

Supplemental Figures and Tables

Title: Seagrass digestion by a notorious “carnivore”
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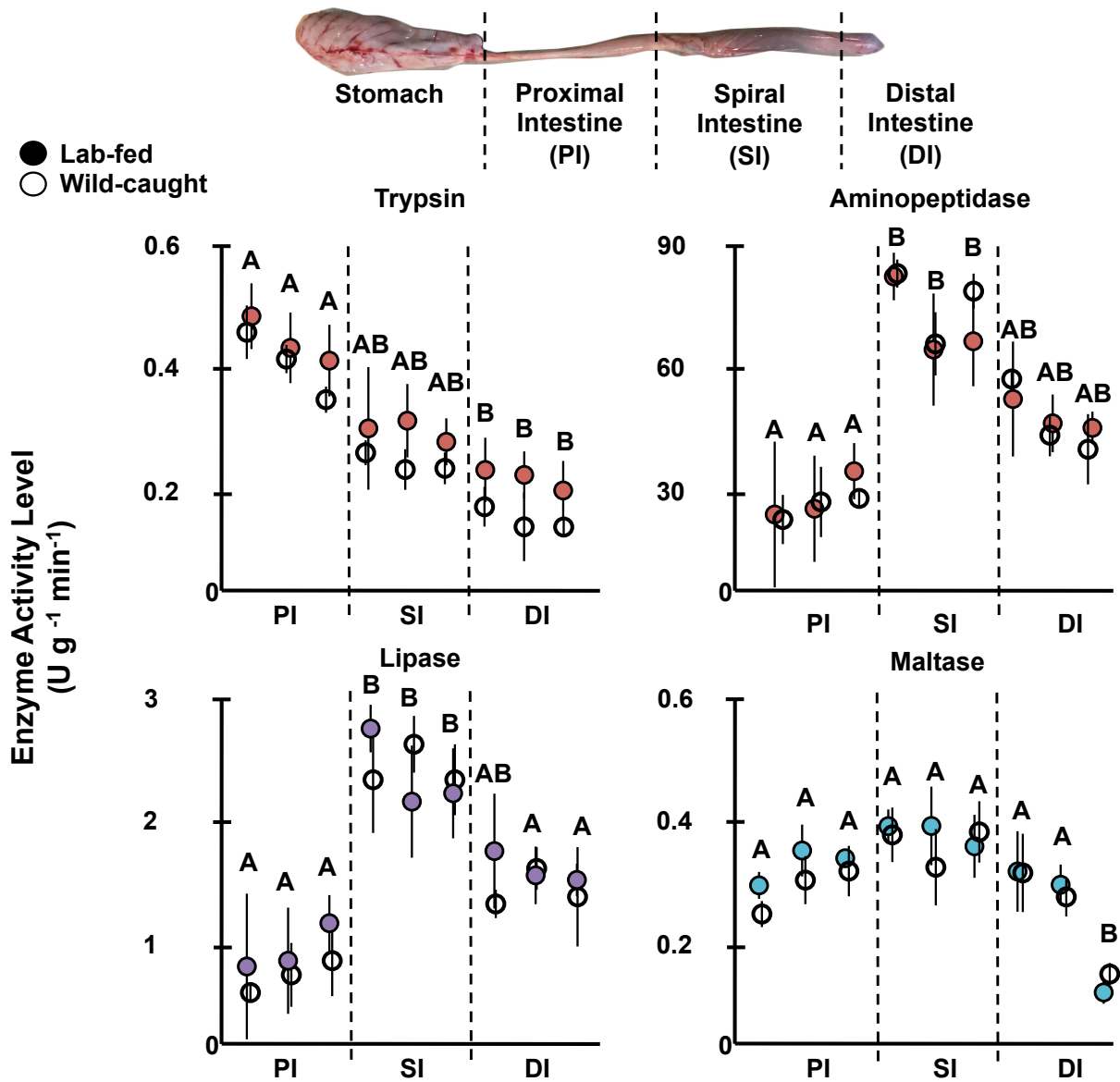
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Supplemental Figure 1: Trypsin, aminopeptidase, maltase, and lipase activities in the digestive tracts of bonnethead sharks. Open circles represent wild-caught sharks, while filled circles represent mean \pm standard deviation values for lab-fed sharks. Protein-degrading enzymes (trypsin and aminopeptidase) are in red, soluble carbohydrate-degrading enzymes (maltase) are in blue, and lipid-degrading enzymes (lipase) are in purple. No significant differences were found between lab-fed and wild-caught sharks for any of the enzymes assayed ($P > 0.05$). Differing letters above data points indicate significant difference among gut regions: PI, SI, and DI ($P < 0.05$).

Shark ID	Initial mass (g)	Terminal Mass (g)	Weight Increase (%)	Caloric Demands (kcal/day)	Calories Consumed (kcal/day)	Calories Digested (kcal/day)
1	1376	1414	2.687411598	25.414038	278.885	179.45455
2	1445	1518	4.808959157	24.4571184	265.568	170.88544
3	1313	1492	11.99731903	23.5834092	253.409	163.06147
4	1942	2080	6.634615385	32.3066328	374.806	241.17698
5	2116	2274	6.948109059	34.7197344	408.388	262.78604
Mean:	1638.4	1755.6	6.6152828	28.0961865	316.2112	203.472896
Standard Deviation:	364.8	392.6204	3.4557357	5.0596724	70.413081	45.308811

Supplemental Table S1. The initial and terminal masses (g) of each individual lab-fed bonnethead shark. The weight increase (%) for each individual shark, as well as the means \pm standard deviations are also provided. Caloric demand (kcal/day), Calories consumed (kcal/day), and Calories digested (kcal/day) along with means and standard deviations for each are also included.

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	Ala	Asp	Glu	Gly	Ile	Leu	Lys	Met	Phe	Pro	Thr	Tyr	Val
Seagrass1	42.42±0.15	6.77±0.12	21.56±0.42	55.59±1.19	11.46±0.47	21.08±0.42	31.72±0.64	23.47±0.44	48.43±0.26	15.14±0.71	38.52±0.11	35.66±0.25	14.54±0.09
Seagrass2	41.74±0.17	7.52±0.33	21.82±0.16	54.92±0.7	13.01±0.4	20.60±0.23	31.43±1.18	21.59±1	46.46±0.45	15.78±0.04	37.22±0.34	34.29±0.32	14.44±0.15
Seagrass3	44.38±0.11	8.14±0.4	21.79±0.84	57.68±0.42	11.89±0.32	21.40±0.09	36.14±0.08	23.40±0.43	48.95±0.33	16.20±0.05	36.81±1.75	34.92±0.3	16.45±0.16
Shark1	10.72±0.68	8.27±0.26	8.38±0.44	6.91±1.05	13.93±0.17	21.12±0.1	12.86±0.3	24.35±0.07	22.67±0.49	11.45±0.13	3.52±0.43	22.25±0.03	19.17±0.5
Shark2	11.23±0.28	6.59±0.67	9.74±0.04	7.43±1.9	13.05±0.44	20.94±0.54	13.85±0.02	24.96±0.38	22.50±0.05	9.58±0.35	2.77±0.31	23.05±1.02	20.04±0.14
Shark3	11.78±0.33	9.48±1.39	8.80±0.03	3.77±0.89	12.74±0.04	20.07±0.45	13.89±0.37	24.65±0.58	21.55±0.31	18.59±0.89	3.50±1.34	19.29±0.05	19.48±0.06
Shark4	5.90±0.42	2.88±0.42	5.43±0.63	12.17±2.07	10.75±0.52	16.64±0.51	10.56±0.3	19.98±0.15	18.66±0.08	5.97±0.63	1.05±0	18.67±0.27	14.03±0.21
Shark5	8.41±0.04	6.54±1.08	11.99±0.39	7.18±1.5	13.75±0.3	20.76±0.42	13.38±0.79	24.23±0.39	22.72±0.23	11.73±1.05	2.22±0.07	21.41±0.28	18.42±0.28

Supplemental Table S2. The means and standard deviations for the ratio of the mean $\delta^{13}\text{C}$ essential amino acid signatures in the ^{13}C -labeled seagrass used in the feeding trial over the mean $\delta^{13}\text{C}$ essential amino acid signatures in the lab-fed bonnethead shark livers.

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Essential AA's

Non-essential AA's

	Asp	Ile	Leu	Met	Pro	Val	Ala	Glu	Gly	Lys	Phe	Thr	Tyr
Mean	1.302	0.951	1.064	0.972	1.565	0.844	4.7617	2.620	8.58	2.59	2.230	17.5	1.680
Standard Deviation	0.738	0.103	0.112	0.095	0.661	0.133	1.508	0.827	3.78	0.31	0.195	10.5	0.154

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Supplemental Table S3. The means and standard deviations of the ratio of the seagrass amino acid $\delta^{13}\text{C}$ values as compared to the lab-fed shark $\delta^{13}\text{C}$ for the essential and non-essential amino acids.

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