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SUPPLEMENTARY ONLINE MATERIAL FOR

New specimen of the rare requiem shark *Eogaleus bolcensis* from the Bolca Lagerstätte, Italy

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Supplementary Online Material

SOM 1. Table 1. Measurements of *Galeorhinus cuvieri* and *Eogaleus bolcensis*.
Table 2. Age estimates of Bolca specimens according to growth parameters of different extant populations of carcharhiniforms.

SOM 2. Measurements of preserved teeth of MSNPV 24625 available at http://app.pan.pl/SOM/app65-LaroccaConte_etal_SOM/SOM_2.xlsx

SOM 3. Counts and antero-posterior length of centra of Bolca carcharhiniforms assemblage available at http://app.pan.pl/SOM/app65-LaroccaConte_etal_SOM/SOM_3.xlsx

References

SOM 1. Table 1. Measurements (in mm) of *Galeorhinus cuvieri* and *Eogaleus bolcensis*. %TL = (X/TL) * 100; where %TL, percentage of the total length; X, length of the body segment. ID, morphometric measurement (see Fig. 1A for explanations). "+x" refers to the missing body fragment of the incomplete specimens.

	Galeorhinus cuvieri										***Eogaleus bolcensis***			
ID	**MGP-PD 8871-8872**		**MCSNV T1124**		**MCSNV VIIB96-VIIB97**		**MGGC 1976**		**MNHN FBol516**		**MGP-PD 8869 C-8870 C**		**MCSNV T311**	
	cm	**%TL**	**cm**	**%TL**	**cm**	**%TL**	**cm**	**%TL**	**cm**	**%TL**	**cm**	**%TL**	**cm**	**%TL**
1	69.4	1	92	1	83+x	-	92	1	67+x	-	135	1	-	-
2	13.9	20.03	16	17.39	18	-	14.6	15.89	15.5+x	-	23	17.04	-	-
3	35.5	51.15	46	50	42	-	48.3	52.48	37	-	73	54.07	85.7	-
4	20	28.82	30	32.61	23+x	-	28.9	31.41	14.5+x	-	39	28.89	-	-
5	16	23.05	22	23.91	-	-	24.5	26.61	-	-	41	30.37	-	-
6	37	53.31	52	56.52	46	-	50	54.33	-	-	84.5	62.59	-	-
7	29.5	42.51	41	44.57	-	-	40.1	43.61	-	-	-	-	-	-
8	37.5	54.03	51	55.43	47	-	51	55.43	-	-	-	-	-	-
9	49.4	71.18	62	67.39	60	-	62.9	68.37	-	-	105	77.78	-	-
10	10.2	14.7	13	14.13	-	-	11.9	12.93	-	-	-	-	-	-
11	3.5	5.04	4	4.35	3.2	-	3.4	3.7	-	-	6	4.44	-	-
12a	6	8.65	10	10.87	-	-	10	10.87	-	-	14	10.37	-	-
12b	8.2	11.82	14	15.22	-	-	13	14.13	-	-	19	14.07	-	-
12c	8	11.53	5	5.43	-	-	7.8	8.48	-	-	8.5	6.3	-	-
13a	4	5.76	5	5.43	-	-	6.4	6.96	-	-	6	4.44	-	-
13b	7.8	11.24	6	6.52	-	-	8.6	9.35	-	-	11	8.15	-	-
13c	5.8	8.36	4	4.35	-	-	4.2	4.57	-	-	8	5.93	-	-
14a	4	5.76	5	5.43	6.5	-	8.2	8.87	7.8	-	10	7.41	11	-
14b	8.6	12.39	10	10.87	15	-	14.3	15.52	14.5	-	19	14.07	17.4	-
14c	6.6	9.51	10	10.87	11.5	-	11.9	12.93	8.5	-	15.5	11.48	12.2	-
15a	4.2	6.05	5.8	6.3	-	-	4.2	6.52	-	-	-	-	-	-
15b	4.5	6.48	4.7	5.11	-	-	5.1	5.54	-	-	-	-	-	-
15c	1.2	1.73	3.5	3.8	-	-	2.0	3.8	-	-	-	-	-	-
16a	4.6	6.63	5	5.43	5	-	4.1	4.43	-	-	-	-	-	-
16b	5.2	7.49	7	7.61	7	-	4.4	4.8	-	-	-	-	-	-
16c	1.8	2.59	2.5	2.72	4	-	1.7	1.85	-	-	-	-	-	-
17	15	21.61	18	19.57	-	-	17.3	18.8	-	-	31.6	23.41	-	-
18	4.5	6.48	5.5	5.98	6.7	-	5.3	5.76	-	-	9	6.67	-	-
19	13.5	19.45	19	20.65	-	-	16.2	17.61	-	-	-	-	-	-
20	3.5	5.04	4.2	4.57	-	-	5.1	5.54	-	-	-	-	-	-
21	4.3	6.2	5	5.43	4	-	7.1	7.72	-	-	-	-	-	-
22	6.5	9.37	9	9.78	-	-	7	7.61	-	-	6.5	4.81	-	-
23	11.3	16.28	16	17.39	11.8	-	15.9	17.28	-	-	24	17.78	-	-

SOM 1. Table 2. Age estimates of Bolca specimens according to growth parameters of different extant populations of carcharhiniforms ($t = [(1/k)*\ln(L\infty/(L\infty-Lt)]+t0$; "t" = age of the individual, "k" = growth coefficient, "L∞" = averaged maximum total length for the population, "Lt" = the length of the individual at the age "t", "t0" = hypothetical age computed from the growth curve when the total length equals zero). Estimates are performed by using Total length or Head-Caudal fin length ("°") as Lt (Bertalanffy 1938). Unrealistic age estimates include both un-calculable and unreliable data (estimates followed by "+" or preceded by the "-" symbol, respectively). The latter includes the comparison between performed estimates and age of maturity of the considered extant taxon. Numbers in brackets and numbers followed by the symbol "+" in the "Age at maturity" column refer to the estimated age at which a population reaches sexual maturity according to references therein. Abbreviations: C, combined sex; F, female; M, male.

Taxon (geographical area of the extant shark populations used as reference)						*Eogaleus bolcensis*			*Galeorhinus cuvieri*					R^2 (Logarithmic trend)	References
	S	k	L∞	t0	Age at maturity	MSNPV 24625-24626	MGP-PD 8869C-8870C	MCSNV T.311	MCSNV VII.B.96-VII.B.97	MGGC 1976	MCSNV T.1124	MNHN F.Bol.516	MGP-PD 8871 - 8872		
Galeorhinus galeus															
Galeorhinus galeus (New Zealand)	F	0.086	179.2	-2.68	13–15	34.86	13.6	19.2	5.3	5.7	5.7	3.35	3.02	0.99	Francis and Mulligan 1998
	C	0.086	180.4	-2.48	(12)–(17)	33.32	13.56	19.02	5.43	5.81	5.81	3.50	3.17	0.99	
Galeorhinus galeus (Southern Australia)	C	0.084	215.8	-0.9	?	18.11	10.79	13.61	5.43	5.72	5.72	4.0	3.72	1	Moulton et al. 1992
	C	0.144	173.7	-0.92	?	31.63	9.51	13.52	4.07	4.32	4.32	2.83	2.62	0.98	
	C	0.124	182.9	-1.29	?	21.53	9.52	13.05	4.09	4.35	4.35	2.78	2.56	1	
Galeorhinus galeus (New Zealand, Southern Australia)	M	0.1675	158.33	-1.2545	8+	30+	10.18	30+	3.68	3.94	3.94	2.40	2.19	–	Olsen 1984
	F	0.16	161.83	-1.2818	10+	30+	9.95	30+	3.71	3.97	3.97	2.43	2.22	–	
	C	0.1639	160.04	-1.2669	8–10+	30+	10.05	30+	3.69	3.95	3.95	2.41	2.2	–	
Triakidae															
Mustelus californicus (North-East Pacific)	M	0.35	101.8	-1.002	(1)–(2)	9+	9+	9+	4.92	5.69	5.69	2.56	2.27	–	Yudin and Caillet 1990
	F	0.218	142.4	-1.032	(2)–(3)	13+	12.53	13+	3.47	3.73	3.73	2.23	2.03	–	
	C	0.168	154.4	-1.271	(1)–(3)	12+	11.08	12+	3.84	4.12	4.12	2.50	2.28	–	
Mustelus lenticulatus (New Zealand)	M	0.11	161.1	-1.91	5	15+	14.64	15+	5.4	5.79	5.79	3.53	3.21	–	Francis and Francis 1992
	C	0.1	176.9	-2.12	(3)–(5)	33.95	12.28	17.5	4.87	5.22	5.22	3.2	2.86	0.99	
Mustelus antarticus (Southern Australia)	M	0.16	155.9	-1.94	?	16+	10.62	16+	3.35	3.63	3.63	1.97	1.74	–	Moulton et al. 1992
	F	0.094	223.6	-2.05	?	13.57	7.8	10.06	3.35	3.59	3.59	2.12	1.9	1	
Mustelus mustelus (Southern Africa coasts)	M	0.12	145.1	-2.14	(6)–(9)	21+	20.07	21+	5.78	6.24	6.24	3.63	3.28	–	Goosen and Smale 1997
	F	0.06	204.96	-3.55	(12)–(15)	26.96	14.36	19.00	5.94	6.38	6.38	3.73	3.34	0.99	
	C	0.06	198.94	-3.82	(6)–(15)	29.57	15.1	20.25	6.06	6.53	6.53	3.73	3.33	0.99	
Triakis semifasciata (North-East Pacific)	M	0.089	149.9	-2.03	7+	24+	23.91	24+	8.09	8.66	8.66	5.40	4.96	–	Kusher et al. 1992
	F	0.073	153.6	-2.74	10+	24+	26.18	24+	9.12	9.78	9.78	6.01	5.5	–	
	C	0.082	160.2	-2.31	7–10+	24+	20.25	24+	7.58	8.1	8.1	5.04	4.61	–	
Triakis semifasciata (North-East Pacific)	M	0.089	157.7	-1.06	7+	24+	20.72	24+	8.28	8.78	8.78	5.86	5.46	–	Kusher 1987
	F	0.134	144.9	0.325	10+	24+	20.37	24+	7.45	7.86	7.86	5.52	5.21	–	
	C	0.0717	172.4	-2.302	8–10+	86.31	19.01	27.46	7.83	8.34	8.34	5.31	4.88	0.96	

Non-triakid carcharhiniforms															
Isogomphodon oxyrhynchus (South West Atlantic)	C	0.121	171.4	-2.612	M: 5–6 F: 6–7	30+	10.19	15.39	3.44	3.75	3.75	1.93	1.68	–	Lessa et al. 2000
Prionace glauca (North Atlantic Ocean)	F	0.13	371.2	1.77	2+	6.56	5.25	5.86	3.88	3.96	5.82	3.44	3.36	1	Skomal and Natanson 2002
Rhizoprionodon porosus (South West Atlantic)	C	0.17	112.9	-1.75	3.3	9+	9+	9+	7.38	8.17	8.17	4.3	3.86	–	Lessa et al. 2009
Sphyrna tiburo (Gulf of Mexico)	F	0.34	115	-1.1	2.2	6+	6+	6+	3.27	3.63	3.63	1.83	1.62	–	Parsons 1993
	F	0.37	103.3	-0.6	2.3	6+	6+	6+	4.74	5.38	5.38	2.67	2.41	–	
Unrealistic age estimates															
Carcharhinus longimanus (South West Atlantic)	C	0.099	284.9	-3.4	7	5.96	3.09	4.3	0.38	0.54	0.54	-0.43	-0.58	–	Lessa et al. 1999
Carcharhinus brevipinna (East China Sea)	M	0.2	319	-0.44	7.9	3.7	1.95	2.69	0.38	0.47	0.47	-0.08	-0.16	–	Joung et al. 2005
	F	0.203	257.4	-1.709	7.8	4.0	2.2	2.98	0.46	0.56	0.56	-0.07	-0.16	–	
Sphyrna zygaena (E Atlantic Ocean)	C	0.06	315.45	-8.3	?	4.85	1.01	2.66	-2.78	-2.55	-2.55	-3.95	-4.16	–	Coelho et al. 2011
Galeus sauteri (East China Sea)	M	0.036	118.8	-0.307	9+	–	–	–	–	–	–	–	56.56	–	Liu et al. 2011
	F	0.046	101.6	-0.527	7+	–	–	–	–	–	–	–	57.47	–	
Galeocerdo cuvier (Southern Africa coasts°)	C	0.202	301	-1.11	M: 8 F: 11	1.49	1.01	1.36	-0.01	0.05	0.03	-0.07	-0.22	–	Wintner and Dudley 2000
Rhizoprionodon lalandii (South West Atlantic)	C	0.057	317.65	-2.302	2.6	–	–	–	–	–	–	7.32	5.86	–	Lessa et al. 2009
Sphyrna tiburo (Gulf of Mexico)	M	0.58	88.8	-0.77	2	–	–	–	–	–	–	2.15	1.85	–	Parsons 1993
	M	0.5	81.5	-0.64	2	–	–	–	–	–	–	3.77	3.17	–	
Carcharhinus leucas (Gulf of Mexico)	C	0.1397	256.4	-1.935	(9)–(10)	6.03	3.42	4.57	1.12	1.25	4.50	0.44	0.32	0.92	Cruz-Martinez et al. 2004
Negaprion brevirostris (Gulf of Mexico°)	C	0.151	288.2	-1.988	M: 11.6 F: 12.7	6.29	4.74	5.87	1.37	1.57	1.51	1.18	0.66	0.96	Brown and Gruber 1988
Sphyrna lewini (N Atlantic Ocean, Gulf of Mexico°)	M	0.13	278.9	-1.63	<15	5.75	3.46	4.43	1.33	1.45	1.45	0.7	0.57	0.96	Piercy et al. 2007

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