

Supplementary material

Response of blacktip reef sharks *Carcharhinus melanopterus* to shark bite mitigation products

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Table S1. Distance model variants. Generalised linear mixed-effects model (GLMM) results of models (from top-ranked [indicated in bold] to worst) estimating the effects of the Scuba7 on distance to the bait. An interaction between variables is indicated by '*'. The df = degrees of freedom, LL = log likelihood, AIC_c = Akaike's Information Criterion corrected for small sample size, dAIC_c = difference in AIC_c between the current and the top-ranked model, wAIC_c = model probability.

Model	(Int)	Pass orientation	Pass orientation*		df	LL	AIC _c	dAIC _c	wAIC _c
			Status	Status					
8	3.46	X	X	X	6	-2386.08	4784.2	0	0.80
4	3.86	X	X		5	-2388.47	4787.0	2.76	0.20
16	1.30	X	X	X	6	-2408.77	4829.6	45.38	0
12	1.68	X	X	X	5	-2410.93	4831.9	47.68	0
3	5.07		X		4	-2435.31	4878.7	94.42	0
2	5.78	X			4	-2444.14	4896.3	112.08	0
11	2.88		X	X	4	-2454.39	4916.8	132.57	0
10	3.62	X		X	4	-2464.89	4937.8	153.57	0
1	7.98				3	-2513.64	5033.3	249.06	0
9	5.79			X	3	-2530.20	5066.4	282.19	0

Table S2. Time model variants. Generalised linear mixed-effects model (GLMM) results of models (from top-ranked [indicated in bold] to worst) estimating the effects of the Scuba7 on distance to the bait. An interaction between variables is indicated by ‘*’. The off(log(MxN)) = maximum number of sharks as offset, df = degrees of freedom, LL = log likelihood, AIC_c = Akaike’s Information Criterion corrected for small sample size, dAIC_c = difference in AIC_c between the current and the top-ranked model, wAIC_c = model probability.

Model	(Int)	Status	off(log(MxN))	df	LL	AIC _c	dAIC _c	wAIC _c
2	-0.82	X		4	-74.204	156.9	0	1
4	-2.90	X	X	4	-88.752	186.0	29.1	0
1	0.00			3	-119.987	246.3	89.36	0
3	-2.05		X	3	-129.984	266.3	109.35	0

Table S3. Number of approaches model variants. Generalised linear mixed-effects model (GLMM) results of models (from top-ranked [indicated in bold] to worst) estimating the effects of the Scuba7 on distance to the bait. An interaction between variables is indicated by ‘*’. The off(log(MxN)) = maximum number of sharks as offset, df = degrees of freedom, LL = log likelihood, AIC_c = Akaike’s Information Criterion corrected for small sample size, dAIC_c = difference in AIC_c between the current and the top-ranked model, wAIC_c = model probability.

Model	(Int)	Status	off(log(MxN))	df	LL	AIC _c	dAIC _c	wAIC _c
4	-1.178	X	X	4	-105.19	218.9	0	0.999
2	0.90	X		4	-112.43	233.4	14.47	0.001
3	-0.29		X	3	-137.68	281.7	62.77	0
1	1.76			3	-138.65	283.6	64.7	0

Table S4. Bait consumption model variants. Generalised linear mixed-effects model (GLMM) results of models (from top-ranked [indicated in bold] to worst) estimating the effects of the Scuba7 on distance to the bait. An interaction between variables is indicated by ‘*’. The off(log(MxN)) = maximum number of sharks as offset, df = degrees of freedom, LL = log likelihood, AIC_c = Akaike’s Information Criterion corrected for small sample size, dAIC_c = difference in AIC_c between the current and the top-ranked model, wAIC_c = model probability.

Model	(Int)	Status	off(log(MxN))	df	LL	AIC _c	dAIC _c	wAIC _c
2	22.34	X		3	-23.52	53.3	0	0.95
4	20.4	X	X	3	-26.44	59.2	5.85	0.05
1	0.71			2	-53.34	110.8	57.49	0
3	-1.26		X	2	-58.23	120.6	67.28	0

Table S5. Reaction model variants. Generalised linear mixed-effects model (GLMM) results of models (from top-ranked [indicated in bold] to worst) estimating the effects of the Scuba7 on distance to the bait. An interaction between variables is indicated by ‘*’. The off(log(MxN)) = maximum number of sharks as offset, df = degrees of freedom, LL = log likelihood, AIC_c = Akaike’s Information Criterion corrected for small sample size, dAIC_c = difference in AIC_c between the current and the top-ranked model, wAIC_c = model probability.

Model	(Int)	Pass distance	Pass orientation	Status	Pass orientation *Status	off(log(MxN))	df	LL	AIC _c	dAIC _c	wAIC _c
16	-1.53	-0.074	X	X	X		6	-174.92	362.0	0	0.87
8	-1.11	-0.071	X	X			5	-177.96	366.1	4.02	0.12
32	-3.73	-0.075	X	X	X	X	6	-179.68	371.6	9.52	0.01
6	-1.32	-0.073		X			4	-182.26	372.6	10.57	0
24	-3.32	-0.072	X	X		X	5	-182.39	374.9	12.88	0
22	-3.59	-0.075		X		X	4	-188.41	384.9	22.87	0
15	-2.14		X	X	X		5	-198.23	406.6	44.57	0
7	-1.80		X	X			4	-199.99	408.1	46.04	0
31	-4.35		X	X	X	X	5	-202.57	415.3	53.25	0
23	-4.02		X	X		X	4	-204.38	416.9	54.81	0
5	-2.14			X			3	-206.75	419.6	57.51	0
21	-4.44			X		X	3	-213.56	433.2	71.14	0
2	0.437	-0.01					3	-272.43	550.9	188.86	0
1	0.149						2	-273.85	551.7	189.68	0
4	0.450	-0.01	X				4	-272.41	552.9	190.88	0
3	0.218		X				3	-273.70	553.5	191.41	0
18	-1.78	-0.01				X	3	-275.89	557.8	195.79	0
17	-2.09					X	2	-277.55	559.1	197.08	0
20	-1.72	-0.01	X			X	4	-275.68	559.5	197.41	0
19	-1.96		X			X	3	-276.98	560.0	197.98	0

Table S6. Size of holes model variants. Generalised linear mixed-effects model (GLMM) results of models (from top-ranked [indicated in bold] to worst) estimating the effects of the Scuba7 on distance to the bait. An interaction between variables is indicated by ‘*’. The df = degrees of freedom, LL = log likelihood, AIC_c = Akaike’s Information Criterion corrected for small sample size, dAIC_c = difference in AIC_c between the current and the top-ranked model, wAIC_c = model probability.

Model	(Int)	Thickness	Type	Thickness*Type	df	LL	AIC _c	dAIC _c	wAIC _c
8	3.77	X	X	X	6	-3131.24	6274.6	0	0.66
4	4.21	X	X		5	-3133.00	6276.1	1.51	0.31
3	3.77		X		4	-3136.44	6280.9	6.37	0.03
2	6.05	X			4	-3140.74	6289.5	14.95	0
1	5.60				3	-3144.13	6294.3	19.71	0

Table S7. Number of holes model variants. Generalised linear mixed-effects model (GLMM) results of models (from top-ranked [indicated in bold] to worst) estimating the effects of the Scuba7 on distance to the bait. An interaction between variables is indicated by '*'. The df = degrees of freedom, LL = log likelihood, AIC_c = Akaike's Information Criterion corrected for small sample size, dAIC_c = difference in AIC_c between the current and the top-ranked model, wAIC_c = model probability.

Model	(Int)	Thickness	Type	Thickness*Type	df	LL	AIC _c	dAIC _c	wAIC _c
3	14.92		X		3	-103.175	213.7	0	0.76
4	12.87	X	X		4	-103.11	216.6	2.89	0.18
8	18.17	X	X	X	5	-102.546	218.8	5.16	0.06
1	41.82				2	-112.107	228.8	15.16	0
2	42.67	X			3	-112.101	231.5	17.85	0

Table S8. Proportion of holes model variants. Generalised linear mixed-effects model (GLMM) results of models (from top-ranked [indicated in bold] to worst) estimating the effects of the Scuba7 on distance to the bait. An interaction between variables is indicated by '*'. The df = degrees of freedom, LL = log likelihood, AIC_c = Akaike's Information Criterion corrected for small sample size, dAIC_c = difference in AIC_c between the current and the top-ranked model, wAIC_c = model probability.

Model	(Int)	Thickness	Type	Thickness*Type	df	LL	AIC _c	dAIC _c	wAIC _c
8	0.01	X	X	X	5	37.26	-60.8	0	0.99
4	-0.03	X	X		4	30.79	-51.2	9.54	0.01
3	0.01		X		3	26.62	-45.9	14.86	0
2	0.02	X			3	25.60	-43.9	16.89	0
1	0.05				2	23.34	-42.1	18.71	0