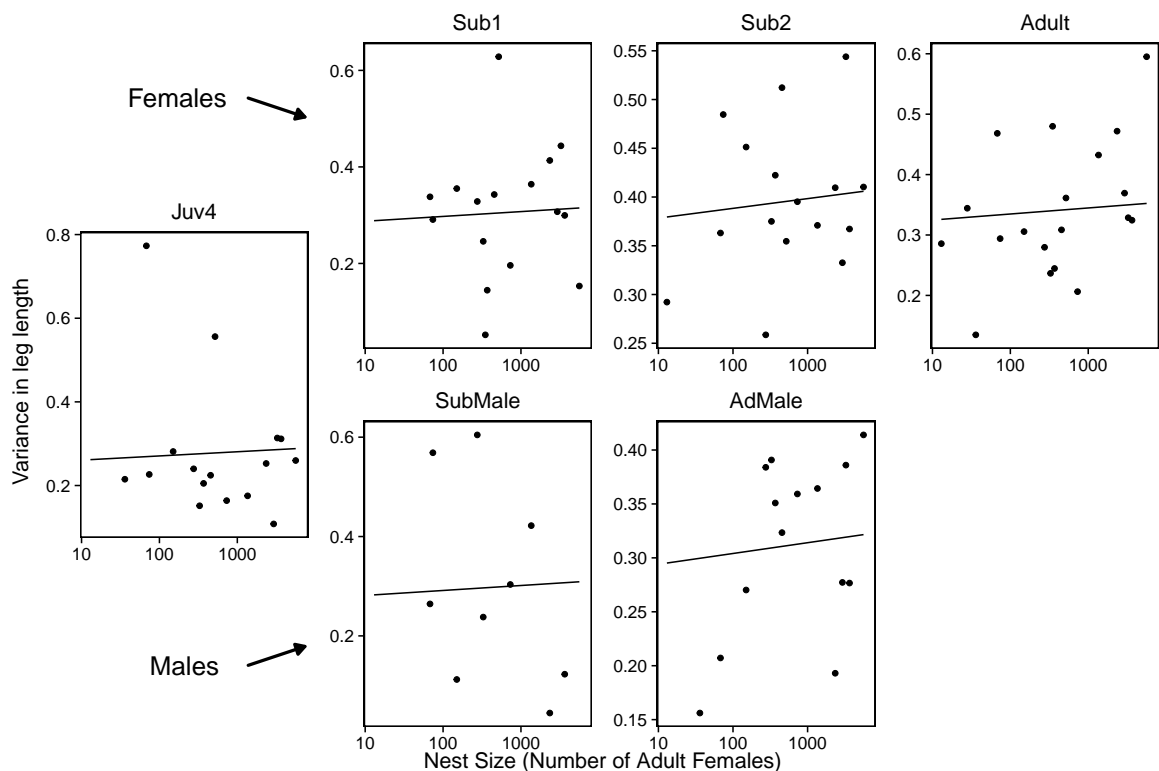
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AIC Values of all possible models with instar included

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



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

Anova of full model alone

-Model: $\text{relativeVar} \sim \log\text{CtFm} + \text{Instar} + (1 \mid \text{NestID})$

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

	Sum Sq	Mean Sq	NumDF	DenDF	F.value	Pr(>F)
logCtFm	0.0035240	0.0035240	1	18.96716	0.2354228	0.6330887
Instar	0.1354916	0.0270983	5	73.65450	1.8103179	0.1212943

—Testing Individual Variables, (Anova of full vs reduced model)—

Testing Instar Term

-Full Model: $\text{relativeVar} \sim \log\text{CtFm} + \text{Instar} + (1 \mid \text{NestID})$

-Reduced Model: $\text{relativeVar} \sim \log\text{CtFm} + (1 \mid \text{NestID})$

	Df	AIC	BIC	logLik	deviance	Chisq	Chi Df	Pr(>Chisq)
..1	4	-103.5052	-93.50595	55.75259	-111.5052	NA	NA	NA
object	9	-102.0793	-79.58101	60.03965	-120.0793	8.574108	5	0.1273057

Testing Nest Size

-Full Model: $\text{relativeVar} \sim \text{logCtFm} + \text{Instar} + (1 \mid \text{NestID})$

-Reduced Model: $\text{relativeVar} \sim \text{Instar} + (1 \mid \text{NestID})$

	Df	AIC	BIC	logLik	deviance	Chisq	Chi Df	Pr(>Chisq)
..1	8	-103.8482	-83.84976	59.92412	-119.8482	NA	NA	NA
object	9	-102.0793	-79.58101	60.03965	-120.0793	0.2310534	1	0.6307439