

Comparison of the models of prey captured a number

Predictors	1		2		3		4		5	
	IRR	p	IRR	p	IRR	p	IRR	p	IRR	p
Effect of the tumoral status	1.31	<0.001	1.31	<0.001	1.31	<0.001	1.31	<0.001	1.31	<0.001
AIC	572.826		568.226		559.651		561.620		570.226	

Comparison of the models of prey captured proportion in limited condition

Predictors	1		2		3		4		5	
	Odds Ratios	p	Odds Ratios	p	Odds Ratios	p	Odds Ratios	p	Odds Ratios	p
Effect of the tumoral status	1.54	0.002	1.55	0.002	1.54	0.002	1.55	0.002	1.55	0.002
AIC	298.600		300.254		300.577		302.254		302.043	

Table 1: Summary of different statistical modeling of the effect of tumoral phenotype on hydras predation abilities

AIC: Akaike criterion; IRR: Incidence rate ratio; OR: Odds ratio

1: ~Status + (1|Batch)

2: ~Status+(1|date)

3: ~Status+(1|date)+(1|Batch)

4: ~Status+(1|Batch/date)

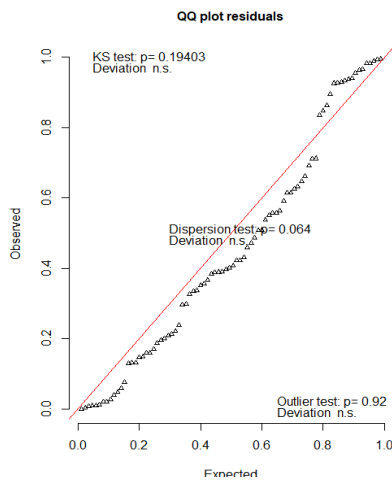


Figure 1: Residuals diagnostic of the chosen model for the number of prey captured in **ad libitum feeding** conditions

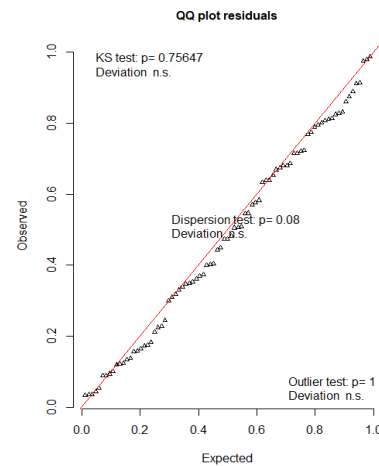


Figure 2: residuals diagnostic of the chosen model for the proportion of prey captured in **restricted feeding** condition

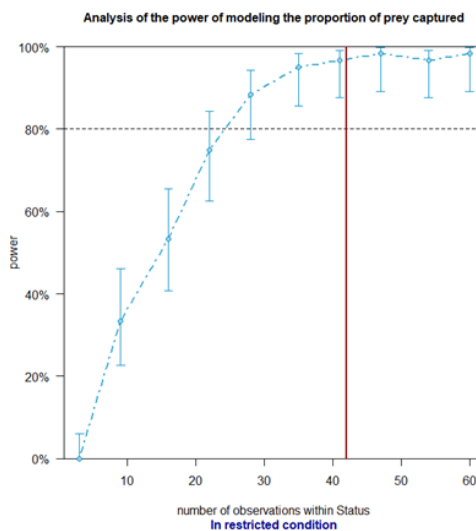
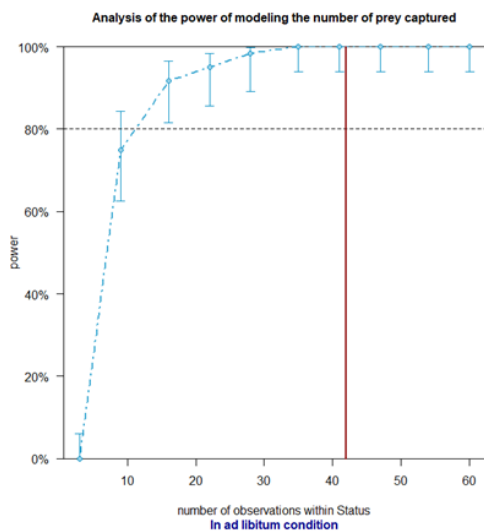


Figure 3: Power curves of the impact of the sample size on model power in hydra predation abilities models

Predictors	Number of ciliates ~ time		Number of ciliates ~ group		Number of ciliates ~ time + group		Number of ciliates ~ time x group	
	Incidence Rate Ratios	P	Incidence Rate Ratios	P	Incidence Rate Ratios	P	Incidence Rate Ratios	P
Time	1.78	<0.001			1.78	<0.001	1.60	<0.001
Tumoral phenotype			1.32	0.007	1.32	0.007	1.21	0.081
Tumoral phenotype over time							1.19	0.001
ICC	0.41		0.37		0.37		0.37	
N	57 _{ID}		57 _{ID}		57 _{ID}		57 _{ID}	
Observations	342		342		342		342	
AIC	1519.968		2041.165		1515.235		1507.181	

Table 2 : Comparision of different statistical modeling of the density of ciliate per hydra accros time
AIC: Akaike criterion; IRR: Incidence rate ratio; OR: Odds ratio

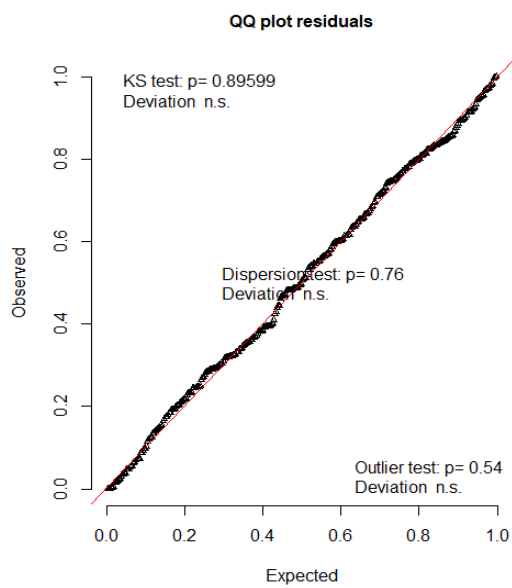


Figure 4: residuals diagnostic of the chosen model for the proportion of the density of ciliate per hydra accros time

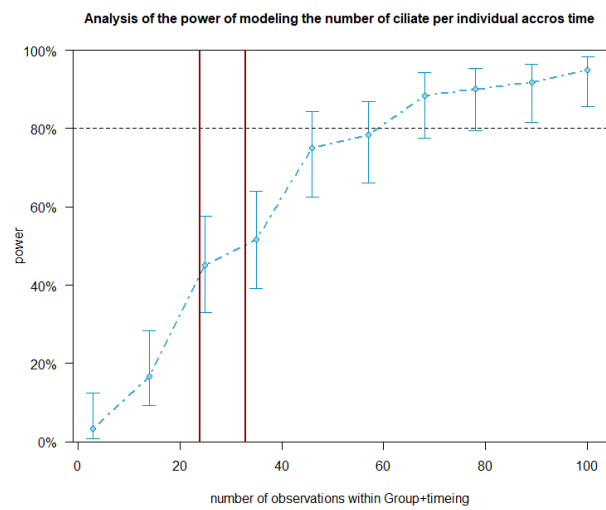


Figure 5: Power analysis of the density of ciliates per hydra accros time

Comparison of models of the impact of tumors on the time spend to consume the remaining prey prey

Predictors	~hydra_type		~hydra_type + (1 BatchMeasure)		~hydra_type + (1 batchDay BatchMeasure)	
	Incidence Rate Ratios	p	Incidence Rate Ratios	p	Incidence Rate Ratios	p
Effect of tumors	0.08	<0.001	0.08	<0.001	0.08	<0.001
N			5 BatchMeasure 4 batchDay		5 BatchMeasure	
Observations	28		28		28	
AIC	369.330		375.057		372.069	

Table 3: Comparison of different statistical modeling of the density of ciliate per hydra across time
AIC: Akaike criterion; IRR: Incidence rate ratio

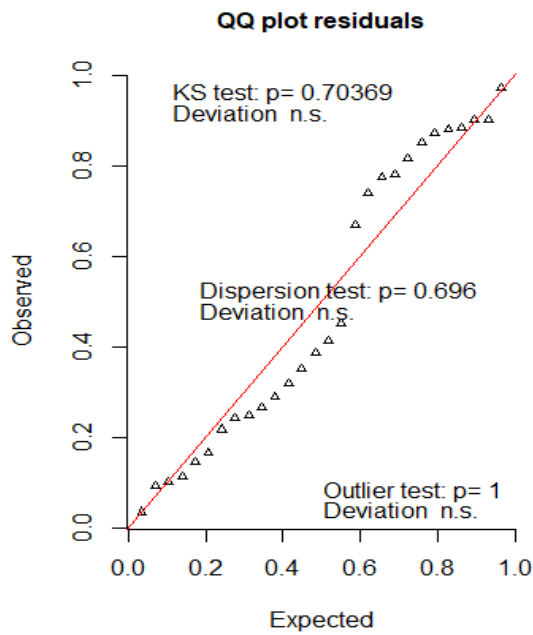


Figure 6: residuals diagnostic of the chosen model for the proportion of the delay of consumption of the second hydra by a fish predator

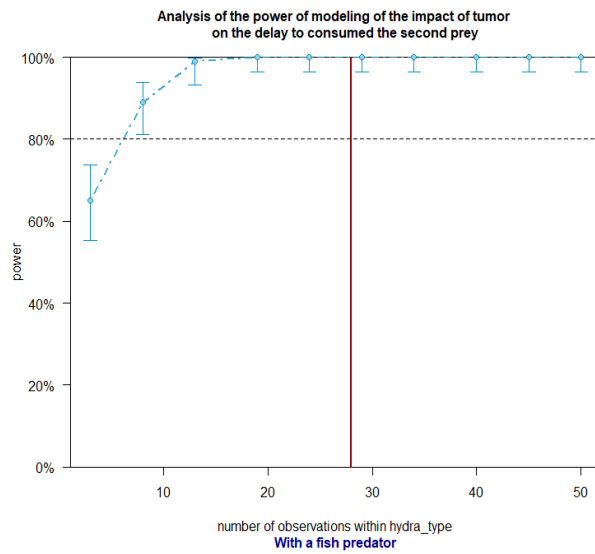


Figure 7: Power analysis of the delay of consumption of the second hydra by a fish predator