

Latitudinal changes in the structure of marine food webs in the Southwestern Atlantic Ocean

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Table S1. Sample size and stable isotope ratios of the species used to characterize the food web of the Río de la Plata and adjoining areas.

Scientific name	Length range (cm)	Season of sampling	Tissue	$\delta^{15}\text{N}$ (‰)		$\delta^{13}\text{C}$ (‰)	
				n	Mean (±SD)	n	Mean (±SD)
Primary producers							
POM	-	October 2010		4	9.1 (±1.8)	5	-22.3 (±0.9)
<i>Enteromorpha</i> spp.	-	December 2010	thallus	5	8.9 (±0.9)	5	-11.7 (±0.7)
<i>Ulva</i> spp.	-	December 2010	thallus	5	9.3 (±0.5)	5	-10.8 (±0.6)
Herbivores							
<i>Mytilus edulis</i>	-	December 2010	mantle	5	12.4 (±0.1)	5	-17.1 (±0.3)
<i>Siphonaria lessona</i>	-	December 2010	mantle	5	13.8 (±0.5)	5	-13.2 (±1.1)
Small pelagic fish and squids							
<i>Engraulis anchoita</i>	16.3-18.5	October 2009	muscle	5	15.4 (±0.5)	5	-18.2 (±0.3)
<i>Illex argentinus</i>	17.0-20.0	October 2009	mantle	5	14.7 (±0.5)	5	-17.5 (±0.4)
<i>Loligo sanpaulensis</i>	5.2-6.0	October 2009	mantle	5	18.6 (±0.2)	5	-16.7 (±0.2)
<i>Merluccius hubbsi</i> (<30 cm)	27.3-27.5	October 2009	muscle	2	14.8 (±0.1)	2	-18.4 (±0.1)
<i>Odontesthes incisa</i>	8.8-10.7	October 2009	muscle	5	15.5 (±0.2)	5	-17.6 (±0.3)
Medium pelagic fish							
<i>Cynoscion guatucupa</i>	27.1-32.8	October 2009	muscle	5	17.6 (±0.2)	5	-17.2 (±0.2)
<i>Merluccius hubbsi</i> (>30 cm)	30.5-38.4	October 2009	muscle	3	15.6 (±0.4)	3	-18.0 (±0.5)
<i>Stromateus brasiliensis</i>	17.2-22.5	October 2009	muscle	5	17.4 (±0.4)	5	-16.9 (±0.6)
<i>Trachurus lathami</i>	15.6-16.4	October 2009	muscle	5	16.9 (±0.5)	5	-17.6 (±0.4)
Demersal fish and crustaceans							
<i>Menticirrhus americanus</i>	20.0-30.3	October 2010	muscle	5	19.1 (±1.1)	5	-15.0 (±0.9)
<i>Micropogonias furnieri</i>	41.0-44.3	October and December 2009	muscle	5	16.7 (±0.5)	5	-16.0 (±0.3)
<i>Pagrus pagrus</i>	20.5-26.6	October 2009	muscle	5	17.5 (±0.5)	5	-16.1 (±0.2)
<i>Paralichthys isósceles</i>	23.7-31.1	October 2009	muscle	5	17.7 (±0.2)	5	-16.6 (±0.2)
<i>Paralichthys patagonicus</i>	32.3-32.8	October 2009	muscle	2	17.6 (±0.4)	2	-16.7 (±0.1)
<i>Pleoticus muelleri</i>	N/A	October 2009	muscle	1	14.4	1	-16.4
<i>Prionotus nudigula</i>	18.3-23.0	October 2009	muscle	5	18.0 (±0.6)	5	-17.0 (±0.1)
<i>Pseudopercis semifasciata</i>	24.6-27.7	October 2009	muscle	4	18.2 (±0.4)	4	-16.6 (±0.3)
<i>Raneya brasiliensis</i>	22.1-28.5	October 2009	muscle	5	17.3 (±0.6)	5	-16.2 (±0.4)

Table S2. Sample size and stable isotope ratios of the species used to characterize the food web of northern Patagonia.
*from Drago et al. 2009.** wet weight in grams.

Scientific name	Length range (cm)	Season of sampling	Tissue	n	$\delta^{15}\text{N}$ (‰)	$\delta^{13}\text{C}$ (‰)
					Mean (\pm SD)	Mean (\pm SD)
Primary producers						
POM		- January 2006*		2	13.4 (\pm 0.6)	-21.0 (\pm 0.1)
<i>Enteromorpha spp.</i>		- December 2009	thallus	5	11.8 (\pm 1.1)	-13.6 (\pm 0.4)
<i>Macrocystis spp.</i>		- December 2009	thallus	5	13.0 (\pm 2.5)	-15.6 (\pm 0.7)
<i>Ulva spp.</i>		- December 2009	thallus	5	7.9 (\pm 0.9)	-18.9 (\pm 2.1)
Herbivores						
<i>Aulacomya atra</i>		- December 2009	mantle	5	11.6 (\pm 0.1)	-18.7 (\pm 0.5)
<i>Nacella magellanica</i>		- December 2009	mantle	5	12.2 (\pm 0.6)	-13.4 (\pm 2.1)
Small pelagic fish and squids						
<i>Engraulis anchoita</i>	11.6-15.8	January 2006*	muscle	5	15.7 (\pm 0.8)	-17.9 (\pm 0.2)
<i>Illex argentinus</i>	12.1-23.4	February 2006*	mantle	5	13.7 (\pm 0.8)	-17.0 (\pm 0.6)
<i>Loligo gahi</i>	8.9-13.3	January 2006*	mantle	5	16.2 (\pm 1.1)	-17.2 (\pm 1.0)
<i>Loligo sanpaulensis</i>	4.9-10.4	January 2006*	mantle	5	17.2 (\pm 0.3)	-16.8 (\pm 0.2)
<i>Merluccius hubbsi</i> (<30 cm)	18.1-27.2	February 2006*	muscle	5	16.5 (\pm 0.1)	-16.8 (\pm 0.2)
Medium pelagic fish						
<i>Merluccius hubbsi</i> (>30 cm)	37.0-50.5	February 2006*	muscle	5	17.1 (\pm 0.4)	-17.0 (\pm 0.5)
<i>Stromateus brasiliensis</i>	28.5-32.3	January 2007	muscle	2	16.2 (\pm 0.4)	-17.0 (\pm 0.9)
Demersal fish and crustaceans						
<i>Enterocarpus megalocyathus</i>	70-1710 (g)**	February 2006*	muscle	4	18.5 (\pm 1.9)	-14.7 (\pm 0.6)
<i>Genypterus blacodes</i>	31.0-35.8	August 2007	muscle	5	18.0 (\pm 0.3)	-14.7 (\pm 0.4)
<i>Munida subrugosa</i>	3.3-17.5 (g)**	January 2006	whole body	5	16.8 (\pm 0.4)	-15.7 (\pm 0.8)
<i>Octopus tehuelchus</i>	35-53 (g)**	February 2006*	muscle	5	19.9 (\pm 0.4)	-14.8 (\pm 0.2)
<i>Paralichthys isosceles</i>	15.2-26.1	January 2006*	muscle	5	18.0 (\pm 0.6)	-15.9 (\pm 0.4)
<i>Patagonotothen cornucola</i>	9.2-12.7	Summer 2007	muscle	2	18.8 (\pm 0.2)	-15.6 (\pm 0.1)
<i>Patagonotothen ramsayi</i>	18.5-22.0	Abril 2010	muscle	2	18.6 (\pm 0.3)	-16.1 (\pm 0.2)
<i>Platyxanthus patagonicus</i>	3.7-6.5	January 2006	muscle	5	16.3 (\pm 0.9)	-15.3 (\pm 0.2)
<i>Pleoticus muelleri</i>	N/A	Abril 2010	muscle	5	16.7 (\pm 0.3)	-15.9 (\pm 0.4)
<i>Raneya brasiliensis</i>	15.3-22.0	January 2006*	muscle	5	18.8 (\pm 0.5)	-15.3 (\pm 0.7)

Table S3. Sample size and stable isotope ratios of species used to characterize the food web of southern Patagonia.

Scientific name	Length range (cm)	Season of sampling	Tissue	n	$\delta^{15}\text{N}$ (‰)	$\delta^{13}\text{C}$ (‰)
					Mean (\pm SD)	Mean (\pm SD)
Primary producers						
POM		- May 2011		5	11.1 (\pm 1.4)	-21.3 (\pm 0.7)
<i>Enteromorpha</i> spp.		- February 2010	thallus	5	13.7 (\pm 0.2)	-14.6 (\pm 0.7)
<i>Macrocystis</i> spp.		- February 2010	thallus	5	11.6 (\pm 1.0)	-16.1 (\pm 2.4)
Herbivores						
<i>Aulacomya atra</i>		- February 2010	mantle	5	12.7 (\pm 0.5)	-15.8 (\pm 0.5)
<i>Nacella magellanica</i>		- February 2010	mantle	5	12.6 (\pm 0.2)	-13.9 (\pm 1.1)
Small pelagic fish and squids						
<i>Illex argentinus</i>	23.0-30.0	May 2011	mantle	5	16.4 (\pm 0.7)	-17.9 (\pm 0.4)
<i>Loligo gahi</i>	N/A	Abril/May 2011	mantle	5	17.3 (\pm 2.1)	-17.2 (\pm 1.0)
<i>Merluccius hubbsi</i> (<30 cm)	20.8-22.5	May 2011	muscle	3	16.7 (\pm 0.3)	-16.8 (\pm 0.2)
<i>Sprattus fuegensis</i>	15.0-15.0	Abril 2011	muscle	5	17.2 (\pm 0.2)	-17.8 (\pm 0.3)
Medium pelagic fish						
<i>Merluccius hubbsi</i> (\geq 30 cm)	30.0-35.0	Abril/May 2011	muscle	5	17.1 (\pm 0.2)	-18.1 (\pm 0.3)
<i>Stromateus brasiliensis</i>	30.2-34.4	May 2011	muscle	5	15.6 (\pm 0.9)	-18.1 (\pm 0.6)
Demersal fish and crustaceans						
<i>Eleginops maclovinus</i>	55.0-68.0	Abril 2011	muscle	2	18.4 (\pm 0.4)	-16.5 (\pm 0.1)
<i>Genypterus blacodes</i>	58.0-75.0	Abril 2011	muscle	5	18.3 (\pm 0.5)	-17.2 (\pm 0.8)
<i>Munida gregaria</i>	N/A	Abril 2010	whole body	5	11.9 (\pm 1.1)	-15.4 (\pm 2.6)
<i>Paralichthys patagonicus</i>	40.8	Abril 2011	muscle	1	19.0	-15.8
<i>Patagonotothen ramsayi</i>	20.0-24.0	May 2011	muscle	5	15.6 (\pm 2.2)	-18.4 (\pm 1.4)
<i>Pleoticus muelleri</i>	N/A	Abril 2011	muscle	5	16.0 (\pm 0.5)	-15.6 (\pm 0.4)
<i>Psammobatis rudis</i>	17.0-17.5	Abril 2011	muscle	3	16.7 (\pm 0.6)	-14.8 (\pm 0.8)