Cond vs Nest Size Stepwise model regression

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Model Reduction

[1] “number of terms” [1] 5 [1] “pvalue” [1] 1

	Sum Sq	Mean Sq	NumDF	DenDF	F.value	p_value
logCtFm	0.03	0.03	1	437.76	2.33	0.128
InstarNumber	0.02	0.02	1	1202.85	2.31	0.129
I(logCtFm^2)	0.03	0.03	1	394.10	2.39	0.123
InstarNumber:InstarSex	0.01	0.01	1	1256.26	0.90	0.342
logCtFm:InstarNumber	0.03	0.03	1	1221.90	2.65	0.104
InstarNumber:I(logCtFm^2)	0.03	0.03	1	1235.97	2.46	0.117
logCtFm:InstarNumber:InstarSex	0.01	0.01	1	1255.59	0.63	0.427
InstarNumber:InstarSex:I(logCtFm^2)	0.00	0.00	1	1254.97	0.38	0.535 RMVD

[1] “term with highest p value is: InstarNumber:InstarSex:I(logCtFm^2)” [1] “number of terms” [1] 8 [1] “pvalue” [1] 0.5350013

	Sum Sq	Mean Sq	NumDF	DenDF	F.value	p_value
logCtFm	0.03	0.03	1	435.07	2.41	0.121
InstarNumber	0.03	0.03	1	1170.80	3.15	0.076.
I(logCtFm^2)	0.03	0.03	1	391.94	2.47	0.117
InstarNumber:InstarSex	0.02	0.02	1	1255.21	1.81	0.179 RMVD
logCtFm:InstarNumber	0.04	0.04	1	1196.47	3.56	0.059.
InstarNumber:I(logCtFm^2)	0.04	0.04	1	1216.41	3.33	0.068.
logCtFm:InstarNumber:InstarSex	0.02	0.02	1	1254.22	2.16	0.142

[1] “term with highest p value is: InstarNumber:InstarSex” [1] “number of terms” [1] 7 [1] “pvalue” [1] 0.1786378

	Sum Sq	Mean Sq	NumDF	DenDF	F.value	p_value
logCtFm	0.03	0.03	1	434.37	2.52	0.113
InstarNumber	0.04	0.04	1	1163.55	3.71	0.054.
I(logCtFm^2)	0.03	0.03	1	391.59	2.56	0.110
logCtFm:InstarNumber	0.04	0.04	1	1193.32	3.91	0.048*
InstarNumber:I(logCtFm^2)	0.04	0.04	1	1215.21	3.49	0.062.
logCtFm:InstarNumber:InstarSex	0.01	0.01	1	1252.45	0.50	0.479 RMVD

[1] “term with highest p value is: logCtFm:InstarNumber:InstarSex” [1] “number of terms” [1] 6 [1] “pvalue” [1] 0.4789467

	Sum Sq	Mean Sq	NumDF	DenDF	F.value	p_value
logCtFm	0.03	0.03	1	434.34	2.51	0.114 RMVD
InstarNumber	0.04	0.04	1	1163.59	3.69	0.055.
I(logCtFm^2)	0.03	0.03	1	391.56	2.55	0.111
logCtFm:InstarNumber	0.04	0.04	1	1193.37	3.91	0.048*
InstarNumber:I(logCtFm^2)	0.04	0.04	1	1215.25	3.47	0.063.

[1] “i = 1” [1] “term with highest p value is: I(logCtFm^2)” [1] “number of terms” [1] 5 [1] “pvalue” [1] 0.1109188

	Sum Sq	Mean Sq	NumDF	DenDF	F.value	p_value
logCtFm	0.00	0.00	1	205.88	0.00	0.983 RMVD
InstarNumber	0.01	0.01	1	50.67	1.21	0.276
logCtFm:InstarNumber	0.02	0.02	1	34.44	1.61	0.214
InstarNumber:I(logCtFmˆ2)	0.01	0.01	1	33.75	1.00	0.325

[1] “i = 1” [1] “term with highest p value is: InstarNumber:I(logCtFmˆ2)” [1] “number of terms” [1] 4 [1] “pvalue” [1] 0.3251061

	Sum Sq	Mean Sq	NumDF	DenDF	F.value	p_value
logCtFm	0.00	0.00	1	262.60	0.02	0.892 RMVD
InstarNumber	0.00	0.00	1	1238.86	0.24	0.622
logCtFm:InstarNumber	0.01	0.01	1	1251.75	1.21	0.272

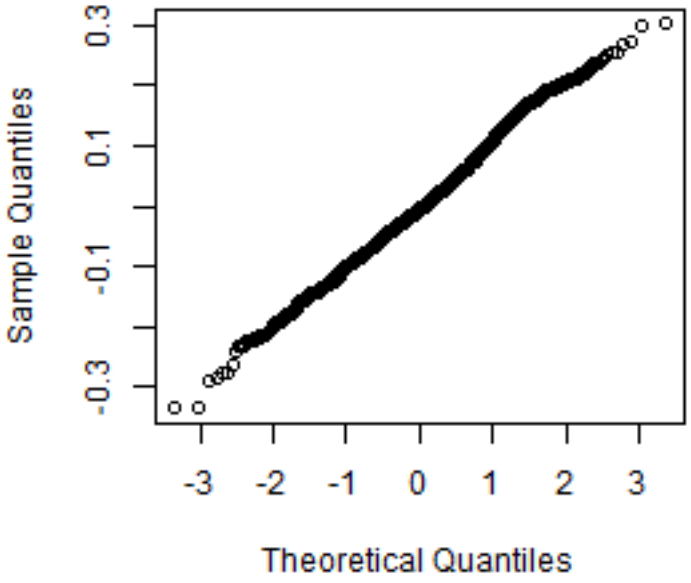
[1] “i = 1” [1] “i = 2” [1] “term with highest p value is: logCtFm:InstarNumber”

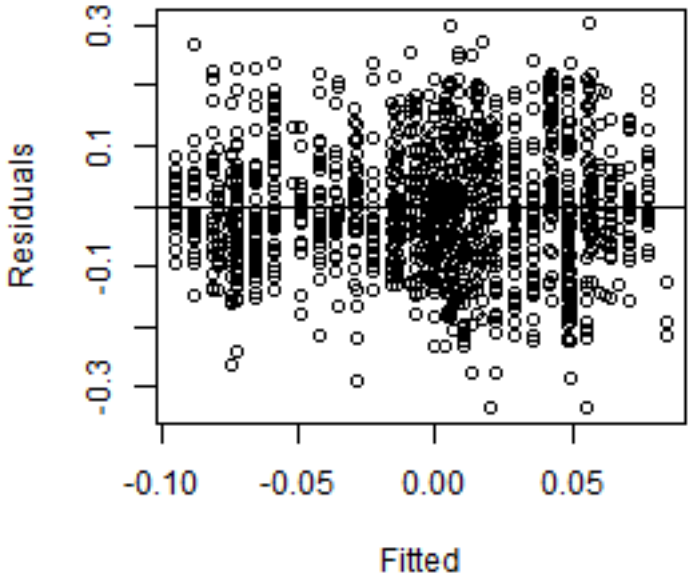
Final Model is: condResiduals ~ logCtFm + InstarNumber + 1 | NestID

	Sum Sq	Mean Sq	NumDF	DenDF	F.value	Pr(>F)
logCtFm	0.06	0.06	1.00	21.42	5.13	0.0340
InstarNumber	0.06	0.06	1.00	1265.29	5.83	0.0159

Checking full model fit

```
Condition=log(ColonySize) + InstarAge + InstarAge:InstarSex + log(ColonySize):InstarAge + log(ColonySize):Instar
```





Graph with full model superimposed

```
Model:
condResiduals ~ logCtFm + InstarNumber + InstarNumber:InstarSex + logCtFm:InstarNumber + logCtFm:InstarNumber:In
Note: If line on graph is blue R could not plot the lmer, plotting a simple lm instead[1] "lmer"
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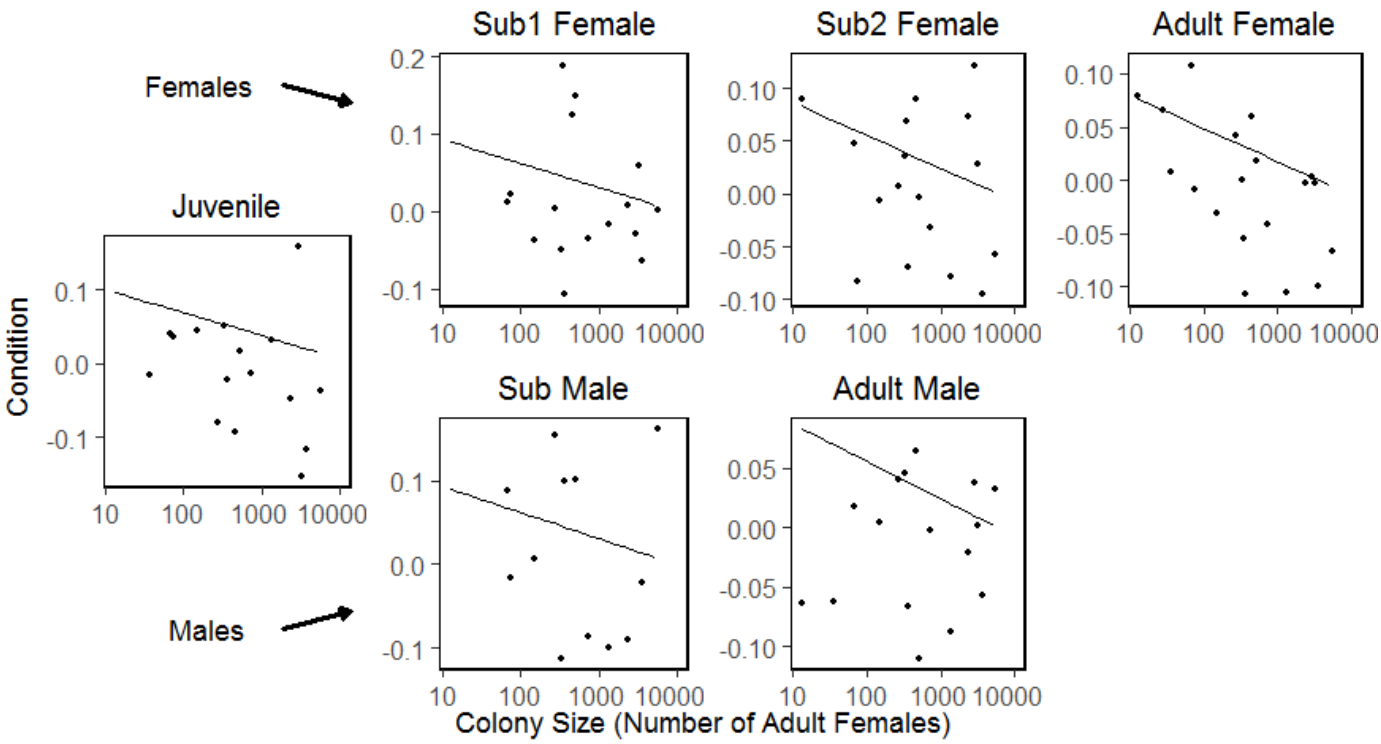

Figure 1: plot of chunk Graph