

The following supplement accompanies the article

Trophic ecology of an abundant predator and its relationship with fisheries

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Supplement. Additional data on the dietary composition of *Cephaloscyllium laticeps* in Tasmanian waters (Australia), and main factors affecting this diet

Table S1. Percentage of numerical importance (%N) and percentage frequency of occurrence (%FO) of prey consumed by *Cephaloscyllium laticeps* from each of the 4 regions around Tasmania. Total represents all sites combined. Sample size (n) = number of shark stomachs containing prey. Fishing method used in the collection of samples: GN, Gillnet; CP, Craypot. Note that for the east coast, the total diet is shown, followed by the diet broken down into stomach samples obtained from gillnet and craypot

Prey item	Total		Central (GN)		East - total		East (GN)		East (CP)		North West (GN)		South West (CP)	
	(n = 710)		(n = 64)		(63% GN, 37% CP)		(n = 84)		(n = 49)		(n = 90)		(n = 321)	
	%N	%FO	%N	%FO	%N	%FO	%N	%FO	%N	%FO	%N	%FO	%N	%FO
Crustacea	29.23	41.97	13.08	26.92	33.33	54.26	31.43	55.95	37.7	43.75	11.32	14.08	38.18	53.58
Decapoda														
<i>Ibacus peronii</i>	0.09	0.14	1.11	1.92	0	0	0	0	0	0	0	0	0	0
<i>Jasus edwardsii</i>	19.43	29.35	2.22	3.85	9.33	16.28	10.86	21.43	8.2	10.42	0.91	1.89	30.37	42.99
Majidae	0.09	0.14	0	0	0	0	0	0	0	0	0.76	1.41	0	0
<i>Nectocarcinus tuberculatus</i>	0.27	0.43	0	0	0	0	0	0	0	0	0	0	0.43	0.62
<i>Paguristes</i> sp.	0.27	0.43	0	0	1.33	2.33	1.71	3.57	0	0	0	0	0	0
Paguroidea	0.18	0.29	0	0	0	0	0	0	0	0	0	0	0	0
Penaeidae	0.09	0.14	0	0	0	0	0	0	0	0	0	0	0.22	0.31
<i>Plagusia chabrus</i>	0.64	1	0	0	0.44	0.78	1.14	2.38	0	0	0	0	0.87	1.25
<i>Strigopagurus strigimanus</i>	7.94	11.75	7.78	13.46	17.33	27.91	16.57	32.14	14.75	18.75	7.23	12.41	4.77	6.54
Unidentified brachyura	1.37	1.72	2.22	3.85	4	5.43	0	0	14.75	14.58	0	0	0.87	0.93
Unidentified spp.	0.55	0.86	0	0	0.89	1.55	1.14	2.38	0	0	0	0	0.65	0.93
Isopoda														
<i>Ceratothoa umbricatus</i>	0.09	0.14	1.11	1.92	0	0	0	0	0	0	0	0	0	0
Fish	29.05	40.42	34.58	65.38	24	41.09	24.57	41.67	27.87	35.42	31.45	56.12	27.33	37.69
Teleostei														
<i>Caesioperca</i> sp.	0.36	0.57	1.11	1.92	1.33	2.33	0	0	3.28	4.17	0	0	0	0
<i>Conger verreauxi</i>	0.18	0.29	0	0	0	0	0.57	1.19	0	0	0	0	0.22	0.31
<i>Bovichthys variegatus</i>	0.09	0.14	0	0	0	0	0	0	0	0	0	0	0.22	0.31
<i>Diodon nicthemerus</i>	0.09	0.14	0	0	0	0	0	0	0	0	0.76	1.41	0	0
<i>Helicolenus percooides</i>	0.27	0.43	0	0	1.33	2.33	0	0	4.92	6.25	0	0	0	0
Monacanthidae	0.09	0.14	0	0	0.44	0.78	0	0	1.64	2.08	0	0	0	0
<i>Nemadactylus macropterus</i>	0.09	0.14	1.11	1.92	0	0	0	0	0	0	0	0	0	0

Pempheridae	0.09	0.14	0	0	0	0	0	0	0	0	0	0	0.22	0.31
<i>Penicipelta vittiger</i>	0.09	0.14	0	0	0	0	0	0	0	0	0.76	1.41	0	0
<i>Platycephalus bassensis</i>	0.53	0.59	0	0	1.33	1.55	2.86	3.57	0	0	0	0	0.22	0.31
<i>Pseudophycis bachus</i>	0.09	0.14	0	0	0	0	0	0	0	0	0	0	0.22	0.31
<i>Pterygotrigla polyommata</i>	0.09	0.14	1.11	1.92	0	0	0	0	0	0	0	0	0	0
<i>Thyrsites atun</i>	2.37	3.58	3.22	4.98	0.89	1.55	1.14	2.38	1.64	2.08	3.57	5.04	2.39	3.43
<i>Trachurus declivis</i>	2.46	3.72	4.62	6.85	0.89	1.55	1.14	2.38	0	0	1.52	1.41	4.12	5.92
Unidentified spp.	19.71	29.94	19.78	32.77	17.33	30.23	18.86	35.71	14.75	18.75	20.45	36.86	18.22	24.61
Elasmobranchii														
<i>Cephaloscyllium laticeps</i>	0.27	0.43	0	0	0	0	0	0	0	0	1.52	2.82	0.22	0.31
<i>Narcine tasmaniensis</i>	0.09	0.14	1.11	1.92	0	0	0	0	0	0	0	0	0	0
Scyliorhinidae	0.09	0.14	1.11	1.92	0	0	0	0	0	0	0	0	0	0
<i>Urolophus cruciatus</i>	0.18	0.29	0	0	0	0	0	0	0	0	1.52	2.82	0	0
<i>Cephaloscyllium laticeps</i> egg case	0.09	0.14	0	0	0	0	0	0	0	0	0.76	1.41	0	0
Scyliorhinid egg case	0.09	0.14	0	0	0	0	0	0	0	0	0	0	0.22	0.31
Unidentified egg case	0.09	0.14	0	0	0.44	0.78	0	0	0	0	0	0	0	0
Unidentified spp.	0.36	0.57	0	0	0	0	0	0	0	0	0	0	1.08	1.56
Mollusca (misc.)	16.3	15.07	38.32	34.62	26.67	29.46	29.14	29.76	18.03	18.75	9.43	11.64	7.38	8.1
Gastropoda														
<i>Haliotis rubra</i>	0.46	0.72	0	0	1.33	2.33	1.71	3.57	0	0	0	0	0.22	0.31
Pleurobranchidae	2.92	4.58	7.78	13.46	2.67	4.65	4.57	9.52	0	0	0	0	3.69	5.3
<i>Pleuroploca australasia</i>	10.58	9.6	35.66	23.43	22.67	22.48	22.86	22.62	18.03	18.75	7.29	9.22	1.95	2.18
Unidentified spp.	1.28	0.29	0	0	0	0	0	0	0	0	0	0	1.52	0.31
Bivalvia														
Pectinidae	0.09	0.14	0	0	0	0	0	0	0	0	1.76	1.41	0	0
Cephalopoda	25.05	27.89	14.95	25	11.56	18.6	14.86	25	14.75	14.58	46.54	69.31	23.86	27.73
Loliginidae	5.11	6.73	0	0	2.67	4.65	1.71	3.57	6.56	8.33	27.09	38.31	1.52	2.18
<i>Nototodarus gouldii</i>	0.18	0.29	0	0	0	0	0	0	0	0	0	0	0.22	0.31
<i>Octopus berrima</i>	0.36	0.57	0	0	0	0	0	0	0	0	1.52	2.82	0.43	0.62
<i>Octopus bunurong</i>	0.18	0.29	0	0	0	0	0	0	0	0	0	0	0.43	0.62
<i>Octopus kaurna</i>	0.09	0.14	0	0	0	0	0	0	0	0	0	0	0.22	0.31
<i>Octopus maorum</i>	5.47	8.17	1.11	1.92	4.89	7.75	5.71	11.9	4.91	4.17	2.11	6.67	5.86	8.1
<i>Octopus pallidus</i>	10.86	12.61	8.56	9.38	1.78	3.1	4	7.14	3.28	4.17	12.88	16.9	13.67	13.39

<i>Octopus warringa</i>	0.09	0.14	0	0	0	0	0	0	0	0	0	0	0.22	0.31
Unidentified <i>Octopus</i>	1	1.58	3.41	4.85	0.89	1.55	1.71	3.57	0	0	0.76	1.41	0.87	1.25
<i>Sepioteuthis australis</i>	0.18	0.29	0	0	0	0	0	0	0	0	1.52	2.82	0	0
Unidentified spp.	0.55	0.72	1.11	1.92	1.33	1.55	1.71	2.38	0	0	0	0	0.43	0.62
Worms	0.36	0.56	0	0	0.44	0.78	0	0	1.64	2.08	1.26	2.37	0.22	0.31
Polychaeta														
Unidentified spp.	0.27	0.43	0	0	0.44	0.78	0	0	1.64	2.08	1.26	2.37	0	0
Sipunculidae														
Unidentified spp.	0.09	0.14	0	0	0	0	0	0	0	0	0	0	0.22	0.31
Miscellaneous	0.52	0.62	0	0	0	0	0	0	0	0	0.76	1.41	0.65	0.93
Aves														
<i>Eudyptula minor</i>	0.09	0.14	0	0	0	0	0	0	0	0	0	0	0	0
Holothuroidea														
Unidentified spp.	0.27	0.43	0	0	0	0	0	0	0	0	0	0	0.65	0.93
Porifera														
Unidentified sp.	0.09	0.14	0	0	0	0	0	0	0	0	0.76	1.41	0	0

Table S2. Factors included (I) and not included (NI) in the generalized linear models (GLMs; using Poisson distribution with log-link function) describing the abundance of each prey group on *Cephaloscyllium laticeps* diet, based on backwards selection using AIC, and results of the secondary GLMs showing the coefficient estimates for the set of included factors. Factors were region, fishing method and interaction between these 2 factors (Prey~Region+Fishing method+Region:Fishing method). For each comparison, the estimates correspond to the difference between the region/fishing method identified by ^a and the region/fishing method to be compared against, i.e. estimates are differences of the means, not means themselves. Values were back-transformed and represent the number of animals in *C. laticeps* stomachs. Significant differences are in bold: ***p < 0.001, **p < 0.01, *p < 0.05

Prey	Factor inclusion	Secondary GLM			
		Estimate	SE	z-value	p-value
Teleosts					
Region	NI	-	-	-	-
Fishing method	NI	-	-	-	-
Region × Fishing method	NI	-	-	-	-
<i>J. edwardsii</i>					
Region	I				
Central region ^a vs. East coast		7.2	2.1	2.654	0.008 **
Central region ^a vs. North west		2.8	2.2	1.312	0.190
Central region ^a vs. South west		27.9	2.4	3.829	<0.001***
East coast ^a vs. North west		-2.5	1.5	-2.218	0.003**
East coast ^a vs. South west		3.9	1.6	2.983	0.007**
North west ^a vs. South west		9.9	1.9	3.697	<0.001***
Fishing method	I				
Net ^a vs. Pot		-2.2	1.7	-1.551	0.121
Region × Fishing method	NI	-	-	-	-
<i>Octopus spp.</i>					
Region	I				
Central region ^a vs. East coast		1.2	1.4	0.452	0.651
Central region ^a vs. North west		1.6	1.4	1.508	0.132

Central region ^a vs. South west		3.6	1.8	2.288	0.022 *
East coast ^a vs. North west		1.4	1.3	1.181	0.2377
East coast ^a vs. South west		3.1	1.6	2.480	0.013 *
North west ^a vs. South west		2.3	1.7	1.540	0.123
Fishing method	I				
Net ^a vs. Pot		-2.7	1.6	-2.010	0.044 *
Region × Fishing method	NI	-	-	-	-
Squid					
Region	I				
Central region ^a vs. East coast		3.4	2.9	1.143	0.253
Central region ^a vs. North west		27.7	2.8	3.281	0.001 **
Central region ^a vs. South west		2.3	2.8	0.802	0.423
East coast ^a vs. North west		12.0	1.8	4.190	<0.001***
East coast ^a vs. South west		-2.3	1.8	-1.457	0.145
North west ^a vs. South west		-12.1	1.4	-7.776	<0.001***
Fishing method	NI	-	-	-	-
Region × Fishing method	NI	-	-	-	-
Other molluscs					
Region	I				
Central region ^a vs. East coast		-1.1	1.2	-0.282	0.777
Central region ^a vs. North west		-3.9	1.4	-4.495	<0.001***
Central region ^a vs. South west		-1.8	1.5	-1.491	0.136
East coast ^a vs. North west		-3.7	1.3	-4.422	<0.001***
East coast ^a vs. South west		-1.7	1.4	-1.571	0.116
North west ^a vs. South west		2.2	1.6	1.740	0.082
Fishing method	I				
Net ^a vs. Pot		-2.7	1.4	-3.024	0.003 **

Region × Fishing method	NI	-	-	-	-
Hermit crabs					
Region	I				
Central region ^a vs. East coast		3.5	1.5	2.980	0.003**
Central region ^a vs. North west		-1.1	1.7	-0.194	0.846
Central region ^a vs. South west		1.5	1.8	0.705	0.481
East coast ^a vs. North west		-3.8	1.5	-3.551	<0.001***
East coast ^a vs. South west		-2.3	1.5	-2.213	0.027**
North west ^a vs. South west		1.6	1.7	0.923	0.356
Fishing method	I				
Net ^a vs. Pot		-2.0	1.5	-1.902	0.057
Region × Fishing method	NI	-	-	-	-
Crabs (other than hermits)					
Region	I				
Central region ^a vs. East coast		-1.2	2.0	-0.265	0.791
Central region ^a vs. North west		-5.4	3.1	-1.508	0.132
Central region ^a vs. South west		-5.7	2.2	-2.211	0.027 *
East coast ^a vs. North west		-4.5	3.0	-1.362	0.173
East coast ^a vs. South west		-4.7	1.5	-3.635	<0.001***
North west ^a vs. South west		-1.0	3.3	-0.038	0.969
Fishing method	I				
Net ^a vs. Pot		3.6	1.8	2.260	0.023 *
Region × Fishing method	NI	-	-	-	-