

Supplementary Materials: Cyanobacterial Neurotoxin BMAA and Mercury in Sharks

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Table S1. β -N-methylamino-L-alanine (BMAA) and Total Hg concentrations determined by high performance liquid chromatography (HPLC) in sharks.

Species	Length (cm)	Mean $\pm$ SE BMAA (ng/mg)	Total Hg (ng/mg)	BMAA/Length (ng/100 cm)	Sample Month
Blacknose ^b	122	954 $\pm$ 60	<i>n/a</i>	782	March
Blacknose ^b	126	161	<i>n/a</i>	128	April
Blacknose ^a	120	1663	5.65 ^e	1386	October
Blacknose ^a	120	42.5 $\pm$ 1.0	<i>n/a</i>	35.4	June
Blacknose ^b	122	43.4 $\pm$ 0.9	0.08 ^d	35.6	December
Blacknose ^b	120	ND	0.05 ^d	-	April
Blacktip ^b	61	280 $\pm$ 84	0.77 ^e	460	March
Blacktip ^b	69	144 $\pm$ 18	1.79 ^e	210	September
Blacktip ^a	162	ND	7.73 ^e	-	July
Blacktip ^b	165	ND	6.55 ^e	-	September
Blacktip ^b	173	286	4.32 ^e	165	March
Blacktip ^a	174	168	3.24 ^e	97	October
Blacktip ^a	177	247	4.35 ^e	140	October
Blacktip ^a	148	794	1.58 ^e	537	April
Blacktip ^a	156	811	0.22 ^d	522	September
Blacktip ^b	165	303	6.89 ^e	184	September
Blacktip ^b	165	745	6.75 ^e	453	September
Blacktip ^b	168	252	4.97 ^e	150	September
Blacktip ^b	166	34.5 $\pm$ 0.5	0.22 ^d	20.8	October
Blacktip ^b	122	34.3 $\pm$ 0.1	1.95 ^d	28.1	February
Blacktip ^b	188	40.9 $\pm$ 0.2	7.43 ^e	21.8	April
Blacktip ^b	152	43.7 $\pm$ 0.7	0.46 ^d	28.8	December
Blacktip ^b	148	43.4 $\pm$ 0.8	<i>n/a</i>	29.3	March
Bonnethead ^a	73.5	632 $\pm$ 96	1.77 ^e	860	March
Bonnethead ^a	78.5	320 $\pm$ 56	0.50 ^e	408	March
Bonnethead ^a	77	1836 $\pm$ 364	1.16 ^e	2385	October
Bonnethead ^b	85	40.3 $\pm$ 1.1	0.42 ^e	47.4	March
Bull ^b	163	232 $\pm$ 60	13.23 ^e	142	September
Bull ^b	183	264 $\pm$ 96	5.33 ^e	144	September
Bull ^b	178	43.0 $\pm$ 1.3	3.24 ^e	24.2	March
Great Hammerhead ^a	247	1528 $\pm$ 212	3.29 ^e	619	July
Great Hammerhead ^b	181	528 $\pm$ 210	<i>n/a</i>	411	September
Great Hammerhead ^a	175	719 $\pm$ 21	<i>n/a</i>	291	May
Great Hammerhead ^b	310	63.1 $\pm$ 0.9	<i>n/a</i>	20.4	February
Great Hammerhead ^b	396	41.5 $\pm$ 3.6	<i>n/a</i>	23.7	April
Lemon ^b	168	556 $\pm$ 210	1.34 ^e	332	June
Lemon ^b	201	628 $\pm$ 66	0.27 ^e	312	March
Nurse ^a	226	223	0.18 ^d	99	September
Nurse ^b	213	169	0.10 ^d	79	April
Nurse ^b	168	161	0.36 ^d	96	March

Table S1. Cont.

Species	Length (cm)	Mean $\pm$ SE BMAA (ng/mg)	Total Hg (ng/mg)	BMAA/ Length (ng/100 cm)	Sample Month
Nurse ^a	165	ND	0.13 ^d	-	August
Nurse ^a	235	ND	0.06 ^d	-	August
Nurse ^a	207	ND	0.22 ^d	-	August
Nurse ^a	241	ND	0.26 ^d	-	August
Nurse ^b	169	2010.5 $\pm$ 15.5	0.37 ^d	952	September
Nurse ^b	89	55.2 $\pm$ 6.4	0.28 ^d	47.8	January
Nurse ^b	250	47.1 $\pm$ 1.2	0.48 ^d	18.8	March
Atlantic Sharpnose ^b	88	40.2 $\pm$ 0.5	0.44 ^e	45.7	April
Atlantic Sharpnose ^b	120	47.53	<i>n/a</i>	39.6	April
Atlantic Sharpnose ^b	208	115.0 $\pm$ 0.1	2.41 ^e	55.3	April
Smooth Hammerhead ^a	207	42.6 $\pm$ 0.2	2.85 ^e	20.6	February
Tiger ^c	390	35.6 $\pm$ 1.9	1.61 ^d	9.12	January
Tiger ^c	349	31.5 $\pm$ 2.6	0.31 ^d	9.02	January
Tiger ^c	330	39.6 $\pm$ 4.7	0.92 ^d	12	September
Tiger ^c	253	38.9 $\pm$ 5.1	0.12 ^d	15.43	March

SE: Standard Error; ND: Below the level of detection; *n/a*: Samples not available for analysis; -: Undetermined;

^a Biscayne Bay; ^b Florida Bay; ^c East Australian Coast; ^d Fin; ^e Muscle

Table S2. BMAA and Mercury concentrations detected by sessions in sharks.

Sample Season	BMAA * (ng/mg)	THg (ng/mg)
Winter ^a	43.7 $\pm$ 3.8 (<i>n</i> = 8)	1.1 $\pm$ 0.4 (<i>n</i> = 7)
Spring ^b	254.6 $\pm$ 62.4 (<i>n</i> = 22)	1.5 $\pm$ 0.5 (<i>n</i> = 16)
Summer ^c	708.8 $\pm$ 435.6 (<i>n</i> = 3)	1.9 $\pm$ 1.1 (<i>n</i> = 7)
Fall ^d	593.8 $\pm$ 164.2 (<i>n</i> = 16)	3.9 $\pm$ 0.9 (<i>n</i> = 16)

* Only detected samples averaged; ^a December–February; ^b March–May; ^c June–August; ^d September–November