## Leg Length vs Nest Size Up Step model addition

## Ruth Sharpe

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## **Model Addition**

 $logLeg \sim logCtFm + InstarNumber + (1 \mid NestID) vslogLeg \sim logCtFm + InstarNumber + (1 \mid NestID) + InstarNumber: InstarSex$ 

	Df	AIC	BIC	logLik	deviance	Chisq	Chi Df	Pr(>Chisq)	stars
object	5.00	-5182.01	-5156.28	2596.01	-5192.01				
1	6.00	-5207.70	-5176.82	2609.85	-5219.70	27.69	1.00	0.00	***

$$\begin{split} \log \text{Leg} \sim \log \text{CtFm} + \text{InstarNumber} + (1 \mid \text{NestID}) + \text{InstarNumber:InstarSexvslogLeg} \sim \log \text{CtFm} + \text{InstarNumber} + (1 \mid \text{NestID}) \\ + \text{I}(\log \text{CtFm}^2) + \text{InstarNumber:InstarSex} \end{split}$$

	Df	AIC	BIC	logLik	deviance	Chisq	Chi Df	Pr(>Chisq)	stars
object	6.00	-5207.70	-5176.82	2609.85	-5219.70				
1	7.00	-5205.86	-5169.83	2609.93	-5219.86	0.16	1.00	0.69	

$$\begin{split} \log Leg \sim \log CtFm + InstarNumber + (1 \mid NestID) + I(\log CtFm^2) + InstarNumber: InstarSexvslogLeg \sim \log CtFm + InstarNumber \\ + (1 \mid NestID) + I(\log CtFm^2) + InstarNumber: InstarSex + \log CtFm: InstarNumber \\ \end{split}$$

	Df	AIC	BIC	logLik	deviance	Chisq	Chi Df	Pr(>Chisq)	stars
object	7.00	-5205.86	-5169.83	2609.93	-5219.86				
1	8.00	-5226.56	-5185.39	2621.28	-5242.56	22.71	1.00	0.00	***

 $\begin{array}{l} logLeg \sim logCtFm + InstarNumber + (1 \mid NestID) + I(logCtFm^2) + InstarNumber: InstarSex + logCtFm: InstarNumbervslogLeg \\ \sim logCtFm + InstarNumber + (1 \mid NestID) + I(logCtFm^2) + InstarNumber: InstarSex + logCtFm: InstarNumber + logCtFm: InstarNumber: InstarSex \\ \end{array}$ 

	Df	AIC	BIC	logLik	deviance	Chisq	Chi Df	Pr(>Chisq)	stars
object	8.00	-5226.56	-5185.39	2621.28	-5242.56				
1	9.00	-5228.00	-5181.68	2623.00	-5246.00	3.44	1.00	0.06	