

Supplementary material

Age and growth of two sharpnose shark species (*Rhizoprionodon lalandii* and *R. porosus*) in subtropical waters of the south-western Atlantic

Jéssica T. Corosso^A, Otto B. F. Gadig^B, Fabio P. Caltabellotta^{C,D}, Rodrigo Barreto^E
and Fabio S. Motta^{A,F}

^ALaboratório de Ecologia e Conservação Marinha, Instituto do Mar,
Universidade Federal de São Paulo, Rua Dr Carvalho de Mendonça 144, Encruzilhada,
Santos, SP 11070-100, Brazil.

^BLaboratório de Pesquisa de Elasmobrânquios, Instituto de Biociências,
Universidade Estadual Paulista, Campus do Litoral Paulista, Praça Infante Dom Henrique,
Parque Bitaru, São Vicente, SP 11330-900, Brazil.

^CCoastal Oregon Marine Experiment Station, Oregon State University,
2030 SE Marine Science Drive, Newport, OR 97365, USA.

^DFisheries and Aquatic Sciences Program, School of Forest Resources and Conservation,
University of Florida, 118 Newins-Ziegler Hall, PO Box 110410,
Gainesville, FL 32611-0410, USA.

^ECentro Nacional de Pesquisa e Conservação da Biodiversidade Marinha do Sudeste e Sul do Brasil,
Instituto Chico Mendes de Conservação da Biodiversidade, Avenida Carlos Ely Castro, 195 Centro,
Itajaí SC, 88301-445, Brazil.

^FCorresponding author. Email: fmotta@unifesp.br

Table S1. Characterisation of sample composition for *Rhizoprionodon lalandii* and *R. porosus* in each performed analysis

Species	Analysis	Sex	Sampling period	Length range (mm)	Number of specimens
<i>R. lalandii</i>	Vertebrae ageing	Male	1996–2003	310–700	86
		Female	1996–2003	315–775	88
		Male	2012–2013	345–700	39
		Female	2012–2013	360–790	34
	Hepatosomatic index	Pooled sexes	1997–2003	310–790	2071
	Length–frequency	Male	1997–2002	310–700	4046
		Female	1997–2002	315–790	3514
	Growth in the first year	Pooled sexes	1996–2004	285–635	5138
<i>R. porosus</i>	Length–frequency	Male	1997–2002	360–1130	1053
		Female	1997–2002	360–895	884
	Growth in the first year	Pooled sexes	1996–2004	335–790	1924

Table S2. Age–length key (%) for male *R. lalandii*

The numbers in parentheses are the number of specimens in each age

Length class (mm)	<i>n</i>	Age (years)				
		0 (2225)	1 (413)	2 (343)	3 (794)	4 (300)
300	93	100	0	0	0	0
330	558	100	0	0	0	0
360	373	100	0	0	0	0
390	131	100	0	0	0	0
420	188	100	0	0	0	0
450	270	100	0	0	0	0
480	339	100	0	0	0	0
510	273	100	0	0	0	0
540	79	0	100	0	0	0
570	211	0	90.99	0	9.01	0
600	427	0	33.26	58.55	8.19	0
630	589	0	0	8.32	91.68	0
660	467	0	0	9.42	42.83	47.75
690	74	0	0	0	0	100
720	3	0	0	0	0	100

Table S3. Age-length key (%) for female *R. lalandii*

The numbers in parentheses are the number of specimens in each age

Length class (mm)	<i>n</i>	Age (years)								
		0 (2561)	1 (271)	2 (210)	3 (147)	4 (121)	5 (61)	6 (111)	7 (49)	8 (10)
300	90	100	0	0	0	0	0	0	0	0
330	565	100	0	0	0	0	0	0	0	0
360	420	100	0	0	0	0	0	0	0	0
390	129	100	0	0	0	0	0	0	0	0
420	200	100	0	0	0	0	0	0	0	0
450	357	100	0	0	0	0	0	0	0	0
480	381	100	0	0	0	0	0	0	0	0
510	353	100	0	0	0	0	0	0	0	0
540	98	67.35	32.65	0	0	0	0	0	0	0
570	132	0	100	0	0	0	0	0	0	0
600	132	0	60.61	39.39	0	0	0	0	0	0
630	131	0	20.61	79.39	0	0	0	0	0	0
660	159	0	0	13.84	72.33	13.83	0	0	0	0
690	163	0	0	19.63	19.63	60.73	0	0	0	0
720	145	0	0	0	0	0	42.07	41.38	16.55	0
750	81	0	0	0	0	0	0	62.96	24.69	12.34
780	5	0	0	0	0	0	0	0	100	0

Table S4. Age composition of the samples (%) of male *R. porosus* obtained by inverse von Bertalanffy equation

The numbers in parentheses are the number of specimens in each age

Length class (mm)	n	Age (years)												
		0 (931)	1 (20)	2 (11)	3 (25)	4 (11)	5 (13)	6 (8)	7 (6)	8 (3)	9 (0)	10 (3)	11 (1)	12 (18)
360	26	100	0	0	0	0	0	0	0	0	0	0	0	0
400	141	100	0	0	0	0	0	0	0	0	0	0	0	0
440	272	100	0	0	0	0	0	0	0	0	0	0	0	0
480	291	100	0	0	0	0	0	0	0	0	0	0	0	0
520	142	100	0	0	0	0	0	0	0	0	0	0	0	0
560	46	100	0	0	0	0	0	0	0	0	0	0	0	0
600	15	86.66	13.33	0	0	0	0	0	0	0	0	0	0	0
640	4	0	100	0	0	0	0	0	0	0	0	0	0	0
680	3	0	100	0	0	0	0	0	0	0	0	0	0	0
720	10	0	100	0	0	0	0	0	0	0	0	0	0	0
760	4	0	25	75	0	0	0	0	0	0	0	0	0	0
800	3	0	0	100	0	0	0	0	0	0	0	0	0	0
840	13	0	0	38.5	61.5	0	0	0	0	0	0	0	0	0
880	17	0	0	0	100	0	0	0	0	0	0	0	0	0
920	11	0	0	0	0	100	0	0	0	0	0	0	0	0
960	15	0	0	0	0	0	86.66	13.33	0	0	0	0	0	0
1000	23	0	0	0	0	0	0	26	26	13	0	13	4.3	17.4
1040	4	0	0	0	0	0	0	0	0	0	0	0	0	100
1080	10	0	0	0	0	0	0	0	0	0	0	0	0	100

Table S5. Age composition of the samples (%) of female *R. porosus* obtained by inverse von Bertalanffy equation

The numbers in parentheses are the number of specimens in each age

Length class (mm)	<i>n</i>	Age (years)			
		0 (889)	1 (10)	2 (4)	3 (2)
360	31	100	0	0	0
400	135	100	0	0	0
440	260	100	0	0	0
480	258	100	0	0	0
520	144	100		0	0
560	54	100	0	0	0
600	7	100	0	0	0
640	2	0	100	0	0
680	4	0	100	0	0
720	2	0	100	0	0
760	5	0	40	60	0
800	1	0	0	100	0
840	0	0	0	0	0
880	2	0	0	0	100

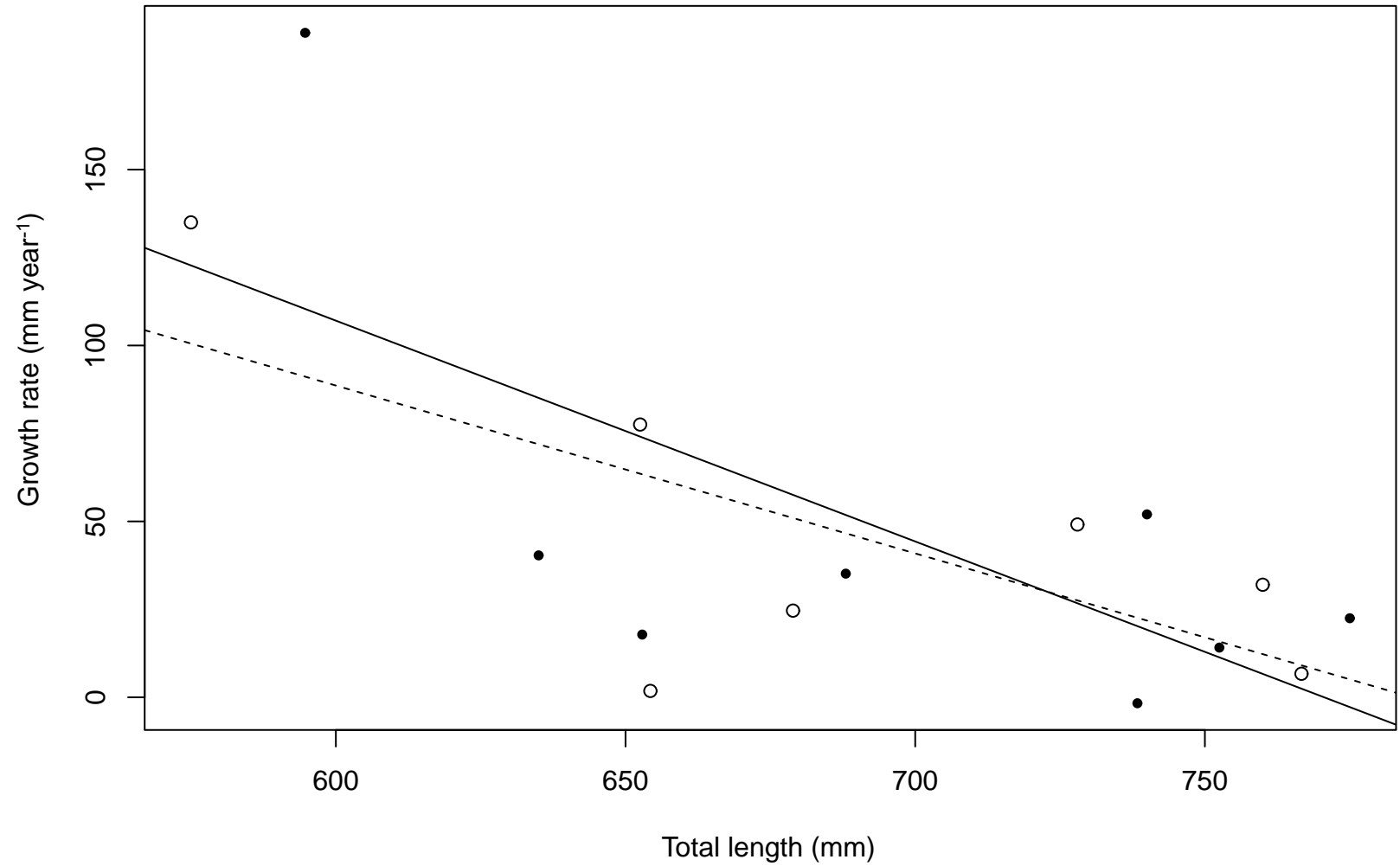


Fig. S1. Relationship between growth rate (mm year⁻¹) and total length (mm) of *Rhizoprionodon lalandii* in 1996–2003 (black dots, solid line) and 2012–2013 (white dots, dotted line).