Rich and underreported: First integrated assessment of the diversity of mesopelagic fishes in the southwestern Tropical Atlantic

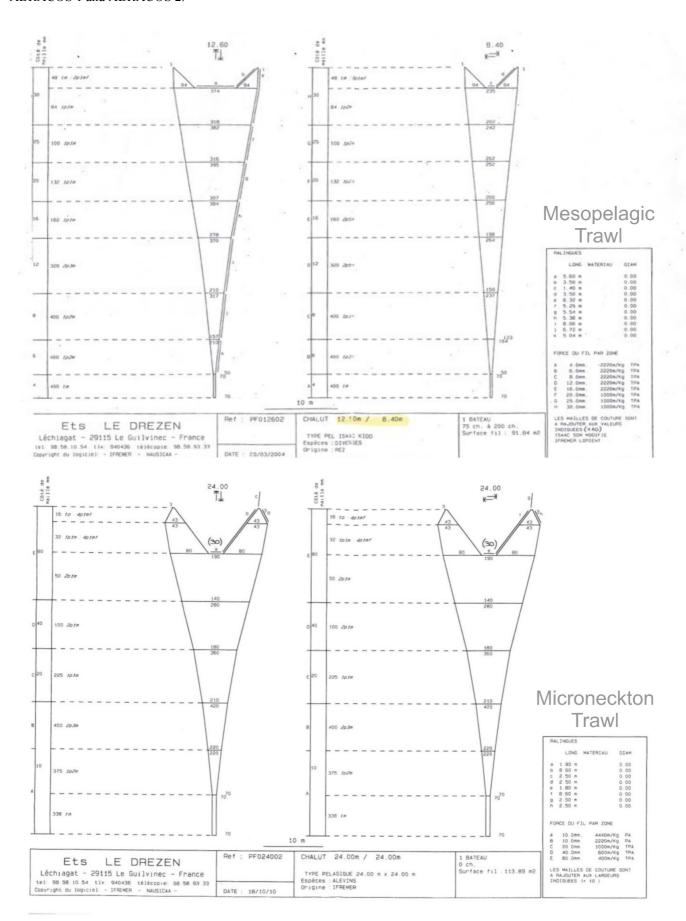
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Supplementary Material 1. List of midwater trawls performed during the ABRACOS 1 (AB1) and ABRACOS 2 (AB2) expeditions. FNR: Fernando de Noronha Ridge. RN: Rio Grande do Norte, PB: Paraíba, PE: Pernambuco, and AL: Alagoas.

Station	Site	Period	Latitude	Longitude	Depth	Station	Site	Period	Latitude	Longitude	Depth
AB1#1	FNR	Night	-3.772	-32.422	150	AB2#22	PB	Night	-6.888	-34.762	10
AB1#2	FNR	Day	-3.661	-32.218	110	AB2#26	RN	Day	-5.819	-34.813	100
AB1#3	FNR	Night	-3.640	-31.971	60	AB2#28	RN	Night	-5.617	-34.785	130
AB1#4	FNR	Day	-3.908	-32.340	90	AB2#31	RN	Day	-4.976	-34.951	450
AB1#5	FNR	Night	-4.090	-32.180	85	AB2#35	RN	Night	-4.327	-35.497	630
AB1#6	FNR	Day	-4.243	-32.613	85	AB2#39	FNR	Night	-4.874	-34.059	800
AB1#7	FNR	Night	-3.960	-32.532	58	AB2#40A	FNR	Day	-3.523	-32.528	440
AB1#8	FNR	Day	-3.736	-32.895	100	AB2#40B	FNR	Day	-3.520	-32.530	230
AB1#9	FNR	Night	-3.471	-32.759	105	AB2#41A	FNR	Night	-3.333	-32.412	430
AB1#11	FNR	Day	-3.750	-33.230	40	AB2#41B	FNR	Night	-3.321	-32.428	25
AB1#12	FNR	Night	-3.939	-33.511	130	AB2#42A	FNR	Day	-3.258	-31.808	780
AB1#13	FNR	Day	-3.917	-33.848	110	AB2#42B	FNR	Day	-3.262	-31.817	50
AB1#14	FNR	Night	-3.983	-34.056	510	AB2#44A	FNR	Day	-3.881	-32.293	850
AB1#15	FNR	Day	-3.734	-34.000	537	AB2#44B	FNR	Day	-3.872	-32.300	130
AB1#20	FNR	Night	-3.761	-33.880	60	AB2#45A	FNR	Night	-4.237	-32.035	30
AB1#21	FNR	Day	-3.657	-33.692	100	AB2#45B	FNR	Night	-4.239	-32.021	50
AB1#22	FNR	Night	-4.129	-33.790	525	AB2#46A	FNR	Day	-4.142	-32.304	360
AB1#23	RN	Day	-5.144	-34.713	100	AB2#46B	FNR	Day	-4.175	-32.268	440
AB1#26	RN	Day	-6.154	-34.576	560	AB2#48A	FNR	Day	-4.418	-32.964	505
AB1#27	RN	Night	-6.309	-34.979	100	AB2#48B	FNR	Day	-4.440	-32.938	70
AB1#29	PB	Day	-6.621	-34.760	15	AB2#49A	FNR	Night	-4.177	-33.269	1020
AB1#31	PB	Night	-6.734	-34.440	50	AB2#49B	FNR	Night	-4.176	-33.259	90
AB1#34	PB	Night	-7.190	-34.266	100	AB2#50A	FNR	Day	-3.817	-32.599	615
AB1#35	PB	Day	-7.486	-34.425	250	AB2#50B	FNR	Day	-3.812	-32.640	115
AB1#36	PE	Night	-7.602	-34.338	60	AB2#50C	FNR	Day	-3.836	-32.623	58
AB1#37	PE	Day	-7.867	-34.495	25	AB2#52A	FNR	Day	-3.721	-33.419	984
AB1#41	PE	Day	-8.274	-34.680	30	AB2#52B	FNR	Day	-3.699	-33.391	385
AB1#43	PE	Night	-8.415	-34.844	12	AB2#53A	FNR	Night	-3.816	-33.988	610
AB1#52	AL	Day	-9.066	-34.801	570	AB2#53B	FNR	Night	-3.830	-33.962	65
AB1#25	RN	Night	-5.803	-34.951	75	AB2#54A	FNR	Day	-3.771	-34.727	95
AB2#2	PE	Night	-8.857	-34.728	60	AB2#54B	FNR	Day	-3.755	-34.684	1030
AB2#5	AL	Night	-9.182	-34.758	117	AB2#56A	FNR	Day	-3.934	-35.421	110
AB2#6	PE	Day	-8.873	-34.599	240	AB2#56B	FNR	Day	-3.962	-35.406	260
AB2#7	PE	Day	-8.774	-34.742	112	AB2#58A	FNR	Day	-3.948	-36.104	520
AB2#8	PE	Day	-8.758	-34.785	17	AB2#58B	FNR	Day	-3.949	-36.155	90
AB2#9	PE	Night	-8.708	-34.745	95	AB2#58C	FNR	Day	-3.954	-36.183	90
AB2#10	PE	Night	-8.659	-34.761	15	AB2#59A	FNR	Night	-3.634	-36.053	1113
AB2#13	PE	Day	-8.317	-34.428	445	AB2#59B	FNR	Night	-3.643	-36.038	110
AB2#16	PE	Night	-7.604	-33.993	680	AB2#60A	FNR	Day	-3.531	-36.385	449
AB2#21	PB	Day	-6.841	-34.306	800	AB2#60B	FNR	Day	-3.529	-36.356	700

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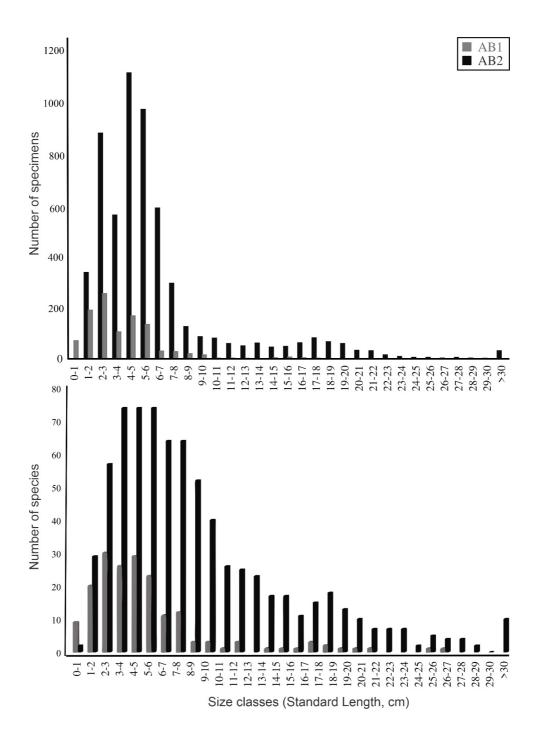
Supplementary Material 2. Detailed design of the mesopelagic and micronekton trawls utilized in the campaigns ABRACOS 1 and ABRACOS 2.



Supplementary Material 3. Mesopelagic fishes that could not be identified at species level due to their poor condition and/or extremely small size. Survey (1: ABRACOS 1; 2: ABRACOS 2), number of specimens (N), frequency of occurrence to overall samples (FO%) standard length (mean and range), total wet weight (mean and range), locality (PE: Pernambuco; PB: Paraíba; RN: Rio Grande do Norte; FNR: Fernando de Noronha Ridge), depth range, temperature range (T°C).

ACMULLIFLORMES Nemeththydae Power Powe	(m) T (°C)	Depth (m)	Locality	TW (g)	SL (mm)	FO%	N	Survey	Species
Nemichilyidae pa									ANGUILLIFORMES
Nemichity/dae sp. 1-2 7									
MacREMTINIFORMES Buthylagidae September Septem	00 4.7–26.6	40-800	FNR-PE	5.4(2.4-9.3)	286(200-480)	6.1	7	1-2	
ARGINTIFIFORMES Bathylagidae Ba									Serrivomeridae
Bathylagidae Sathylagidae Sath	00 4.3–25.8	70-900	FNR	0.5	236	2.4	2	2	
Bathylagidae sp. 2 5 3.7 79(63-98) 3.3(1.2-4.7) FNR 430-800 STOMITIORMIS Gonostomatidae (Comostoma sp. 1-2 9 7.3 89(22-198) 8.5(0.3-29.5) FNR-PP-PE 50-1000 Gonostomatidae (Comostoma sp. 1-2 9 7.3 89(22-198) 8.5(0.3-29.5) FNR-PP-PE 50-1000 Gonostomatidae (Comostoma sp. 1-2 9 7.3 89(22-198) 8.5(0.3-29.5) FNR-PP-PE 50-1000 Gonostomatidae (Comostoma sp. 1-2 9 7.3 89(22-198) 8.5(0.3-29.5) FNR-PP-PE 50-1000 Gonostomatidae (Comostoma sp. 1-2 12 12 12 12 12 12 12 12 12 12 12 12 12									
STOMITION STOME ST								_	, ,
Gonostomatidae sp. 2 9 7.3 89(22-198) 8.5(0.3-29.5) FNR-PB-PE 50-1000 Gonostomatidae sp. 2 3 2.4 27 1 FNR 720-780 Sternophycidae Sternophycidae Total Sternophycidae T	00 4.6–8.54	430–800	FNR	3.3(1.2–4.7)	79(63–98)	3.7	5	2	
Gonostomas p. 1-2 9 7.3 89(22-198) 8.5(03-29.5) FNR-PB-PE 50-1000 Conostomatidae sp. 2 3 24 27 1 1 FNR 720-780 Stemoptychides Stemopty sp. 2 72 1.2 25(14-34) 1.6(0.4-4.8) FNR 110 Phosichhyidae sp. 2 5 3.7 57 - FNR 720-800 Stomatidae sp. 1-2 2 2 171 85(32-151) 6.3(1.0-19.5) FNR-PB-PE 60-1000 Astronesities sp. 1-2 8 7.3 51(26-76) 1.8(0.3-3) FNR-PB-PE 60-1000 Astronesities sp. 1-2 8 7.3 51(26-76) 1.8(0.3-3) FNR-PB-PE 60-1000 Astronesities sp. 1-2 1 1.34 816 1.34 3.35 - PNR-PB-PE 60-1000 Astronesities sp. 1-2 1 1.34 816 1.34 3.35 - PNR-PB-PE 60-1000 Astronesities sp. 1-2 1 1.34 816 1.34 3.35 - PNR-PB-PE 60-1000 Astronesities sp. 1-2 1 1.34 816 1.34 3.35 - PNR-PB-PE 60-1000 Astronesities sp. 1-2 1 1.34 816 1.34 3.35 - PNR-PB-PE 80-900 British sp. 1-2 1 1.2 1.34 816 1.34 3.35 - PNR-PB-PE 80-900 British sp. 1-2 1 1.2 1.34 816 1.34 3.35 - PNR-PB-PE 80-900 British sp. 1-2 1 1.2 1.34 1.2 1.2 107 3.3 FNR-PB-PE 80-800 British sp. 1-2 1 1.2 107 3.3 FNR-PB-PE 80-800 British sp. 1-2 1 1.2 107 3.3 FNR-PB-PE 80-800 British sp. 1-2 1 1.2 107 3.3 FNR-PB-PE 80-800 British sp. 1-2 1 1.2 107 3.3 FNR-PB-PE 80-800 British sp. 1-2 1 1.2 107 3.3 FNR-PB-PE 80-800 British sp. 1-2 1 1.2 107 3.3 FNR-PB-PE 80-800 British sp. 1-2 1 1.2 107 3.3 FNR-PB-PE 80-800 British sp. 1-2 1 1.2 107 3.3 FNR-PB-PE 80-800 British sp. 1-2 1 1.2 107 5 2.8 FNR-PB-PE 80-800 British sp. 1-2 1 1.2 107 5 2.8 FNR-PB-PE 80-800 British sp. 1-2 1 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2 1.2									
Gonostomatidae sp. 2 3 2 4 27 1 FNR 720-780 Sternoptyckide Sternoptyck sp. Proscichtlydde Phoscichtlydde Proscient Sternoptyck sp. 2 5 3.7 57 - FNR 720-800 Stomidae Aristostomias sp. 1-2 22 17.1 85(32-15) FNR-PB-PE 60-1000 Astronesities sp. 1-2 8 7.3 51(26-76) 1.8(0.5-3) FNR-PB-PE 60-1000 Astronesities sp. 1-2 12 13.4 84(63-134) 3.6(0.6-79) FNR-PB-PE 60-1000 Astronesities sp. 1-2 12 13.4 84(63-134) 3.6(0.6-79) FNR-PB-PE 60-1000 Astronesities sp. 1-2 12 13.4 84(63-134) 3.6(0.6-79) FNR-PB-PE 60-1000 Astronesities sp. 1-2 12 13.4 84(63-134) 3.6(0.6-79) FNR-PB-PE 60-1000 Astronesities sp. 1-2 12 13.4 84(63-134) 3.6(0.6-79) FNR-PB-PE 60-1000 Astronesities sp. 1-2 12 13.4 84(63-134) 3.6(0.6-79) FNR-PB-PE 60-1000 Astronesities sp. 1-2 12 13.4 84(63-134) 3.6(0.6-79) FNR-PB-PE 60-1000 Astronesities sp. 1-2 3 2.4 126(30-176) 12.1(30-13-18) PB-PE 60-1000 Astronesities sp. 1-2 3 2.4 126(30-176) 12.1(30-13-18) PB-PE 60-1000 Astronesities sp. 1-2 3 2.4 126(30-176) 12.1(30-13-18) PB-PE 70-680 Photonecies sp. 2 1 1 12 107 3.3 FNR 780 Oxtomation sp. 1-2 3 3.24 126(30-176) 12.1(30-13-18) PB-PE 70-680 Photonecies sp. 2 1 1 12 107 3.3 FNR 780 Oxtomation sp. 1-2 12 107 3.3 FNR 780 Oxtomation sp. 1-2 12 12 12 12 12 12 12 12 12 12 12 12 12	00 4.3–27.6	50 1000	END DD DE	9.5(0.2.20.5)	90(22, 109)	7.2	0	1.2	
Sternoptychidale Sternopty sp. 2 72 12 25(14-34) 1.6(0.4-4.8) FNR 110 Phosichhyidae Phos				,					
Secretary Sec	30 4.0-4.9	720-780	FINK	1	21	2.4	3	2	
Phosichtly/idea p. 2 5 3.7 57 - FNR 720-800 Stomidae Aristostomias sp. 1-2 87 7.3 51(26-76) 18(05-3) FNR-PB-PE 60-1000 Astronesthes sp. 1-2 8 7.3 51(26-76) 18(05-3) FNR-PB-PE 60-1000 Astronesthes sp. 1-2 8 7.3 51(26-76) 18(05-3) FNR-PB-PE 60-1000 Astronesthes sp. 1-2 8 7.3 51(26-76) 18(05-3) FNR-PB-PB 50-900 Batophilus sp. 1-2 12 13.4 84(63-134) 3.6(0.6-79) FNR-PB-PE 65-1000 Leptostomias sp. 1-2 3 2.4 10(67-165) 3.2(09-5.3) FNR 90-430 Melanostomias sp. 1-2 3 2.4 10(67-165) 3.2(09-5.3) FNR 90-430 Melanostomias sp. 1-2 3 2.4 10(67-165) 3.2(09-5.3) FNR 90-430 Melanostomias sp. 1-2 3 2.4 10(67-165) 12.1(0.3-18.7) PB-PE 50-680 Photometers sp. 2 2 1 1.2 107 3.3 FNR 610 ALICOPIFORMES Notional sp. 2 1 1.2 107 3.3 FNR 610 ALICOPIFORMES Notional sp. 2 1 1.2 107 3.3 FNR 610 ALICOPIFORMES Notional sp. 2 1 1.2 75 2.8 FNR 610 Scopelarchide sp. 2 1 1.2 776 4.3 FNR 900 Paralepididae Sp. 2 1 1.2 277 - FNR 780 Scopelarchidae sp. 2 1 1.2 277 - FNR 780 Scopelarchidae sp. 2 1 1.2 277 - FNR 780 Scopelarchidae sp. 2 1 1.2 277 - FNR 780 Scopelarchidae sp. 2 1 1.2 277 - FNR 780 Scopelarchidae sp. 2 1 1.2 277 - FNR 780 Scopelarchidae sp. 2 1 1.2 277 - FNR 780 Scopelarchidae sp. 2 1 1.2 277 - FNR 780 Scopelarchidae sp. 2 1 1.2 135 4.7 FNR 800 MYCTOPHIFORMES Myctophidae Molinchirys sp. 2 2 1 1.2 23 10.3 FNR 800 MYCTOPHIFORMES Myctophidae Molinchirys sp. 1-2 266 20.7 32(10-83) 20(0.1-9.3) FNR-PB-PF-RN 600-900 Lamponycius sp. 1-2 76 20.7 32(10-83) 20(0.1-9.3) FNR-PB-PF-RN 191-780 Lamponycius sp. 1-2 76 20.7 32(10-83) 20(0.1-9.3) FNR-PB-PF-RN 25-1000 Myctophidae sp. 1-2 138 35.4 40(14-135) 3.0(0.1-25.3) FNR-PB-PF-RN 25-1000 BERYCIFORMES Macouridae Macouridae sp. 2 2 3 3.7 25(20-32) 2.7(19-3.4) FNR-PB-PF-RN 25-1000 BERYCIFORMES Brainidae Brain sp. 1-1 11 8.5 11(08-15) 1.5(0.3-9) FNR-PB-PF-RN 25-1000 BERYCIFORMES Brainidae Brain sp. 1 1 11 8.5 11(08-15) 1.5(0.3-9) FNR-PB-PF-RN 450-70 FNR-PB-PF-RN 450-7	24.1	110	FNR	1 6(0 4–4 8)	25(14-34)	1.2	72	2	
Phosichthyidae sp. 2 5 3.7 57 — FNR 720-800 Stomiidae Aristostomias sp. 1-2 22 17.1 85(32-151) 6.3(1.0-19.5) FNR-PB-PE 60-1000 Astronactives sp. 1-2 8 7.3 51(26-76) 11.8(0.5-3) FNR-PB FE 60-1000 Batophilus sp. 2 1 1 1.2 16 3.5 FNR 385 Ekistomias sp. 1-2 12 13.4 84(3-134) 3.6(0.6-7.9) FNR-PB FE 65-1000 Leptostomias sp. 1-2 12 13.4 84(3-134) 3.6(0.6-7.9) FNR-PB-PE 65-1000 Leptostomias sp. 1-2 3 2.4 109(67-165) 3.2(0.9-5.3) FNR 90-430 Melanostomias sp. 1-2 3 2.4 12(0.9-18.7) BP-PE 50-680 Photometers sp. 2 2 2 1.2 33(28-37) 0.04(0.04-0.05) FNR 780 Stomias sp. 2 1 1.2 107 3.3 FNR 610 AULOPIFORMES Notestaddae Scopelascuture sp. 2 3 4.9 34(33-35) 0.9(0.6-1.3) FNR 100-800 Scopelascuture sp. 2 1 1.2 75 2.8 FNR 610 Scopelarchidae Scopelarch	2	110	11111	1.0(0.1 1.0)	25(1.5.)	1.2	, _	-	
Stomidae	00 4.7–4.9	720-800	FNR	_	57	3.7	5	2	
Arsinassomias sp. 1-2 22 17.1 85(32-151) 63(10-19.5) FNR.PB-PE 60-1000 Astronosthes sp. 1-2 8 7,3 51(26-76) 1.8(05-3) FNR.PB-PE 50-900 Batophilus sp. 2 1 12 12 134 84(63-134) 3.5(06-79) FNR.PB-PE 65-1000 Leptostomias sp. 1-2 12 134 84(63-134) 3.6(06-79) FNR.PB-PE 65-1000 Leptostomias sp. 1-2 3 24 109(67-165) 3.2(09-5.3) FNR 90-430 Melanostomias sp. 1-2 3 24 12(630-176) 12.1(03-18.7) PB-PE 50-680 Photonectes sp. 2 2 1 12 33(28-37) 0.04(0.04-0.05) FNR 780 FNR 610 SIGMANS sp. 2 1 12 12 107 3.3 FNR 610 AULOPHORMES Notosudiabe Scopelarchide sp. 2 1 12 12 707 3.3 FNR 610 Scopelarchide sp. 2 1 12 2 75 2.8 FNR 610 PARAPENTA Sp. 2 1 12 2 75 2.8 FNR 780 FN									
Batophilus sp. 2 1 1 12 16 35 FNR 385 Eustomias sp. 1-2 12 134 84(63-134) 3,606-79 FNR-PB-PE 65-1000 Leptostomias sp. 2 3 2.4 109(67-165) 3,2(09-53) FNR 9-B-PE 65-1000 Leptostomias sp. 1-2 33 2.4 109(67-165) 3,2(09-53) FNR 9-B-PE 50-680 Photonectes sp. 2 2 2 12 33(28-37) 0,04(0,04-0.05) FNR 7-B-PE 7-B 7-80 Photonectes sp. 2 12 12 30(38-37) 0,04(0,04-0.05) FNR 7-B-PE 7-B 7-80 Somiats sp. 2 1 12 107 3.3 FNR 610 AULOPIFORMES Notised that the standard sp. 2 1 12 107 3.3 FNR 100-800 Scopelarchias sp. 2 1 1 12 75 2.8 FNR 610 Scopelarchias sp. 2 1 1 12 75 PNR 7-B-PE 7-B 7-B-PE 7-B-PE 7-B 7-B-PE 7-B-PE 7-B 7-B-PE 7-B-PE 7-B 7-B-PE 7-B-PE 7-B 7-B-PE 7-B-PE 7-B 7-B-PE 7-B-PE 7-B 7-	00 4.3–26.6	60-1000	FNR-PB-PE	6.3(1.0-19.5)	85(32-151)	17.1	22	1-2	
Eustomias sp. 1-2 12 13.4 84(63-134) 3.0(06-79) FNR-Ph-PE 65-1000 Leptostomias sp. 1-2 3 2.4 10(967-165) 3.2(0.9-5.3) FNR 90-430 Melanostomias sp. 1-2 3 2.4 12(30-176) 12.1(0.3-18.7) Ph-PE 50-680 Photomeces sp. 2 2 1.2 33(28-37) 0.04(0.04-0.05) FNR 780 Stomias sp. 2 1 1.2 107 3.3 FNR 610 Melanostomias sp. 2 3 4.9 34(33-35) 0.9(0.6-1.3) FNR 100-800 Scopelarchiades sp. 2 1 1.2 75 2.8 FNR 610 Melanostomias sp. 2 1 1.2 75 2.8 FNR 610 Melanostomias sp. 2 1 1.2 76 4.3 FNR 900 Paralepididae FNR 780	00 4.3–26.5	50-900	FNR-PB	1.8(0.5-3)	51(26-76)	7.3	8	1-2	Astronesthes sp.
Legiostomias sp. 2 3 2.4 109(67-165) 3.2(0-5.3) FNR 90-430 Melanostomias sp. 1-2 3 2.4 126(30-176) 12.1(03-18.7) PB-PE 50-680 Photomectes sp. 2 2 1 2 33(28-37) 0.04(0.04-0.05) FNR 780 FNR 780 FNR 780 FNR									Batophilus sp.
Melanostomias sp. 1-2 3 2.4 126(30-176) 12.1(0.3-18.7) PB-PE 50-680 Photomocetes sp. 2 2 2 12 33(28-37) 0.04(0.04-0.05) FNR 780 Somias sp. 2 1 1.2 107 3.3 FNR 610 AULOPIFORMES Notosuidade Socpelostarius sp. 2 3 4.9 34(33-35) 0.9(0.6-1.3) FNR 100-800 Socpelarchiades sp. 2 1 1.2 75 2.8 FNR 610 AULOPIFORMES Socpelarchiades sp. 2 1 1.2 75 2.8 FNR 780 Socpelarchiades sp. 2 1 1.2 76 4.3 FNR 900 Paralephidae FNR				· /	,				Eustomias sp.
Photonectes sp. 2									
Stomics sp. 2									
Notes Note									
Notosudidae Scopelosaurus sp. 2 3 4.9 34(33-35) 0.9(0.6-1.3) FNR 100-800 Scopelarchidae	5.6	610	FNR	3.3	107	1.2	1	2	
Scopelarchidae Scop									
Scopelarchidae Schopelarchoides Schopelarchoides Schopelarchoides Schopelarchoides Schopelarchoides Schopelarchoides Scopelarchidae Scopelarc	00 4.7–24.6	100 800	ENID	0.0(0.6.1.2)	24(22 25)	4.0	2	2	
Schopelarchoides sp. 2	30 4.7-24.0	100-800	FINK	0.9(0.0-1.3)	34(33–33)	4.7	3	2	
Scopelarchius sp. 2	5.6	610	FNR	2.8	75	1.2	1	2	
Scopelarchidae sp. 2									
Paralepididae Stemonosudis sp. 2				4.3					
Siemonosudis sp. 2									
MYCTOPHIFORMES Myctophidae Bolinichthys sp. 2 200 6.1 43(25-76) 4.1(0.5-24.5) FNR-PB-RN 630-900 Diaphus sp. 1-2 276 20.7 32(10-83) 2.0(0.1-9.3) FNR-PB-REN 60-900 Lampadena sp. 1-2 99 2.4 20(13-26) 0.4(0.1-0.8) FNR Lampanyctus sp. 1-2 93 19.5 46(21-125) 2.4(0.3-12.6) FNR-PB-REN 25-900 Nannobrachium sp. 2 1 1.2 70 1.73 FNR 610 Taaningichthys sp. 2 7 6.1 53(43-72) 1.3(0.5-3.6) FNR-PB-RN 720-800 Myctophidae spp. 1-2 138 35.4 40(14-135) 3.0(0.1-25.3) FNR-PB-PE-RN 25-1000 GADIFORMES Macrouridae Macrouridae sp. 2 2 2 2.4 275 12.6(4.1-21.1) FNR 800-900 BERYCIFORMES Melamphaidae Scopeloberyx sp. 2 3 3.7 25(20-32) 2.7(1.9-3.4) FNR 720-800 PERCIFORMES Bramia sp. 1 11 8.5 11(08-15) 1.5(0.3-9) FNR-PB 58-130 Caristidae Platyberyx sp. 2 4 3.7 69(41-98) 12.7(2.3-25.1) FNR-RN 450-720 SCOMBRIFORMES Gempylidae Gempylidae sp. 2 6 6.1 31(12-55) 0.9(0.5-1.2) FNR-PE 70-800 TRACHINIFORMES Chiasmodon sp. 2 9 8.5 31(16-46) 1.9(0.5-4.4) FNR-PE 112-800 LOPHIFORMES Melamocetidae Melanocetidae Melanocetidse	4.6	780	FNR	4.7	135	1.2	1	2	•
Myctophidae Bolinichthys sp. 2 20 6.1 43(25-76) 4.1(0.5-24.5) FNR-PB-RN 630-900 Diaphus sp. 1-2 276 20.7 32(10-83) 2.0(0.1-9.3) FNR-PB-RN 60-900 Lampadena sp. 1-2 9 2.4 20(13-26) 0.4(0.1-0.8) FNR 510-780 Lampanyctus sp. 1-2 93 19.5 46(21-125) 2.4(0.3-12.6) FNR-PB-RN 250-900 Nannobrachium sp. 2 1 1.2 70 1.73 FNR 610 Taaningichtlys sp. 2 7 6.1 53(43-72) 1.3(0.5-3.6) FNR 720-800 Myctophidae spp. 1-2 138 35.4 40(14-135) 3.0(0.1-25.3) FNR-PB-PE-RN 25-1000 GADIFORMES Macrouridae Secondoberyx 2 2 2 2 4 275 12.6(4.1-21.1) FNR 800-900 BERYCIFORMES Bramidae Secondoberyx sp. 2 4 3.7 69(41-98)	4.7	800	FNR	10.3	23	1.2	1	2	Paralepidiidae sp.
Bolinichthys sp. 2 20 6.1 43(25-76) 4.1(0.5-24.5) FNR-PB-RN 630-900 Diaphus sp. 1-2 276 20.7 32(10-83) 2.0(0.1-9.3) FNR-PB-RN 60-900 Lampadena sp. 1-2 9 2.4 20(13-26) 0.4(0.1-0.8) FNR-PB-PE-RN 60-900 Lampanyctus sp. 1-2 93 19.5 46(21-125) 2.4(0.3-12.6) FNR-PB-PE-RN 25-900 Nannobrachium sp. 2 1 1.2 70 1.73 FNR 610 Taaningichthys sp. 2 7 6.1 53(43-72) 1.3(0.5-3.6) FNR 720-800 Myctophidae spp. 1-2 138 35.4 40(14-135) 3.0(0.1-25.3) FNR-PB-PE-RN 25-1000 GADIFORMES Macrouridae Macrouridae sp. 2 2 2.4 275 12.6(4.1-21.1) FNR 800-900 BERYCIFORMES Strain and sp. 2 3 3.7 25(20-32) 2.7(1.9-3.4) FNR 720-800 PERCIFORMES Strain and sp. 2 3 3.7 25(20-32) 2.7(1.9-3.4) FNR 720-800 PERCIFORMES Strain and sp. 2 4 3.7 69(41-98) 12.7(2.3-25.1) FNR-PB 58-130 Caristidae Platyberyx sp. 2 4 3.7 69(41-98) 12.7(2.3-25.1) FNR-PB 58-130 Caristidae Platyberyx sp. 2 6 6.1 31(12-55) 0.9(0.5-1.2) FNR-PE 70-800 TRACHINIFORMES Chiasmodonitidae Chiasmodoniti									MYCTOPHIFORMES
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Lampadena sp. 1-2 99 2.4 20(13-26) 0.4(0.1-0.8) FNR 510-780 Lampanyctus sp. 1-2 93 19.5 46(21-125) 2.4(0.3-12.6) FNR-PE-RN 25-900 Nannobrachium sp. 2 1 1 1.2 70 1.73 FNR 610 Taaningichthys sp. 2 7 6.1 53(43-72) 1.3(0.5-3.6) FNR 720-800 Myctophidae spp. 1-2 138 35.4 40(14-135) 3.0(0.1-25.3) FNR-PB-PE-RN 25-1000 GADIFORMES Macrouridae sp. 2 2 2 2 2.4 275 12.6(4.1-21.1) FNR 800-900 BERYCIFORMES Melamphaidae Scapeloberyx sp. 2 3 3 3.7 25(20-32) 2.7(1.9-3.4) FNR-PB 800-900 PERCIFORMES Bramidae Brama sp. 1 111 8.5 11(08-15) 1.5(0.3-9) FNR-PB 58-130 Caristitiae Platyberyx sp. 2 4 3.7 69(41-98) 12.7(2.3-25.1) FNR-RN 450-720 SCOMBRIFORMES Gempylidae Sempylidae Sempylidae sp. 2 6 6.1 31(12-55) 0.9(0.5-1.2) FNR-PE 70-800 TRACHINIFORMES Chiasmodontidae Chiasmodon sp. 2 9 8.5 31(16-46) 1.9(0.5-4.4) FNR-PE 112-800 LOPHIFORMES Melanocetidae Melanocetus sp. 2 6 6.1 49(20-88) 11.6(2.1-33.2) FNR-PE 680-900 One iodidae									
Lampanyctus sp. 1-2 93 19.5 46(21-125) 2.4(0.3-12.6) FNR-PE-RN 25-900 Nannobrachium sp. 2 1 1 1.2 70 1.73 FNR 610 1.73 FNR									
Nannobrachium sp. 2					, ,				
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Myctophidae spp. 1-2 138 35.4 40(14-135) 3.0(0.1-25.3) FNR-PB-PE-RN 25-1000									
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Macrouridae Macrouridae sp. 2 2 2 2.4 275 12.6(4.1–21.1) FNR 800–900 BERYCIFORMES Melamphaidae Scopeloberyx sp. 2 3 3.7 25(20–32) 2.7(1.9–3.4) FNR 720–800 PERCIFORMES Bramidae Frama sp. 1 11 8.5 11(08–15) 1.5(0.3–9) FNR-PB 58–130 Caristiidae Platyberyx sp. 2 4 3.7 69(41–98) 12.7(2.3–25.1) FNR-RN 450–720 SCOMBRIFORMES Gempylidae Gempylidae sp. 2 6 6.1 31(12–55) 0.9(0.5–1.2) FNR-PE 70–800 TRACHINIFORMES Chiasmodontidae Chiasmodon sp. 2 9 8.5 31(16–46) 1.9(0.5–4.4) FNR-PE 112–800 LOPHIIFORMES Melanocetidae Melanoce	30 4.3-20.0	23-1000	TINK-I D-I E-KIN	3.0(0.1-23.3)	40(14-155)	33.4	136	1-2	
Macrouridae sp. BERYCIFORMES Melamphaidae Scopeloberyx sp. 2 3 3.7 25(20–32) 2.7(1.9–3.4) FNR 800–900									
BERYCIFORMES Melamphaidae Scopeloberyx sp. 2 3 3.7 25(20–32) 2.7(1.9–3.4) FNR 720–800	00 4.3–4.7	800-900	FNR	12 6(4 1-21 1)	275	2.4	2	2	
Melamphaidae Scopeloberyx sp. 2 3 3.7 25(20–32) 2.7(1.9–3.4) FNR 720–800 PERCIFORMES Bramidae Brama sp. 1 11 8.5 11(08–15) 1.5(0.3–9) FNR-PB 58–130 Caristiidae Platyberyx sp. 2 4 3.7 69(41–98) 12.7(2.3–25.1) FNR-RN 450–720 SCOMBRIFORMES Gempylidae Gempylidae sp. 2 6 6.1 31(12–55) 0.9(0.5–1.2) FNR-PE 70–800 TRACHINIFORMES Chiasmodontidae Chiasmodon sp. 2 9 8.5 31(16–46) 1.9(0.5–4.4) FNR-PE 112–800 LOPHIIFORMES Melanocetidae Melanocetus sp. 2 6 6.1 49(20–88) 11.6(2.1–33.2) FNR-PE 680–900 Oneirodidae 7 8 8 8 11.6(2.1–33.2) 8 8 9 9 8 9 9 8 9 9 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9		000 700	11111	12.0(1.1 21.1)	2.0	2	-	-	
Scopeloberyx sp. 2 3 3.7 25(20–32) 2.7(1.9–3.4) FNR 720–800									
PERCIFORMES Bramidae Brama sp. 1 11 8.5 11(08–15) 1.5(0.3–9) FNR-PB 58–130 Caristiidae Platyberyx sp. 2 4 3.7 69(41–98) 12.7(2.3–25.1) FNR-RN 450–720 SCOMBRIFORMES Gempylidae Gempylidae sp. 2 6 6.1 31(12–55) 0.9(0.5–1.2) FNR-PE 70–800 TRACHINIFORMES Chiasmodontidae Chiasmodon sp. 2 9 8.5 31(16–46) 1.9(0.5–4.4) FNR-PE 112–800 LOPHIIFORMES Melanocetidae Melanocetus sp. 2 6 6.1 49(20–88) 11.6(2.1–33.2) FNR-PE 680–900 Oneirodidae	00 4.6–4.9	720-800	FNR	2.7(1.9-3.4)	25(20-32)	3.7	3	2	
Brama sp. 1 11 8.5 11(08-15) 1.5(0.3-9) FNR-PB 58-130 Caristidae Platyberyx sp. 2 4 3.7 69(41-98) 12.7(2.3-25.1) FNR-RN 450-720 SCOMBRIFORMES Gempylidae sp. 2 6 6.1 31(12-55) 0.9(0.5-1.2) FNR-PE 70-800 TRACHINIFORMES Chiasmodontidae Chiasmodon sp. 2 9 8.5 31(16-46) 1.9(0.5-4.4) FNR-PE 112-800 LOPHIIFORMES Melanocetidae Melanocetus sp. 2 6 6.1 49(20-88) 11.6(2.1-33.2) FNR-PE 680-900 Oneirodidae Colspan="6">Col				, ,	, ,				
Caristiidae Platyberyx sp. 2 4 3.7 69(41–98) 12.7(2.3–25.1) FNR-RN 450–720 SCOMBRIFORMES Gempylidae sp. 2 6 6.1 31(12–55) 0.9(0.5–1.2) FNR-PE 70–800 TRACHINIFORMES Chiasmodontidae Chiasmodon sp. 2 9 8.5 31(16–46) 1.9(0.5–4.4) FNR-PE 112–800 LOPHIIFORMES Melanocetidae Melanocetidae Melanocetidae Melanocetidae Melanocetidae Oneirodidae									Bramidae
Platyberyx sp. 2 4 3.7 69(41–98) 12.7(2.3–25.1) FNR-RN 450–720 SCOMBRIFORMES Gempylidae 2 6 6.1 31(12–55) 0.9(0.5–1.2) FNR-PE 70–800 TRACHINIFORMES Chiasmodontidae Chiasmodon sp. 2 9 8.5 31(16–46) 1.9(0.5–4.4) FNR-PE 112–800 LOPHIIFORMES Melanocetidae Melanocetus sp. 2 6 6.1 49(20–88) 11.6(2.1–33.2) FNR-PE 680–900 Oneirodidae	30 15.0–26.6	58-130	FNR-PB	1.5(0.3-9)	11(08-15)	8.5	11	1	Brama sp.
SCOMBRÍFORMÉS Gempylidae Gempylidae sp. 2 6 6.1 31(12–55) 0.9(0.5–1.2) FNR-PE 70–800 TRACHINIFORMES Chiasmodontidae Chiasmodon sp. 2 9 8.5 31(16–46) 1.9(0.5–4.4) FNR-PE 112–800 LOPHIFORMES Melanocetidae Melanocetis sp. 2 6 6.1 49(20–88) 11.6(2.1–33.2) FNR-PE 680–900 Oneirodidae									Caristiidae
Gempylidae gempylidae sp. 2 6 6.1 31(12–55) 0.9(0.5–1.2) FNR-PE 70–800	20 4.9–8.5	450-720	FNR-RN	12.7(2.3-25.1)	69(41–98)	3.7	4	2	
Gempylidae sp. 2 6 6.1 31(12–55) 0.9(0.5–1.2) FNR-PE 70–800 TRACHINIFORMES Chiasmodontidae Chiasmodon sp. 2 9 8.5 31(16–46) 1.9(0.5–4.4) FNR-PE 112–800 LOPHIIFORMES Melanocetidae Melanocetus sp. 2 6 6.1 49(20–88) 11.6(2.1–33.2) FNR-PE 680–900 Oneirodidae									
TRACHINIFORMES Chiasmodontidae Chiasmodon sp. 2 9 8.5 31(16-46) 1.9(0.5-4.4) FNR-PE 112-800 LOPHIIFORMES Melanocetidae Melanocetias sp. 2 6 6.1 49(20-88) 11.6(2.1-33.2) FNR-PE 680-900 Oneirodidae									
Chiasmodontidae	00 4.7–25.8	70–800	FNR-PE	0.9(0.5-1.2)	31(12–55)	6.1	6	2	
Chiasmodon sp. 2 9 8.5 31(16-46) 1.9(0.5-4.4) FNR-PE 112-800 LOPHIIFORMES Melanocetidae Melanocetus sp. 2 6 6.1 49(20-88) 11.6(2.1-33.2) FNR-PE 680-900 Oneirodidae									
LOPHIIFORMES Melanocetidae Melanocetus sp. 2 6 6.1 49(20–88) 11.6(2.1–33.2) FNR-PE 680–900 Oneirodidae	00 46 241	112 000	ENID DE	10(0.5.4.4)	21/16/16	0.5		2	
Melanocetidae <i>Melanocetus</i> sp. 2 6 6.1 49(20–88) 11.6(2.1–33.2) FNR-PE 680–900 Oneirodidae	00 4.6–24.1	112-800	FNK-PE	1.9(0.5–4.4)	31(16–46)	8.5	9	2	
Melanocetus sp. 2 6 6.1 49(20–88) 11.6(2.1–33.2) FNR-PE 680–900 Oneirodidae									
Oneirodidae	00 42.52	690 000	ENID DE	11 6(2 1 22 2)	40(20, 99)	6.1	6	2	
	00 4.3–5.2	000-900	rnk-re	11.0(2.1-33.2)	47(20-68)	0.1	O	۷.	
Chache opinization of 1^{-2} 2 2.7 22(1/20) 0.0(0.0=0.0) FE 310=000	00 4.7–6.0	510_800	DE	0.8(0.8–0.8)	22(17_28)	2.4	2	1_2	
Oneirodes sp. 2 1 1.2 15 2.1 FNR 900									
Oneirodidae sp. 1-2 3 3.7 80 - FNR 40–780									
Orthodolac sp. 1-2 5 5.7 60 - 110 40-760	7.0 20.0	10 700	11110		00	5.1	2	1-2	
Ceratias sp. 2 3 1.2 42(31–51) 2.7(1.4–4.6) FNR 610–700	00 5.2–5.6	610-700	FNR	2.7(1.4-4.6)	42(31–51)	1.2	3	2	
Ceratidae sp. 1 1 1.2 30 - RN 570				- (1.1 1.0)					
Gigantactinidae	0.5	2,0			20		•	•	
Gigantactis sp. 1 1 1.2 60 – FNR 100	24	100	FNR	=.	60	1.2	1	1	

Supplementary Material 4. Number of specimens and species per size class of mesopelagic species of fishes collected on the ABRACOS 1 (mesopelagic trawl) and ABRACOS 2 (micronekton trawl) expeditions.



Supplementary Material 5. Abundance (individuals.hour⁻¹), Biomass (Kg.hour-1x10²), Number of species (N0), Margalef index, Hill's Shannon index (N1), and Hill's Simpson's index (N2) of mesopelagic species of fishes collected on the ABRACOS 1 (mesopelagic trawl) and ABRACOS 2 (micronekton trawl) expeditions. Stations with no collection of mesopelagic fishes were excluded.

Station	Abundance	Biomass	N0	Margalef	N1	N2
AB1#1	236.00	1.356	12	2.38	8.06	6.84
AB1#2	4.00	0.021	2	1.44	2.00	2.00
AB1#4	8.00	0.014	4	2.16	4.00	4.00
AB1#5	102.00	0.195	12	2.84	5.14	2.92
AB1#6	22.00	0.043	3	0.83	2.14	1.75
AB1#7	10.00	0.024	3	1.24	2.87	2.78
AB1#9	176.00	0.916	16	3.36	4.86	2.36
AB1#11	6.00	0.000	2	1.44	2.00	2.00
AB1#11 AB1#12	146.00	0.530	16	3.51	8.64	5.05
	4.00	0.007		1.44		2.00
AB1#13			2		2.00	
AB1#14	142.00	0.332	27	6.12	13.69	6.86
AB1#15	100.00	0.097	9	2.08	5.45	3.73
AB1#20	14.00	0.015	3	1.03	2.22	1.81
AB1#21	8.00	0.005	4	2.16	4.00	4.00
AB1#22	96.00	0.500	27	6.91	23.35	19.88
AB1#23	12.00	0.014	5	2.23	4.76	4.50
AB1#25	12.00	0.034	4	1.67	3.78	3.60
AB1#26	32.00	0.032	4	1.08	2.50	1.94
AB1#27	4.00	0.002	2	1.44	2.00	2.00
AB1#31	46.00	0.019	6	2.28	5.35	4.76
AB1#34	34.00	0.110	11	3.53	9.00	7.05
AB1#36	42.00	0.070	4	1.30	2.56	1.92
AB1#51	254.00	0.395	12	2.29	2.73	1.66
AB1#52	192.00	0.051	4	0.74	1.45	1.19
AB1#32 AB2#6	4.00	0.011	2	1.44	2.00	2.00
	13.85	0.021	5	2.23	4.76	4.50
AB2#7						
AB2#9	512.57	0.550	6	0.95	2.62	2.27
AB2#16	289.79	1.315	43	7.75	14.86	7.98
AB2#21	442.67	0.998	34	5.71	10.42	5.55
AB2#28	420.00	1.061	25	4.40	9.84	6.46
AB2#35	462.00	1.625	29	4.89	4.70	2.08
AB2#39	1134.67	3.245	70	10.23	8.11	3.12
AB2#40A	769.09	2.766	30	5.30	13.05	7.62
AB2#40B	405.60	0.563	4	0.58	1.24	1.09
AB2#41A	771.82	4.230	59	10.29	25.52	15.28
AB2#41B	104.00	0.790	9	2.52	7.34	6.40
AB2#42A	7900.00	70.722	68	11.42	18.78	7.90
AB2#42B	7.83	0.005	4	0.87	1.51	1.21
AB2#44A	1704.00	19.201	75	11.86	24.65	12.48
AB2#44B	51.00	0.081	8	1.68	2.33	1.54
AB2#45B	453.00	0.829	15	2.97	7.30	5.34
AB2#46A	18.00	0.031		0.96	2.46	2.13
AB2#46A AB2#46B			3 5			
	19.20	0.039		2.06	4.37	3.77
AB2#48A	113.33	0.612	11	2.61	4.06	2.37
AB2#48B	83.57	0.140	8	1.86	3.30	2.09
AB2#49A	340.59	2.196	48	8.98	24.22	13.83
AB2#49B	950.40	2.166	33	5.36	10.11	5.57
AB2#50A	150.86	1.355	25	5.46	13.90	7.55
AB2#52A	408.00	2.361	57	10.57	25.41	10.89
AB2#52B	494.00	1.488	25	4.36	9.57	6.31
AB2#53A	994.00	6.474	55	8.73	13.86	6.07
AB2#53B	60.00	0.171	12	3.27	6.58	3.81
AB2#54B	826.00	3.804	61	10.04	21.42	10.55
AB2#56B	86.25	0.086	4	0.79	1.61	1.27
AB2#56C	146.00	0.531	17	3.74	8.95	5.63
AB2#58A	164.00	0.678	14	2.98	7.60	5.38
			40			
AB2#59A	373.50	1.772		7.14	10.81	5.11
AB2#59B	422.50	0.879	17	3.19	6.12	3.60
AB2#60A AB2#60B	6.00 220.00	0.013 1.602	2 18	0.91 3.62	1.89 7.03	1.80 4.21