

Supplementary Material

A cause for hope: largely intact coral-reef communities with high reef-fish biomass in a remote Indonesian island group

Gino V. Limmon^{A,B,C}, Halwi Masdar^D, Dominic Muenzel^E, Tanika C. Shalders^F, Cilun Djakiman^A, Maria Beger^{E,G}, Jamaludin Jompa^D, and Maarten De Brauwer^{E,H,}*

^AFisheries and Marine Science Faculty, Pattimura University, Jalan Dr Leimena, Kampus Poka, Ambon, Indonesia.

^BMaritime and Marine Science Center of Excellence, Pattimura University, Jalan Dr Leimena, Kampus Poka, Ambon, Indonesia.

^CCentre for Collaborative Research on Aquatic Ecosystem in Eastern Indonesia, Ambon, Indonesia.

^DGraduate School, Hasanuddin University, Makassar, 90245, Indonesia.

^ESchool of Biology, Faculty of Biological Sciences, University of Leeds, Leeds, LS2 9JT, UK.

^FNational Marine Science Centre, Southern Cross University, Faculty of Science and Engineering, Coffs Harbour, NSW, Australia.

^GCentre for Biodiversity and Conservation Science, School of Biological Sciences, University of Queensland, Brisbane, Qld 4072, Australia.

^HCSIRO Environment, Battery Point, Hobart, Tas. 7004, Australia.

*Correspondence to: Maarten De Brauwer CSIRO Environment, Battery Point, Hobart, Tas. 7004, Australia Email: maarten.debrauwer@csiro.au

Table S1. Lucipara survey data – fish biomass (g)

Species	LUC1_T1	LUC1_T2	LUC1_T3	LUC1_T4	LUC2_T1	LUC2_T2	LUC2_T3	LUC2_T4	LUC3_T1	LUC3_T2	LUC3_T3	LUC3_T4	LUC4_T1	LUC4_T2	LUC4_T3	LUC4_T4
<i>Abudefduf sexfasciatus</i>	0	0	0	0	0	0	0	0	0	349.26	0	456.7	0	0	0	0
<i>Abudefduf vaigiensis</i>	0	0	0	0	0	0	0	285.32	398.83	151.1	916.61	1117.33	58.91	859.15	357.41	
<i>Acanthurus nigricans</i>	0	0	0	0	0	0	0	109.62	0	0	92.27	0	0	0	0	0
<i>Acanthurus nigricauda</i>	372.98	0	607.5	730.8	0	0	0	0	0	0	0	0	0	2674.22	0	0
<i>Acanthurus nigrofuscus</i>	126.9	196.27	0	0	0	681.86	410.84	0	126.9	0	0	0	89.25	0	0	0
<i>Acanthurus olivaceus</i>	0	0	0	0	14.66	0	0	5597.37	0	0	0	14.4	0	0	0	0
<i>Acanthurus pyroferus</i>	0	0	0	0	25.07	68.21	31.42	19.03	0	0	0	0	0	0	0	0
<i>Acanthurus sp.</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	2181.55	0	0
<i>Acanthurus thompsoni</i>	2145.24	139.66	1662.92	207.54	0	0	939.44	615.33	418.97	625.34	0	2006.42	1858.24	206.37	501.4	881.37
<i>Acanthurus xanthopterus</i>	0	0	0	0	0	0	0	618.87	0	0	0	0	0	0	0	0
<i>Aethaloperca rogae</i>	0	0	0	0	463.98	2295.82	0	416.55	0	0	1158.5	0	0	0	0	0
<i>Amanses scopas</i>	0	0	0	0	0	0	0	0	97.33	0	0	0	0	0	0	0
<i>Amblyglyphidodon aureus</i>	0	0	0	0	1.74	0	10.75	0	64.45	291.17	421.43	484.46	76.18	0	68.92	0
<i>Amblyglyphidodon curacao</i>	0	0	0	0	0	0	0	0	0	0	0	0	2.26	0	0	0
<i>Amphiprion perideraion</i>	0	0	0	0	66.66	0	0	0	0	0	0	0	0	0	0	1.84
<i>Amphiprion sandaracinos</i>	0	0	0	0	73.6	0	0	0	0	0	0	0	0	0	0	0
<i>Anampses geographicus</i>	0	0	0	0	40.23	0	0	0	0	0	0	0	0	0	0	0
<i>Anampses melanurus</i>	0	0	0	35.57	0	0	0	0	0	0	0	0	0	0	0	0
<i>Anampses meleagrides</i>	0	0	0.4	0	0	25.34	40.63	54.9	0	0	0	0.94	0	0	0	0.94
<i>Anampses twistii</i>	0	0	0	0	25.34	0	1.83	0	0	0	22.17	40.23	0	0	0	0
<i>Aphareus furca</i>	282.94	0	0	0	857.95	538.51	626.32	411.87	655.56	376.59	282.94	0	230.04	575.01	655.56	282.94
<i>Aprion virescens</i>	0	0	0	7554.56	20690.03	1916.83	5151.53	6951.51	0	1916.83	0	0	0	0	0	0
<i>Arothron stellatus</i>	0	0	0	0	0	0	0	1830.15	0	0	0	0	0	0	0	0
<i>Balistapus undulatus</i>	0	39.7	0	0	725.94	335.5	757.33	349.66	317.83	136.91	0	136.91	462.84	89.44	0	0
<i>Balistoides conspicillum</i>	0	0	0	0	1432.27	1117.44	1023.83	852.63	0	701.71	0	0	0	0	0	0
<i>Balistoides viridescens</i>	0	0	701.64	0	10056.33	11349.08	0	0	0	0	1671.9	0	0	0	0	0
<i>Bodianus dictynna</i>	68.87	717.52	242.08	274.13	485.34	374.48	163.56	168.28	242.17	115.73	46.77	899.35	644.23	70.04	132.2	231.26
<i>Bodianus loxozonus</i>	0	0	0	0	0	0	98.3	0	0	0	0	0	0	0	0	0
<i>Bodianus mesothorax</i>	0	45.64	0	0	0	56.34	82.56	0	0	0	308.2	0	0	0	0	157.38
<i>Caesio teres</i>	0	0	0	622.56	0	0	0	0	0	0	0	0	0	0	0	0
<i>Caranx ignobilis</i>	18793.65	0	0	0	0	0	10086.5	0	0	0	0	0	0	0	0	0
<i>Caranx melampygus</i>	4153.03	0	0	1105.06	0	0	0	1271.88	2522.45	2244.49	2180.85	3083.04	0	0	0	1942.37
<i>Carcharhinus amblyrhynchos</i>	0	0	0	0	14782.3	19275.13	0	0	0	0	0	0	0	0	0	0
<i>Carcharhinus melanopterus</i>	0	0	0	0	0	228520.5	0	0	0	0	0	0	0	0	0	0
<i>Centropyge bicolor</i>	0	0	0.57	0.74	0	0	0	1.35	0	0	0	0	0	0	0	0
<i>Centropyge tibicen</i>	0	0	0	0	0	0	2.37	0	0	0	0	0	0	0	0	0
<i>Centropyge vrolikii</i>	60.36	103.89	50.31	0	294.71	132.95	219.48	162.34	26.4	60.36	50.31	50.31	122.18	69.09	62.02	41.32
<i>Cephalopholis argus</i>	0	0	0	0	0	62.81	1664.6	2253.96	0	1621.94	0	0	0	0	757.35	0
<i>Cephalopholis cyanostigma</i>	562.82	0	469.8	240.54	0	0	0	0	0	0	0	0	0	342.48	240.54	0

Species	LUC1_T1	LUC1_T2	LUC1_T3	LUC1_T4	LUC2_T1	LUC2_T2	LUC2_T3	LUC2_T4	LUC3_T1	LUC3_T2	LUC3_T3	LUC3_T4	LUC4_T1	LUC4_T2	LUC4_T3	LUC4_T4
<i>Cephalopholis leopardus</i>	0	102.21	0	0	0	0	0	50.29	0	0	86.91	0	76.04	0	0	0
<i>Cephalopholis miniata</i>	453.94	0	0	0	1725.98	4106.68	1404.11	1596.38	334.9	1188.87	435.23	1505.89	406.53	3553.24	3945.59	101.21
<i>Cephalopholis sexmaculata</i>	0	0	0	0	0	0	0	0	0	1692.07	1027.56	848.24	457.03	0	0	0
<i>Cephalopholis spiloparaea</i>	0	229.97	0	0	63.15	0	0	0	0	0	0	143.53	0	0	0	0
<i>Cephalopholis urodeta</i>	1128.93	1467.11	2157.34	701.97	2178.69	1898.87	1514.6	3463.19	883.04	1098.11	577.66	377.84	0	0	0	268.22
<i>Cetoscarus ocellatus</i>	0	0	0	2493.28	0	5310.17	0	0	0	0	0	0	0	0	0	0
<i>Chaetodon adiergastos</i>	0	0	0	0	0	0	0	136.21	94.93	0	0	0	0	274.99	272.43	0
<i>Chaetodon auriga</i>	0	0	210.52	0	253.12	86.51	0	0	0	0	142.5	105.26	0	150.58	0	0
<i>Chaetodon bennetti</i>	0	114.34	114.34	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Chaetodon citrinellus</i>	0	0	0	0	0	0	0	0	0	0	0	64.65	147.19	0	0	0
<i>Chaetodon ephippium</i>	215.94	131.31	250.73	0	396.79	184.57	801.02	312.83	0	0	0	0	0	0	0	0
<i>Chaetodon kleinii</i>	0	0	0	0	78.08	94.9	474.5	208.8	0	390.39	0	345.96	0	317.03	0	177.12
<i>Chaetodon lunula</i>	0	0	136.21	0	0	187.75	0	0	0	160.63	0	348.38	321.27	0	0	0
<i>Chaetodon lunulatus</i>	0	62.52	152.05	0	152.05	62.52	243.34	0	0	0	0	0	0	0	0	0
<i>Chaetodon melannotus</i>	0	310.65	0	0	253.95	152.82	68.17	0	103.55	0	0	207.1	0	0	103.55	0
<i>Chaetodon meyeri</i>	0	0	0	0	0	509.02	664.1	696.77	321.27	0	321.27	435.39	375.5	0	0	0
<i>Chaetodon punctatofasciatus</i>	0	0	0	0	0	0	0	144.47	0	0	0	0	0	0	0	0
<i>Chaetodon rafflesii</i>	0	226.33	188.58	0	0	282.86	0	327.21	0	77.64	0	0	232.92	0	0	0
<i>Chaetodon semeion</i>	0	0	0	0	0	143.9	0	0	0	0	0	0	0	0	0	244.82
<i>Chaetodon speculum</i>	0	232.13	0	0	195.09	97.55	311.15	178.55	0	0	81.01	0	116.06	136.65	0	0
<i>Chaetodon trifascialis</i>	0	0	82.02	0	0	0	247.82	262.03	0	0	0	0	0	0	0	0
<i>Chaetodon ulietensis</i>	0	0	0	214.19	0	149.48	0	0	0	0	0	0	0	0	0	0
<i>Chaetodon unimaculatus</i>	0	0	0	0	0	0	447.53	0	0	0	0	0	0	0	0	0
<i>Chaetodon vagabundus</i>	0	298.47	142.04	174.39	158.21	298.47	71.02	71.02	174.39	174.39	0	385.66	263.85	211.28	0	211.28
<i>Chanos chanos</i>	0	0	0	0	132498.9	0	0	0	0	0	0	0	0	0	0	0
<i>Cheilinus undulatus</i>	90774.06	0	725.21	19207.8	1736.45	26201.46	99429.79	0	0	0	0	0	0	0	0	0
<i>Chlorurus bleekeri</i>	0	693.47	0	0	0	0	0	3685.69	0	0	0	0	0	0	0	0
<i>Chlorurus microrhinos</i>	0	7299.51	4931.98	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Chlorurus sordidus</i>	1282.08	0	0	0	0	3331.2	2875.12	1959.98	0	829.55	0	0	0	0	0	0
<i>Chromis analis</i>	0	0	0	0	0	0	0	0	2497.23	88.69	88.69	0	0	0	0	0
<i>Chromis atripes</i>	0	0	0	0	0	0	0	2.87	0	5.84	0	2.57	2.7	0	0	0
<i>Chromis caudalis</i>	0	0	0	0	0	3.48	0	2.23	0	0	0	0	11.59	0	0	0
<i>Chromis elerae</i>	0	0	0	0	0	0	0	0	0	0.68	0	0	1.26	0.46	0	0
<i>Chromis lepidolepis</i>	5.16	24.06	4.48	0	8.59	124.36	55.84	58.4	370.79	1051.37	534.25	125.22	625.17	828.41	109.65	551.03
<i>Chromis lineata</i>	0.91	0.49	3.22	0	11.1	0	3.25	0	0	0	0	0	0.27	0	0	0
<i>Chromis margaritifer</i>	30.87	156.77	336.75	243.7	130.12	202.93	283.3	36.09	8.37	55.79	15.97	17.07	219.88	3.51	3.26	3.11
<i>Chromis retrofasciata</i>	0	0	0	0	0	0.19	0	0	0	0	0	0	0.25	0	0	0
<i>Chromis scotochiloptera</i>	0	0	0	0	0	0	0	38.08	0	0	0	346.31	0	0	0	0
<i>Chromis sp.</i>	0	4.33	0	0	0	0	0	0	0	0	0	1.44	0	0	0	0
<i>Chromis ternatensis</i>	0	152.8	12.12	0	0	0	0	34.65	35.83	0	0	0	8.96	0	0	0
<i>Chromis weberi</i>	37.5	25.94	300.39	77.27	114.96	806.37	300.59	1425.59	29.53	0	0	0	1092.58	0	0	632.81
<i>Chromis xanthochira</i>	0	0	692.5	39.06	153.01	0	39.06	312.5	39.06	0	0	0	137.19	648.71	0	0

Species	LUC1_T1	LUC1_T2	LUC1_T3	LUC1_T4	LUC2_T1	LUC2_T2	LUC2_T3	LUC2_T4	LUC3_T1	LUC3_T2	LUC3_T3	LUC3_T4	LUC4_T1	LUC4_T2	LUC4_T3	LUC4_T4
<i>Chromis xanthurus</i>	0	32.02	5.34	0	0	52.45	5.34	7.97	0	27.13	21.69	0	19.84	27.13	0	0.42
<i>Chrysiptera talboti</i>	0	0	0	0	0	0.59	0	0	0	0	0	0	0	0	0	2
<i>Cirrhilabrus cyanopleura</i>	0	0	0	0	0	0	0	32.46	5.15	0	15.03	0	32.86	0	0	53.81
<i>Cirrhilabrus exquisitus</i>	0	0	0	32.62	0	17.05	4.85	62.47	47.29	0	52.5	0	19.13	0	0	0
<i>Cirrhilabrus sp.</i>	0.67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Cirrhichthys falco</i>	0	0	0	0	0	0	0	20.32	0	0	0	0	0	0	0	0
<i>Cirrhichthys oxycephalus</i>	28.73	4.16	40.88	0	45.07	101.34	25.92	69.81	22.3	63.33	0	18.07	0	72.01	15.51	5.76
<i>Coris gaimard</i>	0	0	1.36	7.46	10.91	0	87.53	87.24	44.67	0	0	0	0	0	0	0
<i>Ctenochaetus cyanocheilus</i>	11.74	121.53	199.75	98.03	68.63	192.93	167.1	181.71	96.48	74.04	29.06	38.78	91.38	77.01	0	0
<i>Ctenochaetus striatus</i>	1109.43	945.27	1441.96	3037.02	112.97	0	0	211.07	162.06	0	141.62	0	275.03	0	0	3.2
<i>Dascyllus reticulatus</i>	0	0	0	4.58	7.84	55.69	0	71.45	0	0	0	0	0	0	0	0
<i>Dascyllus trimaculatus</i>	0	0	0.16	0	470.88	679.16	1987.89	129.04	252.93	368.5	0	411.47	7.21	37.5	52.52	0
<i>Elagatis bipinnulata</i>	0	0	0	0	0	23348.93	0	8361.66	0	0	0	0	0	0	0	0
<i>Epibulus brevis</i>	0	369.37	0	0	0	0	4.03	0	0	0	0	0	0	0	0	0
<i>Epinephelus fuscoguttatus</i>	0	0	0	0	0	0	0	3566.01	0	0	0	0	0	0	0	1028.7
<i>Epinephelus merra</i>	0	0	247.42	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Epinephelus ongus</i>	0	0	0	0	0	0	0	0	0	0	0	0	723.55	0	0	0
<i>Epinephelus quoyanus</i>	0	0	412.19	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Epinephelus sp.</i>	0	0	0	1028.7	0	0	0	0	0	0	0	0	0	0	0	0
<i>Epinephelus spilotoceps</i>	0	0	0	0	0	0	0	0	0	0	0	0	195.12	0	0	0
<i>Forcipiger flavissimus</i>	0	0	0	0	0	0	0	0	99.91	276.17	102.31	122.71	0	218.5	51.15	0
<i>Galeocerdo cuvier</i>	0	0	0	0	66852.44	0	0	0	0	0	0	0	0	0	0	0
<i>Gnathodentex aureolineatus</i>	0	0	0	466.11	0	0	0	0	0	0	0	0	2383.06	571.27	0	0
<i>Gomphosus varius</i>	0	0.48	91.29	32.41	20.12	391.98	0	0	0	0	0	0	198.64	0	0	0
<i>Gracila albomarginata</i>	58.73	469.8	271.88	0	469.8	2721.36	746.03	1720.41	0	424.37	469.8	1785.99	0	2065.87	912.65	0
<i>Gymnosarda unicolor</i>	20267.57	0	0	2959.53	4746.95	0	10255.17	0	35475.83	56073.08	5919.06	0	0	0	0	0
<i>Gymnothorax favagineus</i>	0	0	0	0	0	0	0	0	0	11812.5	0	0	0	0	0	0
<i>Gymnothorax flavimarginatus</i>	0	611.48	0	0	0	956.44	0	0	0	0	0	0	0	0	364.85	0
<i>Gymnothorax javanicus</i>	437.5	2551.5	0	11812.5	0	0	0	3500	0	0	0	0	28000	0	0	0
<i>Halichoeres chrysus</i>	5.6	23.15	30.7	4.21	93.87	22.67	51.51	203.37	42.75	56.72	0	0	64.65	39.78	5.53	18.21
<i>Halichoeres claudia</i>	20.11	100.08	71.47	13.3	231.74	54.94	0	68.95	0	23.36	0	0	127.63	0	0	0
<i>Halichoeres hortulanus</i>	51.32	184.99	689.97	85.19	75.36	438.7	415.01	653.13	19.76	106.36	0	14.85	277.9	22.45	0	0
<i>Hemigymnus fasciatus</i>	0	0	0.14	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Hemigymnus melapterus</i>	0	0	0	283.73	0	778.54	0	0	0	0	0	0	0	0	0	0
<i>Heniochus chrysostomus</i>	0	0	300.8	408.14	0	0	0	0	300.8	519.37	334.89	0	0	300.8	669.77	0
<i>Hipposcarus longiceps</i>	2535.96	430.6	2347.19	0	9556.81	2535.96	0	0	0	0	0	0	0	0	0	0
<i>Labrichthys unilineatus</i>	0	0	0	0	0	0	0	0	0	3.25	7.69	0	0	0	0	0
<i>Labroides bicolor</i>	23.26	57.48	75.59	17.96	29.55	29.55	0	1.91	0	0	0	29.55	3.15	0	0	15.81
<i>Labroides dimidiatus</i>	42.02	229.85	74.03	58.73	2.78	68.5	54.24	44.44	11.81	56.14	23.2	37.03	54.75	52.75	55.02	40.6
<i>Labroides pectoralis</i>	0	3.15	19.51	0	0	0	0.52	0	0	0	0	2.97	1.06	0	0.52	0.92
<i>Lepidozygus tapeinosoma</i>	0	0	112.76	0	5506.48	5958.01	9354.75	14240.87	0	7.17	115.49	0	1997.58	0	191.02	0
<i>Leptoscarus vaigiensis</i>	0	0	0	0	0	0	0	0	9.05	0	0	0	0	0	0	0

Species	LUC1_T1	LUC1_T2	LUC1_T3	LUC1_T4	LUC2_T1	LUC2_T2	LUC2_T3	LUC2_T4	LUC3_T1	LUC3_T2	LUC3_T3	LUC3_T4	LUC4_T1	LUC4_T2	LUC4_T3	LUC4_T4
<i>Pseudanthias bicolor</i>	233.89	136.56	61.86	101.85	0	0	0	0	0	0	0	2565.6	0	144.32	0	0
<i>Pseudanthias dispar</i>	1464.93	797.76	3705.35	1043.62	2510.25	2993.86	6326.27	5550.79	1871.36	2056.88	63.89	924.58	4047.46	617.82	1928.81	294.56
<i>Pseudanthias huchtii</i>	269.65	148	977.09	510.31	798.62	1955.55	3286.44	1613.67	0	0	0	107.5	1077.59	0	0	0
<i>Pseudanthias smithvanizi</i>	0	0	0	0	0	0	0	0	25.3	0	113.75	87.43	18.38	85.04	270.95	39.1
<i>Pseudanthias squamipinnis</i>	328.23	0	0	0	745.85	3175	0	0	1312.94	6428.35	1083.16	1215.93	0	7578.63	9511.68	824.48
<i>Pseudobalistes flavimarginatus</i>	0	0	6205.01	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Pseudocheilinus evanidus</i>	2.63	0	0	0	0	18.4	0	0	2.63	0	0	7.22	14.36	0	0	7.29
<i>Pseudocheilinus hexataenia</i>	59.52	37.59	33.12	58.31	23.71	28.38	17.04	14.67	2.09	29.3	1.07	0	62.65	7.23	3.62	15.64
<i>Pseudocheilinus octotaenia</i>	34.47	28.93	163.06	22.28	0	0	20.06	0	0	0	91.88	28.93	116.94	16.74	28.93	0
<i>Pseudochromis bitaeniatus</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.52	0
<i>Pseudocoris heteroptera</i>	0	0	0	113.77	0	0	0	193.29	0	0	0	0	14.18	0	0	0
<i>Pseudocoris yamashiroi</i>	0	0	0	0	25.12	22.23	0	342.46	2.78	10.79	0	0	0	0	0	8.3
<i>Pseudodax moluccanus</i>	0	137.69	0	895.36	0	77.41	1.42	0	104.81	31.05	0	0	0	0	0	0
<i>Ptereleotris evides</i>	0	0	0	75.94	0	0	0	0	83.07	0	0	0	0	0	0	0
<i>Pterocaesio randalli</i>	1612.92	0	0	1635.17	0	0	0	0	0	0	3773.48	0	0	0	0	0
<i>Pterocaesio tile</i>	13438.09	2801.52	0	10001.41	0	0	1084.39	0	8964.85	2075.59	12613.1	2726.88	619.65	0	0	0
<i>Pterois volitans</i>	0	0	0	0	0	1760.21	0	0	0	0	0	0	0	0	28.5	0
<i>Pygoplites diacanthus</i>	0	0	71.06	54.73	0	0	0	0	112.18	968.96	328.51	831.61	0	194.42	367.86	0
<i>Sargocentron caudimaculatum</i>	136.04	0	81.88	0	331.55	212.58	0	0	905.19	649	115.06	1665.47	0	446.56	1545.96	0
<i>Sargocentron cornutum</i>	0	0	0	0	0	0	0	0	0	0	114.08	0	0	0	0	0
<i>Sargocentron spiniferum</i>	0	0	0	0	0	0	0	0	4439.66	0	0	0	0	0	0	0
<i>Sargocentron tieroides</i>	0	0	0	421.1	0	0	0	0	0	0	0	0	0	0	0	0
<i>Sargocentron violaceum</i>	0	0	0	0	0	0	0	0	0	0	1403.68	0	0	0	0	0
<i>Scarus dimidiatus</i>	2468.13	761.31	0	445.04	0	1204.49	0	0	0	0	0	0	0	0	0	0
<i>Scarus forsteri</i>	0	0	0	0	0	1667.59	0	0	0	0	0	0	0	0	0	0
<i>Scarus ghobban</i>	0	0	0	0	2468.25	2250.93	0	0	0	0	0	0	0	0	0	0
<i>Scarus niger</i>	0	0	0.12	0	0	0	0	0	0	0	0	13.68	0	0	0	19.2
<i>Scarus psittacus</i>	0	0	0	0	0	1106.83	0	0	0	0	0	0	0	0	0	0
<i>Scarus rubroviolaceus</i>	1109.4	0	0	0	0	4589.98	0	0	0	0	0	0	0	0	0	0
<i>Scarus sp.</i>	0	0	0	0	0	0	14.6	6.71	0	0	0	48.22	0	0	0	6.71
<i>Scarus tricolor</i>	1251.59	0	0	588.08	1263.82	834.24	0	970.77	0	0	0	834.24	1331.53	0	834.24	0
<i>Stethojulis bandanensis</i>	0	0	0	0	0	0	0	20.49	0	0	0	0	0	0	0	0
<i>Sufflamen bursa</i>	0	0	0	0	161.51	161.51	232.28	378.22	0	88.55	0	0	0	96.67	196.46	323.01
<i>Thalassoma amblycephalum</i>	95.96	45.18	187.41	357.99	373.96	247.98	1362.8	5416.91	603.91	284.37	228.53	97.77	626.45	2348.19	514.74	849.83
<i>Thalassoma hardwicke</i>	0	26.83	14.36	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Thalassoma lunare</i>	165.53	247.67	71.62	224.02	598.48	505.03	594.16	700.07	71.62	367.23	506.58	126.61	562.7	714.45	0	550.25
<i>Thalassoma purpuraceum</i>	34.52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Zanclus cornutus</i>	1695.2	1538.7	137.18	2322.19	0	493.31	1309.04	1220.27	1151.05	1911.54	1008.04	1274.07	1312.99	1374.7	719.25	479.78
<i>Zebrasoma scopas</i>	329.37	282.52	661.29	233.24	1111.96	1385.52	989.02	452.28	0	0	127.5	0	492.39	0	0	0
<i>Zebrasoma velifer</i>	332.14	0	281.74	461.16	0	0	0	0	0	0	0	0	0	0	520.07	151.72

Table S2. Lucipara survey data – Invertebrates & macroalgae

Site	id	Date	Code	Transect	Species	Count (standardised to 250 m ²)
Pulau Selatan	LUC1_T1_26Oct19	26-Oct-19	LUC1	T1	<i>Valonia ventricosa</i>	33.33
Pulau Selatan	LUC1_T1_26Oct19	26-Oct-19	LUC1	T1	<i>Halimeda opuntia</i>	8.33
Pulau Selatan	LUC1_T1_26Oct19	26-Oct-19	LUC1	T1	<i>Lobophora</i> sp.	8.33
Pulau Selatan	LUC1_T1_26Oct19	26-Oct-19	LUC1	T1	<i>Peyssonnelia</i> sp.	8.33
Pulau Selatan	LUC1_T1_26Oct19	26-Oct-19	LUC1	T1	<i>Caulerpa serrulata</i>	12.50
Pulau Selatan	LUC1_T1_26Oct19	26-Oct-19	LUC1	T1	<i>Valonia fastigiata</i>	4.17
Pulau Selatan	LUC1_T2_26Oct19	26-Oct-19	LUC1	T2	<i>Halimeda opuntia</i>	58.33
Pulau Selatan	LUC1_T2_26Oct19	26-Oct-19	LUC1	T2	<i>Valonia ventricosa</i>	75.00
Pulau Selatan	LUC1_T2_26Oct19	26-Oct-19	LUC1	T2	<i>Amphiroa fragilissima</i>	12.50
Pulau Selatan	LUC1_T2_26Oct19	26-Oct-19	LUC1	T2	<i>Rhodophyte</i> sp.	8.33
Pulau Selatan	LUC1_T2_26Oct19	26-Oct-19	LUC1	T2	<i>Codium ovale</i>	4.17
Pulau Selatan	LUC1_T2_26Oct19	26-Oct-19	LUC1	T2	<i>Caulerpa serrulata</i>	4.17
Pulau Selatan	LUC1_T3_26Oct19	26-Oct-19	LUC1	T3	<i>Halimeda opuntia</i>	25.00
Pulau Selatan	LUC1_T3_26Oct19	26-Oct-19	LUC1	T3	<i>Valonia ventricosa</i>	29.17
Pulau Selatan	LUC1_T3_26Oct19	26-Oct-19	LUC1	T3	<i>Lobophora</i> sp.	20.83
Pulau Selatan	LUC1_T4_26Oct19	26-Oct-19	LUC1	T4	<i>Halimeda opuntia</i>	16.67
Pulau Selatan	LUC1_T4_26Oct19	26-Oct-19	LUC1	T4	<i>Caulerpa serrulata</i>	4.17
Pulau Selatan	LUC1_T4_26Oct19	26-Oct-19	LUC1	T4	<i>Valonia fastigiata</i>	4.17
Pulau Mai	LUC2_T1_26Oct19	26-Oct-19	LUC2	T1	<i>Halimeda cylindracea</i>	133.33
Pulau Mai	LUC2_T1_26Oct19	26-Oct-19	LUC2	T1	<i>Amphiroa rigida</i>	4.17
Pulau Mai	LUC2_T1_26Oct19	26-Oct-19	LUC2	T1	<i>Halimeda opuntia</i>	20.83
Pulau Mai	LUC2_T1_26Oct19	26-Oct-19	LUC2	T1	<i>Lobophora</i> sp.	20.83
Pulau Mai	LUC2_T2_26Oct19	26-Oct-19	LUC2	T2	<i>Halimeda cylindracea</i>	408.33
Pulau Mai	LUC2_T2_26Oct19	26-Oct-19	LUC2	T2	<i>Halimeda opuntia</i>	16.67
Pulau Mai	LUC2_T2_26Oct19	26-Oct-19	LUC2	T2	<i>Caulerpa serrulata</i>	12.50
Pulau Mai	LUC2_T2_26Oct19	26-Oct-19	LUC2	T2	<i>Galaxaura marginata</i>	4.17
Pulau Mai	LUC2_T3_28Oct19	28-Oct-19	LUC2	T3	<i>Halimeda cylindracea</i>	229.17
Pulau Mai	LUC2_T3_28Oct19	28-Oct-19	LUC2	T3	<i>Caulerpa serrulata</i>	4.17
Pulau Mai	LUC2_T3_28Oct19	28-Oct-19	LUC2	T3	<i>Halimeda opuntia</i>	16.67
Pulau Mai	LUC2_T3_28Oct19	28-Oct-19	LUC2	T3	<i>Galaxaura marginata</i>	4.17
Pulau Mai	LUC2_T3_28Oct19	28-Oct-19	LUC2	T3	<i>Lobophora</i> sp.	125.00
Pulau Mai	LUC2_T3_28Oct19	28-Oct-19	LUC2	T3	<i>Peyssonnelia</i> sp.	125.00
Pulau Mai	LUC2_T4_28Oct19	28-Oct-19	LUC2	T4	<i>Halimeda cylindracea</i>	208.33
Pulau Mai	LUC2_T4_28Oct19	28-Oct-19	LUC2	T4	<i>Halimeda opuntia</i>	4.17

Site	id	Date	Code	Transect	Species	Count (standardised to 250 m ²)
Pulau Mai	LUC2_T4_28Oct19	28-Oct-19	LUC2	T4	<i>Caulerpa serrulata</i>	4.17
Lucipara3	LUC3_T1_27Oct19	27-Oct-19	LUC3	T1	<i>Halimeda opuntia</i>	558.33
Lucipara3	LUC3_T1_27Oct19	27-Oct-19	LUC3	T1	<i>Caulerpa serrulata</i>	45.83
Lucipara3	LUC3_T1_27Oct19	27-Oct-19	LUC3	T1	<i>Halimeda cylindracea</i>	20.83
Lucipara3	LUC3_T2_27Oct19	27-Oct-19	LUC3	T2	<i>Halimeda opuntia</i>	270.83
Lucipara3	LUC3_T2_27Oct19	27-Oct-19	LUC3	T2	<i>Caulerpa serrulata</i>	12.50
Lucipara3	LUC3_T2_27Oct19	27-Oct-19	LUC3	T2	<i>Halimeda cylindracea</i>	20.83
Lucipara3	LUC3_T3_27Oct19	27-Oct-19	LUC3	T3	<i>Halimeda opuntia</i>	500.00
Lucipara3	LUC3_T3_27Oct19	27-Oct-19	LUC3	T3	<i>Caulerpa serrulata</i>	8.33
Lucipara3	LUC3_T3_27Oct19	27-Oct-19	LUC3	T3	<i>Halimeda cylindracea</i>	20.83
Lucipara3	LUC3_T3_27Oct19	27-Oct-19	LUC3	T3	<i>Peyssonnelia</i> sp.	12.50
Lucipara3	LUC3_T4_27Oct19	27-Oct-19	LUC3	T4	<i>Halimeda opuntia</i>	258.33
Lucipara3	LUC3_T4_27Oct19	27-Oct-19	LUC3	T4	<i>Halimeda cylindracea</i>	12.50
Lucipara3	LUC3_T4_27Oct19	27-Oct-19	LUC3	T4	<i>Valonia ventricosa</i>	4.17
Lucipara4	LUC4_T1_27Oct19	27-Oct-19	LUC4	T1	<i>Halimeda opuntia</i>	1458.33
Lucipara4	LUC4_T1_27Oct19	27-Oct-19	LUC4	T1	<i>Halimeda cylindracea</i>	37.50
Lucipara4	LUC4_T1_27Oct19	27-Oct-19	LUC4	T1	<i>Caulerpa serrulata</i>	20.83
Lucipara4	LUC4_T1_27Oct19	27-Oct-19	LUC4	T1	<i>Peyssonnelia</i> sp.	4.17
Lucipara4	LUC4_T2_27Oct19	27-Oct-19	LUC4	T2	<i>Lobophora</i> sp.	8.33
Lucipara4	LUC4_T2_27Oct19	27-Oct-19	LUC4	T2	<i>Peyssonnelia</i> sp.	4.17
Lucipara4	LUC4_T2_27Oct19	27-Oct-19	LUC4	T2	<i>Halimeda opuntia</i>	41.67
Lucipara4	LUC4_T2_27Oct19	27-Oct-19	LUC4	T2	<i>Halimeda cylindracea</i>	4.17
Lucipara4	LUC4_T2_27Oct19	27-Oct-19	LUC4	T2	<i>Valonia ventricosa</i>	16.67
Lucipara4	LUC4_T2_27Oct19	27-Oct-19	LUC4	T2	<i>Halimeda discoidea</i>	4.17
Lucipara4	LUC4_T2_27Oct19	27-Oct-19	LUC4	T2	<i>Amphiroa rigida</i>	12.50
Lucipara4	LUC4_T3_27Oct19	27-Oct-19	LUC4	T3	<i>Amphiroa rigida</i>	41.67
Lucipara4	LUC4_T3_27Oct19	27-Oct-19	LUC4	T3	<i>Halimeda opuntia</i>	183.33
Lucipara4	LUC4_T4_27Oct19	27-Oct-19	LUC4	T4	<i>Amphiroa rigida</i>	4.17
Lucipara4	LUC4_T4_27Oct19	27-Oct-19	LUC4	T4	<i>Halimeda opuntia</i>	1125.00
Lucipara4	LUC4_T4_27Oct19	27-Oct-19	LUC4	T4	<i>Caulerpa serrulata</i>	29.17
Pulau Selatan	LUC1_T1_26Oct19	26-Oct-19	LUC1	T1	<i>Oxycomanthus bennetti</i>	6.67
Pulau Selatan	LUC1_T1_26Oct19	26-Oct-19	LUC1	T1	<i>Drupella</i> sp.	1.67
Pulau Selatan	LUC1_T1_26Oct19	26-Oct-19	LUC1	T1	<i>Comanthus alternans</i>	8.33
Pulau Selatan	LUC1_T1_26Oct19	26-Oct-19	LUC1	T1	<i>Fromia monilis</i>	6.67
Pulau Selatan	LUC1_T1_26Oct19	26-Oct-19	LUC1	T1	<i>Trapezia rufopunctata</i>	1.67
Pulau Selatan	LUC1_T1_26Oct19	26-Oct-19	LUC1	T1	<i>Trapezia bidentata</i>	5.00
Pulau Selatan	LUC1_T1_26Oct19	26-Oct-19	LUC1	T1	<i>Calcinus minutus</i>	10.00

Site	id	Date	Code	Transect	Species	Count (standardised to 250 m ²)
Pulau Selatan	LUC1_T1_26Oct19	26-Oct-19	LUC1	T1	<i>Spirobranchus</i> sp.	1.67
Pulau Selatan	LUC1_T1_26Oct19	26-Oct-19	LUC1	T1	<i>Sabellastarte indica</i>	1.67
Pulau Selatan	LUC1_T1_26Oct19	26-Oct-19	LUC1	T1	<i>Comaster schlegelii</i>	3.33
Pulau Selatan	LUC1_T1_26Oct19	26-Oct-19	LUC1	T1	<i>Lysmata amboinensis</i>	3.33
Pulau Selatan	LUC1_T2_26Oct19	26-Oct-19	LUC1	T2	<i>Goniobranchnus geometricus</i>	1.67
Pulau Selatan	LUC1_T2_26Oct19	26-Oct-19	LUC1	T2	<i>Phyllidia elegans</i>	1.67
Pulau Selatan	LUC1_T2_26Oct19	26-Oct-19	LUC1	T2	<i>Lysmata amboinensis</i>	6.67
Pulau Selatan	LUC1_T2_26Oct19	26-Oct-19	LUC1	T2	<i>Oxycomanthus bennetti</i>	6.67
Pulau Selatan	LUC1_T2_26Oct19	26-Oct-19	LUC1	T2	<i>Capillaster sentosus</i>	6.67
Pulau Selatan	LUC1_T2_26Oct19	26-Oct-19	LUC1	T2	<i>Fromia monilis</i>	1.67
Pulau Selatan	LUC1_T2_26Oct19	26-Oct-19	LUC1	T2	<i>Comanthus parvicirrus</i>	3.33
Pulau Selatan	LUC1_T2_26Oct19	26-Oct-19	LUC1	T2	<i>Trapezia rufopunctata</i>	6.67
Pulau Selatan	LUC1_T2_26Oct19	26-Oct-19	LUC1	T2	<i>Calcinus minutus</i>	18.33
Pulau Selatan	LUC1_T2_26Oct19	26-Oct-19	LUC1	T2	<i>Panulirus versicolor</i>	1.67
Pulau Selatan	LUC1_T3_26Oct19	26-Oct-19	LUC1	T3	<i>Calcinus minutus</i>	11.67
Pulau Selatan	LUC1_T3_26Oct19	26-Oct-19	LUC1	T3	<i>Ophiothrix</i> sp.	8.33
Pulau Selatan	LUC1_T3_26Oct19	26-Oct-19	LUC1	T3	<i>Comanthus alternans</i>	6.67
Pulau Selatan	LUC1_T3_26Oct19	26-Oct-19	LUC1	T3	<i>Capillaster sentosus</i>	6.67
Pulau Selatan	LUC1_T3_26Oct19	26-Oct-19	LUC1	T3	<i>Trapezia bidentata</i>	1.67
Pulau Selatan	LUC1_T3_26Oct19	26-Oct-19	LUC1	T3	<i>Trapezia rufopunctata</i>	10.00
Pulau Selatan	LUC1_T4_26Oct19	26-Oct-19	LUC1	T4	<i>Bohadschia</i> sp.	1.67
Pulau Selatan	LUC1_T4_26Oct19	26-Oct-19	LUC1	T4	<i>Colobometra perspinosa</i>	1.67
Pulau Selatan	LUC1_T4_26Oct19	26-Oct-19	LUC1	T4	<i>Trapezia rufopunctata</i>	1.67
Pulau Selatan	LUC1_T4_26Oct19	26-Oct-19	LUC1	T4	<i>Calcinus minutus</i>	11.67
Pulau Selatan	LUC1_T4_26Oct19	26-Oct-19	LUC1	T4	<i>Ophiothrix</i> sp.	3.33
Pulau Selatan	LUC1_T4_26Oct19	26-Oct-19	LUC1	T4	<i>Drupella</i> sp.	1.67
Pulau Mai	LUC2_T1_26Oct19	26-Oct-19	LUC2	T1	<i>Capillaster sentosus</i>	15.00
Pulau Mai	LUC2_T1_26Oct19	26-Oct-19	LUC2	T1	<i>Lysmata amboinensis</i>	3.33
Pulau Mai	LUC2_T1_26Oct19	26-Oct-19	LUC2	T1	<i>Oxycomanthus bennetti</i>	18.33
Pulau Mai	LUC2_T1_26Oct19	26-Oct-19	LUC2	T1	<i>Stenopus hispidus</i>	6.67
Pulau Mai	LUC2_T1_26Oct19	26-Oct-19	LUC2	T1	<i>Ophiomastix caryophyllata</i>	1.67
Pulau Mai	LUC2_T1_26Oct19	26-Oct-19	LUC2	T1	<i>Fromia monilis</i>	1.67
Pulau Mai	LUC2_T1_26Oct19	26-Oct-19	LUC2	T1	<i>Colobometra perspinosa</i>	1.67
Pulau Mai	LUC2_T1_26Oct19	26-Oct-19	LUC2	T1	<i>Trapezia rufopunctata</i>	1.67
Pulau Mai	LUC2_T1_26Oct19	26-Oct-19	LUC2	T1	<i>Ophiothrix</i> sp.	5.00
Pulau Mai	LUC2_T1_26Oct19	26-Oct-19	LUC2	T1	<i>Comanthus parvicirrus</i>	13.33
Pulau Mai	LUC2_T2_26Oct19	26-Oct-19	LUC2	T2	<i>Trapezia rufopunctata</i>	6.67

Site	id	Date	Code	Transect	Species	Count (standardised to 250 m ²)
Pulau Mai	LUC2_T2_26Oct19	26-Oct-19	LUC2	T2	<i>Trapezia bidentata</i>	3.33
Pulau Mai	LUC2_T2_26Oct19	26-Oct-19	LUC2	T2	<i>Oxycomanthus bennetti</i>	8.33
Pulau Mai	LUC2_T2_26Oct19	26-Oct-19	LUC2	T2	<i>Capillaster sentosus</i>	20.00
Pulau Mai	LUC2_T2_26Oct19	26-Oct-19	LUC2	T2	<i>Drupella</i> sp.	1.67
Pulau Mai	LUC2_T2_26Oct19	26-Oct-19	LUC2	T2	<i>Calcinus minutus</i>	16.67
Pulau Mai	LUC2_T2_26Oct19	26-Oct-19	LUC2	T2	<i>Comanthus parvicirrus</i>	1.67
Pulau Mai	LUC2_T2_26Oct19	26-Oct-19	LUC2	T2	<i>Ophiothrix</i> sp.	3.33
Pulau Mai	LUC2_T2_26Oct19	26-Oct-19	LUC2	T2	<i>Stenopus hispidus</i>	3.33
Pulau Mai	LUC2_T2_26Oct19	26-Oct-19	LUC2	T2	<i>Sabellastarte</i> sp.	1.67
Pulau Mai	LUC2_T2_26Oct19	26-Oct-19	LUC2	T2	<i>Comaster schlegelii</i>	1.67
Pulau Mai	LUC2_T3_28Oct19	28-Oct-19	LUC2	T3	<i>Capillaster sentosus</i>	20.00
Pulau Mai	LUC2_T3_28Oct19	28-Oct-19	LUC2	T3	<i>Comanthus parvicirrus</i>	31.67
Pulau Mai	LUC2_T3_28Oct19	28-Oct-19	LUC2	T3	<i>Calcinus minutus</i>	6.67
Pulau Mai	LUC2_T3_28Oct19	28-Oct-19	LUC2	T3	<i>Trapezia bidentata</i>	6.67
Pulau Mai	LUC2_T3_28Oct19	28-Oct-19	LUC2	T3	<i>Spirobranchus</i> sp.	6.67
Pulau Mai	LUC2_T3_28Oct19	28-Oct-19	LUC2	T3	<i>Trapezia tigrina</i>	3.33
Pulau Mai	LUC2_T3_28Oct19	28-Oct-19	LUC2	T3	<i>Comaster schlegelii</i>	3.33
Pulau Mai	LUC2_T3_28Oct19	28-Oct-19	LUC2	T3	<i>Oxycomanthus bennetti</i>	5.00
Pulau Mai	LUC2_T3_28Oct19	28-Oct-19	LUC2	T3	<i>Pedum spondyloideum</i>	1.67
Pulau Mai	LUC2_T3_28Oct19	28-Oct-19	LUC2	T3	<i>Trapezia rufopunctata</i>	1.67
Pulau Mai	LUC2_T4_28Oct19	28-Oct-19	LUC2	T4	<i>Capillaster sentosus</i>	11.67
Pulau Mai	LUC2_T4_28Oct19	28-Oct-19	LUC2	T4	<i>Comanthus parvicirrus</i>	13.33
Pulau Mai	LUC2_T4_28Oct19	28-Oct-19	LUC2	T4	<i>Comaster schlegelii</i>	1.67
Pulau Mai	LUC2_T4_28Oct19	28-Oct-19	LUC2	T4	<i>Spirobranchus</i> sp.	11.67
Pulau Mai	LUC2_T4_28Oct19	28-Oct-19	LUC2	T4	<i>Calcinus minutus</i>	5.00
Pulau Mai	LUC2_T4_28Oct19	28-Oct-19	LUC2	T4	<i>Trapezia rufopunctata</i>	1.67
Pulau Mai	LUC2_T4_28Oct19	28-Oct-19	LUC2	T4	<i>Oxycomanthus bennetti</i>	5.00
Pulau Mai	LUC2_T4_28Oct19	28-Oct-19	LUC2	T4	<i>Trapezia bidentata</i>	3.33
Pulau Mai	LUC2_T4_28Oct19	28-Oct-19	LUC2	T4	<i>Ophiothrix</i> sp.	3.33
Pulau Mai	LUC2_T4_28Oct19	28-Oct-19	LUC2	T4	<i>Drupella</i> sp.	3.33
Pulau Mai	LUC2_T4_28Oct19	28-Oct-19	LUC2	T4	<i>Trapezia tigrina</i>	1.67
Lucipara3	LUC3_T1_27Oct19	27-Oct-19	LUC3	T1	<i>Diadema</i> sp.	1.67
Lucipara3	LUC3_T1_27Oct19	27-Oct-19	LUC3	T1	<i>Comanthus parvicirrus</i>	21.67
Lucipara3	LUC3_T1_27Oct19	27-Oct-19	LUC3	T1	<i>Calcinus minutus</i>	1.67
Lucipara3	LUC3_T1_27Oct19	27-Oct-19	LUC3	T1	<i>Trapezia tigrina</i>	3.33
Lucipara3	LUC3_T1_27Oct19	27-Oct-19	LUC3	T1	<i>Phyllidia elegans</i>	1.67
Lucipara3	LUC3_T1_27Oct19	27-Oct-19	LUC3	T1	<i>Comaster schlegelii</i>	3.33

Site	id	Date	Code	Transect	Species	Count (standardised to 250 m ²)
Lucipara3	LUC3_T1_27Oct19	27-Oct-19	LUC3	T1	<i>Capillaster sentosus</i>	10.00
Lucipara3	LUC3_T1_27Oct19	27-Oct-19	LUC3	T1	<i>Oxycomanthus bennetti</i>	3.33
Lucipara3	LUC3_T1_27Oct19	27-Oct-19	LUC3	T1	<i>Sabellastarte</i> sp.	1.67
Lucipara3	LUC3_T1_27Oct19	27-Oct-19	LUC3	T1	<i>Spondylus varius</i>	1.67
Lucipara3	LUC3_T2_27Oct19	27-Oct-19	LUC3	T2	<i>Sabellastarte</i> sp.	3.33
Lucipara3	LUC3_T2_27Oct19	27-Oct-19	LUC3	T2	<i>Capillaster sentosus</i>	18.33
Lucipara3	LUC3_T2_27Oct19	27-Oct-19	LUC3	T2	<i>Comanthus parvicirrus</i>	11.67
Lucipara3	LUC3_T2_27Oct19	27-Oct-19	LUC3	T2	<i>Trapezia tigrina</i>	5.00
Lucipara3	LUC3_T2_27Oct19	27-Oct-19	LUC3	T2	<i>Calcinus minutus</i>	3.33
Lucipara3	LUC3_T2_27Oct19	27-Oct-19	LUC3	T2	<i>Spirobranchus</i> sp.	11.67
Lucipara3	LUC3_T2_27Oct19	27-Oct-19	LUC3	T2	<i>Comaster schlegelii</i>	1.67
Lucipara3	LUC3_T2_27Oct19	27-Oct-19	LUC3	T2	<i>Oxycomanthus bennetti</i>	1.67
Lucipara3	LUC3_T2_27Oct19	27-Oct-19	LUC3	T2	<i>Sabellastarte indica</i>	3.33
Lucipara3	LUC3_T2_27Oct19	27-Oct-19	LUC3	T2	<i>Capillaster sentosus</i>	5.00
Lucipara3	LUC3_T2_27Oct19	27-Oct-19	LUC3	T2	<i>Comanthus parvicirrus</i>	10.00
Lucipara3	LUC3_T2_27Oct19	27-Oct-19	LUC3	T2	<i>Spirobranchus</i> sp.	65.00
Lucipara3	LUC3_T2_27Oct19	27-Oct-19	LUC3	T2	<i>Trapezia bidentata</i>	6.67
Lucipara3	LUC3_T2_27Oct19	27-Oct-19	LUC3	T2	<i>Trapezia tigrina</i>	5.00
Lucipara3	LUC3_T3_27Oct19	27-Oct-19	LUC3	T3	<i>Sabellastarte</i> sp.	5.00
Lucipara3	LUC3_T3_27Oct19	27-Oct-19	LUC3	T3	<i>Sabellastarte indica</i>	1.67
Lucipara3	LUC3_T3_27Oct19	27-Oct-19	LUC3	T3	<i>Stenopus hispidus</i>	3.33
Lucipara3	LUC3_T3_27Oct19	27-Oct-19	LUC3	T3	<i>Spirobranchus</i> sp.	48.33
Lucipara3	LUC3_T3_27Oct19	27-Oct-19	LUC3	T3	<i>Trapezia bidentata</i>	6.67
Lucipara3	LUC3_T3_27Oct19	27-Oct-19	LUC3	T3	<i>Trapezia rufopunctata</i>	5.00
Lucipara3	LUC3_T3_27Oct19	27-Oct-19	LUC3	T3	<i>Sabellastarte</i> sp.	5.00
Lucipara3	LUC3_T3_27Oct19	27-Oct-19	LUC3	T3	<i>Stenopus hispidus</i>	3.33
Lucipara3	LUC3_T4_27Oct19	27-Oct-19	LUC3	T4	<i>Capillaster sentosus</i>	3.33
Lucipara3	LUC3_T4_27Oct19	27-Oct-19	LUC3	T4	<i>Sabellastarte indica</i>	6.67
Lucipara3	LUC3_T4_27Oct19	27-Oct-19	LUC3	T4	<i>Stenopus hispidus</i>	1.67
Lucipara3	LUC3_T4_27Oct19	27-Oct-19	LUC3	T4	<i>Sabellastarte</i> sp.	5.00
Lucipara3	LUC3_T4_27Oct19	27-Oct-19	LUC3	T4	<i>Trapezia tigrina</i>	3.33
Lucipara3	LUC3_T4_27Oct19	27-Oct-19	LUC3	T4	<i>Lysmata amboinensis</i>	6.67
Lucipara3	LUC3_T4_27Oct19	27-Oct-19	LUC3	T4	<i>Comanthus parvicirrus</i>	1.67
Lucipara3	LUC3_T4_27Oct19	27-Oct-19	LUC3	T4	<i>Spirobranchus</i> sp.	23.33
Lucipara4	LUC4_T1_27Oct19	27-Oct-19	LUC4	T1	<i>Capillaster sentosus</i>	18.33
Lucipara4	LUC4_T1_27Oct19	27-Oct-19	LUC4	T1	<i>Comanthus parvicirrus</i>	21.67
Lucipara4	LUC4_T1_27Oct19	27-Oct-19	LUC4	T1	<i>Oxycomanthus bennetti</i>	8.33

Site	id	Date	Code	Transect	Species	Count (standardised to 250 m ²)
Lucipara4	LUC4_T1_27Oct19	27-Oct-19	LUC4	T1	<i>Comaster schlegelii</i>	1.67
Lucipara4	LUC4_T1_27Oct19	27-Oct-19	LUC4	T1	<i>Spirobranchus</i> sp.	15.00
Lucipara4	LUC4_T1_27Oct19	27-Oct-19	LUC4	T1	<i>Basilometra boschmai</i>	6.67
Lucipara4	LUC4_T1_27Oct19	27-Oct-19	LUC4	T1	<i>Sabellastarte indica</i>	8.33
Lucipara4	LUC4_T1_27Oct19	27-Oct-19	LUC4	T1	<i>Colobometra perspinosa</i>	1.67
Lucipara4	LUC4_T2_27Oct19	27-Oct-19	LUC4	T2	<i>Capillaster sentosus</i>	1.67
Lucipara4	LUC4_T2_27Oct19	27-Oct-19	LUC4	T2	<i>Comanthus parvicirrus</i>	3.33
Lucipara4	LUC4_T2_27Oct19	27-Oct-19	LUC4	T2	<i>Sabellastarte indica</i>	8.33
Lucipara4	LUC4_T2_27Oct19	27-Oct-19	LUC4	T2	<i>Sabellastarte</i> sp.	18.33
Lucipara4	LUC4_T2_27Oct19	27-Oct-19	LUC4	T2	<i>Basilometra boschmai</i>	10.00
Lucipara4	LUC4_T2_27Oct19	27-Oct-19	LUC4	T2	<i>Colobometra perspinosa</i>	8.33
Lucipara4	LUC4_T2_27Oct19	27-Oct-19	LUC4	T2	<i>Hyotissa hyotis</i>	18.33
Lucipara4	LUC4_T2_27Oct19	27-Oct-19	LUC4	T2	<i>Stenopus hispidus</i>	20.00
Lucipara4	LUC4_T2_27Oct19	27-Oct-19	LUC4	T2	<i>Spirobranchus</i> sp.	8.33
Lucipara4	LUC4_T2_27Oct19	27-Oct-19	LUC4	T2	<i>Spondylus varius</i>	1.67
Lucipara4	LUC4_T3_27Oct19	27-Oct-19	LUC4	T3	<i>Sabellastarte</i> sp.	13.33
Lucipara4	LUC4_T3_27Oct19	27-Oct-19	LUC4	T3	<i>Spondylus varius</i>	1.67
Lucipara4	LUC4_T3_27Oct19	27-Oct-19	LUC4	T3	<i>Oxycomanthus bennetti</i>	5.00
Lucipara4	LUC4_T3_27Oct19	27-Oct-19	LUC4	T3	<i>Spirobranchus</i> sp.	10.00
Lucipara4	LUC4_T3_27Oct19	27-Oct-19	LUC4	T3	<i>Sabellastarte indica</i>	6.67
Lucipara4	LUC4_T3_27Oct19	27-Oct-19	LUC4	T3	<i>Stenopus hispidus</i>	6.67
Lucipara4	LUC4_T3_27Oct19	27-Oct-19	LUC4	T3	<i>Basilometra boschmai</i>	3.33
Lucipara4	LUC4_T3_27Oct19	27-Oct-19	LUC4	T3	<i>Trapezia rufopunctata</i>	1.67
Lucipara4	LUC4_T3_27Oct19	27-Oct-19	LUC4	T3	<i>Synaptula lamperti</i>	1.67
Lucipara4	LUC4_T4_27Oct19	27-Oct-19	LUC4	T4	<i>Spondylus varius</i>	1.67
Lucipara4	LUC4_T4_27Oct19	27-Oct-19	LUC4	T4	<i>Sabellastarte</i> sp.	3.33
Lucipara4	LUC4_T4_27Oct19	27-Oct-19	LUC4	T4	<i>Oxycomanthus bennetti</i>	1.67
Lucipara4	LUC4_T4_27Oct19	27-Oct-19	LUC4	T4	<i>Spirobranchus</i> sp.	6.67
Lucipara4	LUC4_T4_27Oct19	27-Oct-19	LUC4	T4	<i>Sabellastarte indica</i>	3.33
Lucipara4	LUC4_T4_27Oct19	27-Oct-19	LUC4	T4	<i>Capillaster sentosus</i>	1.67
Lucipara4	LUC4_T4_27Oct19	27-Oct-19	LUC4	T4	<i>Colobometra perspinosa</i>	1.67
Lucipara4	LUC4_T4_27Oct19	27-Oct-19	LUC4	T4	<i>Basilometra boschmai</i>	1.67
Lucipara4	LUC4_T4_27Oct19	27-Oct-19	LUC4	T4	<i>Tridacna squamosa</i>	1.67
Lucipara4	LUC4_T4_27Oct19	27-Oct-19	LUC4	T4	<i>Trapezia bidentata</i>	1.67

Table S3. Lucipara surveys – benthic cover

ID	site	transect	Presented in Figure 2					Coral							Abiotic Rubble	Sand	Other Cnidarian			Sea fan	
			Hard Coral	Abiotic	Soft Coral	Algae	Other Cnidarian	Sponge	Branching coral	Encrusting coral	Sub-massive coral	Corymbose coral	Foliose	Massive			Rock	Dendro-phyllia	Hyd-roid		Mille-pora
LUC1_T1	LUC1	T1	40.17	57.67	1	0	0.83	0	16.83	12.17	7.17	0	0.83	3.17	52.83	4.17	0.67	0	0	0.83	0
LUC1_T2	LUC1	T2	47.67	48.67	1.83	0	0.17	0.5	15.5	8.17	20.83	0	0.83	2.33	44.33	2.67	1.67	0	0	0.17	0
LUC1_T3	LUC1	T3	41.67	52.17	3.17	0	1.83	1.17	19.17	7.17	10.83	0.33	0.33	3.83	44.5	5.67	2	0	0	1.83	0
LUC1_T4	LUC1	T4	39.83	50.17	5	0	4.5	0.33	9.67	21	4.83	1.17	0.17	3	48.17	0.67	1.33	0	0	4.5	0
LUC2_T1	LUC2	T1	34.83	21.67	22.5	3.3	0	15.3	2.33	13.17	11.83	0.17	0	7.33	20.17	0.67	0.83	0	0	0	0
LUC2_T2	LUC2	T2	33.83	27.83	19.83	6.5	0.5	7.17	6.83	8.17	14.83	0	0	4	25.83	1	1	0	0	0.5	0
LUC2_T3	LUC2	T3	39.83	27.5	23.33	2.5	0.5	2.5	7.17	15	13.17	0	0	4.5	25.83	0.17	1.5	0	0	0.5	0
LUC2_T4	LUC2	T4	25.83	34	31.17	3.5	0.33	2	4.17	13.83	6.33	0	0	1.5	26	1.33	6.67	0	0	0.33	0
LUC3_T1	LUC3	T1	29	32.83	12.5	20.33	1.83	1.83	6.83	10.5	7.5	0.17	0	4	23.17	0.83	8.83	0	0	1.83	0
LUC3_T2	LUC3	T2	38	29.67	10.83	18.67	0.17	0.83	11.67	14.17	10.67	0	0	1.5	24.17	1	4.5	0	0	0.17	0
LUC3_T3	LUC3	T3	26.67	18.83	18.83	10.83	9	14.83	3	19	3.83	0	0	0.83	16.5	1.83	0.5	8.67	0	0.33	0
LUC3_T4	LUC3	T4	30.12	10.83	29.44	2.37	7.11	19.12	0.85	25.72	1.52	0	0	2.03	10.83	0	0	5.25	0.51	0	1.35
LUC4_T1	LUC4	T1	39.23	23.23	4.21	27.61	0.34	3.2	5.22	28.11	4.55	0	0.17	1.18	22.22	0.17	0.84	0.17	0	0	0.17
LUC4_T2	LUC4	T2	22.54	20.03	7.51	2.67	36.39	10.35	1.17	19.37	0.33	0	0	1.67	19.53	0.33	0.17	35.39	0.5	0	0.5
LUC4_T3	LUC4	T3	20.17	36	3.17	1.33	28	10.67	1.33	17.67	1	0	0	0.17	35.67	0	0.33	25.33	2.5	0	0.17
LUC4_T4	LUC4	T4	27.99	28.84	5.56	19.39	10.46	6.91	3.54	21.59	2.7	0	0	0.17	24.11	2.02	2.7	7.76	2.7	0	0

Data had the following categories removed prior to analysis: "Unkown"; Tape, wand, measure; and Bryozoan (combined cover across all sites <0.5%).

Detailed results – PERMANOVA fish

Fish Abundance

PERMANOVA

Permutational MANOVA

Resemblance worksheet

Name: Lucipara Fish_BC Resem

Data type: Similarity

Selection: All

Transform: Square root

Resemblance: S17 Bray–Curtis similarity

Sums of squares type: Type III (partial)

Fixed effects sum to zero for mixed terms

Permutation method: Unrestricted permutation of raw data

Number of permutations: 9999

Factors

Name	Type	Levels
Site	Fixed	4

PAIR-WISE TESTS

Term 'Site'

Groups	t	P(perm)	Unique perms	P(MC)
LUC1, LUC2	2.1221	0.0299	35	0.0091
LUC1, LUC3	2.3509	0.0291	35	0.0059
LUC1, LUC4	1.8856	0.0281	35	0.0261
LUC2, LUC3	2.814	0.0282	35	0.0028
LUC2, LUC4	2.0576	0.0277	35	0.0122
LUC3, LUC4	1.0851	0.2214	35	0.3394

Denominators

Groups	Denominator	Den. d.f.
LUC1, LUC2	1*Res	6
LUC1, LUC3	1*Res	6
LUC1, LUC4	1*Res	6
LUC2, LUC3	1*Res	6
LUC2, LUC4	1*Res	6
LUC3, LUC4	1*Res	6

Average Similarity between/within groups

	LUC1	LUC2	LUC3	LUC4
LUC1	61.306			
LUC2	52.738	70.028		
LUC3	41.962	40.913	59.019	
LUC4	41.42	42.607	52.045	47.723

Fish Biomass

PERMANOVA

Permutational MANOVA

Resemblance worksheet

Name: Resem11

Data type: Similarity

Selection: All

Transform: Square root

Resemblance: S17 Bray–Curtis similarity

Sums of squares type: Type III (partial)

Fixed effects sum to zero for mixed terms

Permutation method: Unrestricted permutation of raw data

Number of permutations: 9999

Factors

Name	Type	Levels
Site	Fixed	4

PAIR-WISE TESTS

Term 'Site'

Groups	t	P(perm)	Unique perms	P(MC)
LUC1, LUC2	1.655	0.0274	35	0.0436
LUC1, LUC3	1.7782	0.0282	35	0.0244
LUC1, LUC4	1.6543	0.0287	35	0.0394
LUC2, LUC3	2.239	0.0287	35	0.0085
LUC2, LUC4	1.9266	0.0331	35	0.0157
LUC3, LUC4	1.3227	0.0244	35	0.138

Denominators

Groups	Denominator	Den. d.f.
LUC1, LUC2	1*Res	6
LUC1, LUC3	1*Res	6
LUC1, LUC4	1*Res	6
LUC2, LUC3	1*Res	6
LUC2, LUC4	1*Res	6
LUC3, LUC4	1*Res	6

Average Similarity between/within groups

	LUC1	LUC2	LUC3	LUC4
LUC1	43.974			
LUC2	36.553	50.802		
LUC3	34.869	30.852	51.783	
LUC4	31.612	30.274	42.099	42.353

Detailed results – benthic cover

ANOSIM

Analysis of Similarities

One-Way - A

Resemblance worksheet

Name: Resem2

Data type: Distance

Selection: All

Factors

Place	Name	Type	Levels
A	Site	Unordered	4

Site levels

LUC1

LUC2

LUC3

LUC4

Tests for differences between unordered Site groups

Global Test

Sample statistic (R): 0.668

Significance level of sample statistic: 0.01%

Number of permutations: 9999 (Random sample from 2627625)

Number of permuted statistics greater than or equal to R: 0

Pairwise Tests

Groups	R Statistic	Significance Level %	Possible Permutations	Actual Permutations	Number >= Observed
LUC1, LUC2	1	2.9	35	35	1
LUC1, LUC3	0.854	2.9	35	35	1
LUC1, LUC4	0.781	2.9	35	35	1
LUC2, LUC3	0.448	5.7	35	35	2
LUC2, LUC4	0.667	2.9	35	35	1
LUC3, LUC4	0.229	11.4	35	35	4

Benthic cover results per category

Response: data\$HardCoral

	d. f.	Sum Sq	Mean Sq	F-value	Pr(>F)	
data\$site	3	483.04	161.013	4.5008	0.02456	*
Residuals	12	429.29	35.774			

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Response: data\$Abiotic

	d. f.	Sum Sq	Mean Sq	F-value	Pr(>F)	
data\$site	3	2115.75	705.25	14.683	0.0002552	***
Residuals	12	576.38	48.03			

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Response: data\$Soft.Coral

	d. f.	Sum Sq	Mean Sq	F-value	Pr(>F)	
data\$site	3	1263.45	421.15	16.614	0.0001429	***
Residuals	12	304.19	25.35			

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Response: (sqrt(data\$Algae))

	d. f.	Sum Sq	Mean Sq	F-value	Pr(>F)	
data\$site	3	28.724	9.5745	6.2624	0.008386	**
Residuals	12	18.347	1.5289			

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Response: (sqrt(data\$Sponge))

	d. f.	Sum Sq	Mean Sq	F-value	Pr(>F)	
data\$site	3	12.113	4.0376	3.1973	0.06241	.
Residuals	12	15	1.2628			

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Table S6. Lucipara survey data niche list – fish categories

Species	TrophLev	Classification	MaxSize	Niche
<i>Abudefduf sexfasciatus</i>	2.37	Opportunistic planktivore	Small	Small Opportunistic planktivore
<i>Abudefduf vaigiensis</i>	2.57	Opportunistic planktivore	Medium	Medium Opportunistic planktivore
<i>Acanthurus nigricans</i>	2	Herbivore	Medium	Medium Herbivore
<i>Acanthurus nigricauda</i>	3	Herbivore	Medium	Medium Herbivore
<i>Acanthurus nigrofuscus</i>	2	Herbivore	Medium	Medium Herbivore
<i>Acanthurus olivaceus</i>	2.2	Detritivore	Medium	Medium Detritivore
<i>Acanthurus pyroferus</i>	2	Detritivore	Medium	Medium Detritivore
<i>Acanthurus</i> sp.	2.35	Herbivore	Medium	Medium Herbivore
<i>Acanthurus thompsoni</i>	3.46	Planktivore	Medium	Medium Planktivore
<i>Acanthurus xanthopterus</i>	2.9	Detritivore	Large	Large Detritivore
<i>Aethaloperca rogae</i>	4.2	Predator	Large	Large Predator
<i>Amanses scopas</i>	2.9	Corallivore	Medium	Medium Corallivore
<i>Amblyglyphidodon aureus</i>	2.7	Planktivore	Small	Small Planktivore
<i>Amblyglyphidodon curacao</i>	2.63	Opportunistic planktivore	Small	Small Opportunistic planktivore
<i>Amphiprion perideraion</i>	2.21	Opportunistic planktivore	Small	Small Opportunistic planktivore
<i>Amphiprion sandaracinos</i>	2.7	Opportunistic planktivore	Small	Small Opportunistic planktivore
<i>Anampses geographicus</i>	3.24	Invertivore	Medium	Medium Invertivore
<i>Anampses melanurus</i>	3.4	Invertivore	Small	Small Invertivore
<i>Anampses meleagrides</i>	3.5	Invertivore	Medium	Medium Invertivore
<i>Anampses twistii</i>	3.5	Invertivore	Small	Small Invertivore
<i>Aphareus furca</i>	4.1	Predator	Large	Large Predator
<i>Aprion virescens</i>	4.09	Predator	Large	Large Predator
<i>Arothron stellatus</i>	3.65	Benthic omnivore	Large	Large Benthic omnivore
<i>Balistapus undulatus</i>	3.4	Benthic omnivore	Medium	Medium Benthic omnivore
<i>Balistoides conspicillum</i>	3.3	Benthic invertivore	Large	Large Benthic invertivore
<i>Balistoides viridescens</i>	3.3	Benthic invertivore	Large	Large Benthic invertivore
<i>Bodianus dictynna</i>	3.5	Benthic invertivore	Small	Small Benthic invertivore
<i>Bodianus loxozonus</i>	3.6	Benthic invertivore	Medium	Medium Benthic invertivore
<i>Bodianus mesothorax</i>	3.2	Benthic invertivore	Medium	Medium Benthic invertivore
<i>Caesio teres</i>	3.4	Planktivore	Medium	Medium Planktivore
<i>Caranx ignobilis</i>	3.99	Predator	Large	Large Predator
<i>Caranx melampygus</i>	4.49	Predator	Large	Large Predator
<i>Carcharhinus amblyrhynchos</i>	4.11	Predator	Very large	Very large Predator
<i>Carcharhinus melanopterus</i>	4.5	Predator	Very large	Very large Predator
<i>Centropyge bicolor</i>	3	Omnivore	Small	Small Omnivore
<i>Centropyge tibicen</i>	2.8	Herbivore	Small	Small Herbivore
<i>Centropyge vrolikii</i>	2.8	Herbivore	Small	Small Herbivore
<i>Cephalopholis argus</i>	4.48	Predator	Large	Large Predator
<i>Cephalopholis cyanostigma</i>	4.2	Predator	Medium	Medium Predator
<i>Cephalopholis leopardus</i>	4	Predator	Medium	Medium Predator
<i>Cephalopholis miniata</i>	4.15	Predator	Medium	Medium Predator

Species	TrophLev	Classification	MaxSize	Niche
<i>Cephalopholis sexmaculata</i>	4.5	Piscivore	Large	Large Piscivore
<i>Cephalopholis spiloparaea</i>	4.1	Invertivore	Medium	Medium Invertivore
<i>Cephalopholis urodeta</i>	4	Predator	Medium	Medium Predator
<i>Cetoscarus ocellatus</i>	2	Herbivore	Large	Large Herbivore
<i>Chaetodon adiergastos</i>	3.5	Benthic invertivore	Medium	Medium Benthic invertivore
<i>Chaetodon auriga</i>	3.33	Benthic invertivore	Medium	Medium Benthic invertivore
<i>Chaetodon bennetti</i>	3.34	Corallivore	Medium	Medium Corallivore
<i>Chaetodon citrinellus</i>	3.28	Benthic omnivore	Small	Small Benthic omnivore
<i>Chaetodon ephippium</i>	3.12	Omnivore	Medium	Medium Omnivore
<i>Chaetodon kleinii</i>	3.48	Omnivore	Small	Small Omnivore
<i>Chaetodon lunula</i>	3.39	Benthic invertivore	Medium	Medium Benthic invertivore
<i>Chaetodon lunulatus</i>	3.3	Corallivore	Small	Small Corallivore
<i>Chaetodon melannotus</i>	3.78	Corallivore	Small	Small Corallivore
<i>Chaetodon meyeri</i>	3.3	Corallivore	Medium	Medium Corallivore
<i>Chaetodon punctatofasciatus</i>	3.39	Omnivore	Small	Small Omnivore
<i>Chaetodon rafflesii</i>	3.98	Benthic invertivore	Small	Small Benthic invertivore
<i>Chaetodon semeion</i>	2.7	Benthic invertivore	Medium	Medium Benthic invertivore
<i>Chaetodon speculum</i>	3.63	Benthic invertivore	Small	Small Benthic invertivore
<i>Chaetodon trifascialis</i>	3.34	Corallivore	Small	Small Corallivore
<i>Chaetodon ulietensis</i>	4.27	Omnivore	Small	Small Omnivore
<i>Chaetodon unimaculatus</i>	3.47	Benthic omnivore	Medium	Medium Benthic omnivore
<i>Chaetodon vagabundus</i>	3.33	Omnivore	Medium	Medium Omnivore
<i>Chanos chanos</i>	1.99	Omnivore	Large	Large Omnivore
<i>Cheilinus undulatus</i>	4	Benthic predator	Very large	Very large Benthic predator
<i>Chlorurus bleekeri</i>	2	Herbivore	Medium	Medium Herbivore
<i>Chlorurus microrhinos</i>	2	Herbivore	Large	Large Herbivore
<i>Chlorurus sordidus</i>	2	Herbivore	Medium	Medium Herbivore
<i>Chromis analis</i>	3	Planktivore	Small	Small Planktivore
<i>Chromis atripes</i>	2.6	Planktivore	Small	Small Planktivore
<i>Chromis caudalis</i>	3	Planktivore	Small	Small Planktivore
<i>Chromis elerae</i>	2.7	Planktivore	Small	Small Planktivore
<i>Chromis lepidolepis</i>	3.4	Planktivore	Small	Small Planktivore
<i>Chromis lineata</i>	3	Planktivore	Small	Small Planktivore
<i>Chromis margaritifer</i>	3	Planktivore	Small	Small Planktivore
<i>Chromis retrofasciata</i>	2.7	Planktivore	Small	Small Planktivore
<i>Chromis scotochiloptera</i>	3.4	Planktivore	Small	Small Planktivore
<i>Chromis sp.</i>	3.1	Planktivore	Small	Small Planktivore
<i>Chromis ternatensis</i>	3.4	Planktivore	Small	Small Planktivore
<i>Chromis weberi</i>	3.4	Planktivore	Small	Small Planktivore
<i>Chromis xanthochira</i>	2.7	Planktivore	Small	Small Planktivore
<i>Chromis xanthura</i>	3.4	Planktivore	Small	Small Planktivore
<i>Chrysiptera talboti</i>	2.8	Planktivore	Small	Small Planktivore
<i>Cirrhilabrus cyanopleura</i>	3.4	Planktivore	Small	Small Planktivore
<i>Cirrhilabrus exquisitus</i>	3.4	Planktivore	Small	Small Planktivore

Species	TrophLev	Classification	MaxSize	Niche
<i>Cirrhilabrus</i> sp.	3.6	Planktivore	Small	Small Planktivore
<i>Cirrhitichthys falco</i>	4	Planktivore	Small	Small Planktivore
<i>Cirrhitichthys oxycephalus</i>	4	Predator	Small	Small Predator
<i>Coris gaimard</i>	3.33	Benthic invertivore	Medium	Medium Benthic invertivore
<i>Ctenochaetus cyanocheilus</i>	2	Herbivore	Small	Small Herbivore
<i>Ctenochaetus striatus</i>	2	Herbivore	Medium	Medium Herbivore
<i>Dascyllus reticulatus</i>	3.1	Opportunistic planktivore	Small	Small Opportunistic planktivore
<i>Dascyllus trimaculatus</i>	2.8	Opportunistic planktivore	Small	Small Opportunistic planktivore
<i>Elagatis bipinnulata</i>	4.27	Predator	Large	Large Predator
<i>Epibulus brevis</i>	3.6	Invertivore	Small	Small Invertivore
<i>Epinephelus fuscoguttatus</i>	4.1	Predator	Large	Large Predator
<i>Epinephelus merra</i>	3.8	Predator	Medium	Medium Predator
<i>Epinephelus ongus</i>	4	Predator	Medium	Medium Predator
<i>Epinephelus quoyanus</i>	4	Benthic predator	Medium	Medium Benthic predator
<i>Epinephelus</i> sp.	3.92	Predator	Medium	Medium Predator
<i>Epinephelus spilotoceps</i>	3.7	Predator	Medium	Medium Predator
<i>Forcipiger flavissimus</i>	3.18	Benthic invertivore	Medium	Medium Benthic invertivore
<i>Galeocerdo cuvier</i>	3.8	Predator	Very large	Very large Predator
<i>Gnathodentex aureolineatus</i>	3.6	Benthic invertivore	Medium	Medium Benthic invertivore
<i>Gomphosus varius</i>	3.5	Benthic predator	Medium	Medium Benthic predator
<i>Gracila albomarginata</i>	4.2	Piscivore	Medium	Medium Piscivore
<i>Gymnosarda unicolor</i>	4.5	Piscivore	Very large	Very large Piscivore
<i>Gymnothorax favagineus</i>	4.2	Predator	Very large	Very large Predator
<i>Gymnothorax flavimarginatus</i>	4.2	Predator	Very large	Very large Predator
<i>Gymnothorax javanicus</i>	3.9	Predator	Very large	Very large Predator
<i>Halichoeres chrysus</i>	3.4	Benthic invertivore	Small	Small Benthic invertivore
<i>Halichoeres claudia</i>	3.4	Benthic invertivore	Small	Small Benthic invertivore
<i>Halichoeres hortulanus</i>	3.4	Benthic invertivore	Medium	Medium Benthic invertivore
<i>Hemigymnus fasciatus</i>	3.2	Invertivore	Large	Large Invertivore
<i>Hemigymnus melapterus</i>	3.57	Benthic invertivore	Large	Large Benthic invertivore
<i>Heniochus chrysostomus</i>	3.75	Corallivore	Small	Small Corallivore
<i>Hipposcarus longiceps</i>	2.01	Herbivore	Large	Large Herbivore
<i>Labrichthys unilineatus</i>	3.34	Corallivore	Small	Small Corallivore
<i>Labroides bicolor</i>	4	Invertivore	Small	Small Invertivore
<i>Labroides dimidiatus</i>	3.46	Invertivore	Small	Small Invertivore
<i>Labroides pectoralis</i>	4	Invertivore	Small	Small Invertivore
<i>Lepidozygus tapeinosoma</i>	3.4	Planktivore	Small	Small Planktivore
<i>Leptoscarus vaigiensis</i>	2	Herbivore	Medium	Medium Herbivore
<i>Lutjanus bohar</i>	4.27	Predator	Large	Large Predator
<i>Lutjanus decussatus</i>	4	Predator	Medium	Medium Predator
<i>Lutjanus fulviflamma</i>	3.82	Predator	Medium	Medium Predator
<i>Lutjanus fulvus</i>	3.61	Predator	Medium	Medium Predator
<i>Lutjanus gibbus</i>	3.79	Predator	Large	Large Predator
<i>Lutjanus monostigma</i>	4.3	Predator	Large	Large Predator

Species	TrophLev	Classification	MaxSize	Niche
<i>Lutjanus semicinctus</i>	4.21	Piscivore	Medium	Medium Piscivore
<i>Macolor macularis</i>	4	Planktivore	Large	Large Planktivore
<i>Macolor niger</i>	4	Predator	Large	Large Predator
<i>Macropharyngodon ornatus</i>	3.5	Benthic invertivore	Small	Small Benthic invertivore
<i>Melichthys niger</i>	2.14	Opportunistic planktivore	Large	Large Opportunistic planktivore
<i>Melichthys vidua</i>	3.4	Omnivore	Medium	Medium Omnivore
<i>Monotaxis heterodon</i>	3.5	Invertivore	Large	Large Invertivore
<i>Myripristis berndti</i>	3.7	Planktivore	Medium	Medium Planktivore
<i>Myripristis vittata</i>	3.8	Predator	Medium	Medium Predator
<i>Naso brevirostris</i>	2.2	Planktivore	Large	Large Planktivore
<i>Naso caeruleacauda</i>	2.3	Planktivore	Medium	Medium Planktivore
<i>Naso hexacanthus</i>	3.29	Planktivore	Large	Large Planktivore
<i>Naso lituratus</i>	2.3	Herbivore	Medium	Medium Herbivore
<i>Naso vlamingii</i>	2.2	Planktivore	Large	Large Planktivore
<i>Nemateleotris magnifica</i>	3.1	Planktivore	Small	Small Planktivore
<i>Neopomacentrus filamentosus</i>	3.4	Planktivore	Small	Small Planktivore
<i>Odonus niger</i>	3.2	Opportunistic planktivore	Large	Large Opportunistic planktivore
<i>Ostorhinchus angustatus</i>	3.3	Benthic invertivore	Small	Small Benthic invertivore
<i>Ostorhinchus nigrofasciatus</i>	3.57	Benthic invertivore	Small	Small Benthic invertivore
<i>Ostracion meleagris</i>	2.92	Benthic invertivore	Medium	Medium Benthic invertivore
<i>Oxycheilinus digramma</i>	3.69	Benthic invertivore	Medium	Medium Benthic invertivore
<i>Paracirrhites arcatus</i>	3.63	Predator	Medium	Medium Predator
<i>Paracirrhites forsteri</i>	4.3	Predator	Medium	Medium Predator
<i>Parapercis clathrata</i>	3.6	Predator	Medium	Medium Predator
<i>Parupeneus crassilabris</i>	3.64	Benthic invertivore	Medium	Medium Benthic invertivore
<i>Parupeneus multifasciatus</i>	3.48	Benthic invertivore	Medium	Medium Benthic invertivore
<i>Plectroglyphidodon dickii</i>	3.68	Omnivore	Small	Small Omnivore
<i>Plectroglyphidodon johnstonianus</i>	3.35	Herbivore	Small	Small Herbivore
<i>Plectroglyphidodon lacrymatus</i>	2.22	Omnivore	Small	Small Omnivore
<i>Plectropomus areolatus</i>	4.5	Piscivore	Large	Large Piscivore
<i>Pomacanthus imperator</i>	2.7	Benthic invertivore	Medium	Medium Benthic invertivore
<i>Pomacentrus auriventris</i>	2.7	Planktivore	Small	Small Planktivore
<i>Pomacentrus bankanensis</i>	2.02	Planktivore	Small	Small Planktivore
<i>Pomacentrus coelestis</i>	3.2	Planktivore	Small	Small Planktivore
<i>Pomacentrus lepidogenys</i>	3.4	Planktivore	Small	Small Planktivore
<i>Pristiapogon exostigma</i>	3.7	Predator	Small	Small Predator
<i>Pseudanthias bicolor</i>	3.4	Planktivore	Small	Small Planktivore
<i>Pseudanthias dispar</i>	3.3	Planktivore	Small	Small Planktivore
<i>Pseudanthias huchtii</i>	3.4	Planktivore	Small	Small Planktivore
<i>Pseudanthias smithvanizi</i>	3.4	Planktivore	Small	Small Planktivore
<i>Pseudanthias squamipinnis</i>	3.4	Planktivore	Small	Small Planktivore
<i>Pseudobalistes flavimarginatus</i>	3.64	Benthic invertivore	Large	Large Benthic invertivore
<i>Pseudocheilinus evanidus</i>	3.5	Benthic invertivore	Small	Small Benthic invertivore
<i>Pseudocheilinus hexataenia</i>	3.15	Invertivore	Small	Small Invertivore

Species	TrophLev	Classification	MaxSize	Niche
<i>Pseudocheilinus octotaenia</i>	3.4	Benthic invertivore	Small	Small Benthic invertivore
<i>Pseudochromis bitaeniatus</i>	3.6	Predator	Small	Small Predator
<i>Pseudocoris heteroptera</i>	3.4	Planktivore	Medium	Medium Planktivore
<i>Pseudocoris yamashiroi</i>	3.4	Planktivore	Small	Small Planktivore
<i>Pseudodax moluccanus</i>	2.8	Omnivore	Medium	Medium Omnivore
<i>Ptereleotris evides</i>	3	Planktivore	Small	Small Planktivore
<i>Pterocaesio randalli</i>	3.4	Planktivore	Medium	Medium Planktivore
<i>Pterocaesio tile</i>	3.3	Planktivore	Medium	Medium Planktivore
<i>Pterois volitans</i>	4.35	Predator	Medium	Medium Predator
<i>Pygoplites diacanthus</i>	2.7	Benthic invertivore	Medium	Medium Benthic invertivore
<i>Sargocentron caudimaculatum</i>	3.9	Benthic invertivore	Medium	Medium Benthic invertivore
<i>Sargocentron cornutum</i>	3.6	Benthic invertivore	Medium	Medium Benthic invertivore
<i>Sargocentron spiniferum</i>	3.6	Predator	Large	Large Predator
<i>Sargocentron tieroides</i>	3.6	Benthic invertivore	Small	Small Benthic invertivore
<i>Sargocentron violaceum</i>	3.6	Benthic invertivore	Medium	Medium Benthic invertivore
<i>Scarus dimidiatus</i>	2	Herbivore	Medium	Medium Herbivore
<i>Scarus forsteni</i>	2	Herbivore	Large	Large Herbivore
<i>Scarus ghobban</i>	2	Herbivore	Large	Large Herbivore
<i>Scarus niger</i>	2	Herbivore	Medium	Medium Herbivore
<i>Scarus psittacus</i>	2	Herbivore	Medium	Medium Herbivore
<i>Scarus rubroviolaceus</i>	2	Herbivore	Large	Large Herbivore
<i>Scarus sp.</i>	2	Herbivore	Medium	Medium Herbivore
<i>Scarus tricolor</i>	2	Herbivore	Medium	Medium Herbivore
<i>Stethojulis bandanensis</i>	3.21	Opportunistic planktivore	Small	Small Opportunistic planktivore
<i>Sufflamen bursa</i>	3.47	Benthic omnivore	Medium	Medium Benthic omnivore
<i>Thalassoma amblycephalum</i>	3.1	Planktivore	Small	Small Planktivore
<i>Thalassoma hardwicke</i>	3.47	Predator	Medium	Medium Predator
<i>Thalassoma lunare</i>	3.54	Benthic invertivore	Medium	Medium Benthic invertivore
<i>Thalassoma purpureum</i>	3.63	Benthic predator	Medium	Medium Benthic predator
<i>Zanclus cornutus</i>	2.87	Benthic invertivore	Medium	Medium Benthic invertivore
<i>Zebrasoma scopas</i>	2	Herbivore	Medium	Medium Herbivore
<i>Zebrasoma velifer</i>	2	Herbivore	Medium	Medium Herbivore

Biomass – trophic niche

Table S5a. Lucipara stats (Niche) - VL Predator

	.y.	group1	group2	n1	n2	statistic	<i>P</i>	<i>P</i> _(adj)	<i>P</i> _(adj signif)
1	biomass2	LUC1	LUC2	24	24	1.032349	0.301909	0.986363	ns
2	biomass2	LUC1	LUC3	24	24	-1.15867	0.246591	0.986363	ns
3	biomass2	LUC1	LUC4	24	24	-0.76228	0.445891	0.986363	ns
4	biomass2	LUC2	LUC3	24	24	-2.19102	0.02845	0.170702	ns
5	biomass2	LUC2	LUC4	24	24	-1.79463	0.072712	0.363562	ns
6	biomass2	LUC3	LUC4	24	24	0.396387	0.691819	0.986363	ns

Kruskal–Wallis Chi-Square = 5.5839, d.f. = 3, *P* = 0.1337

^^^ NS***

Table S5b. Lucipara stats (Niche) - L Predator

	.y.	group1	group2	n1	n2	statistic	<i>P</i>	<i>P</i> _(adj)	<i>P</i> _(adj signif)
1	biomass2	LUC1	LUC2	52	52	2.984707	0.002839	0.011354	*
2	biomass2	LUC1	LUC3	52	52	-0.39679	0.691519	0.867384	ns
3	biomass2	LUC1	LUC4	52	52	-1.17968	0.238126	0.714378	ns
4	biomass2	LUC2	LUC3	52	52	-3.3815	0.000721	0.003605	**
5	biomass2	LUC2	LUC4	52	52	-4.16439	3.12E-05	0.000187	***
6	biomass2	LUC3	LUC4	52	52	-0.78289	0.433692	0.867384	ns

Kruskal–Wallis Chi-Square = 19.924, d.f. = 3, *P* = 0.000176

Table S5c. Lucipara stats (Niche) - M Planktivore

	.y.	group1	group2	n1	n2	statistic	<i>P</i>	<i>P</i> _(adj)	<i>P</i> _(adj signif)
1	biomass2	LUC1	LUC2	28	28	-2.01188	0.044233	0.259236	ns
2	biomass2	LUC1	LUC3	28	28	-0.4919	0.622789	1	ns
3	biomass2	LUC1	LUC4	28	28	-2.02171	0.043206	0.259236	ns
4	biomass2	LUC2	LUC3	28	28	1.519974	0.128517	0.504253	ns
5	biomass2	LUC2	LUC4	28	28	-0.00984	0.992151	1	ns
6	biomass2	LUC3	LUC4	28	28	-1.52981	0.126063	0.504253	ns

Kruskal–Wallis Chi-Square = 6.5138, d.f. = 3, *P* = 0.08912

*** NS ^^^

Did PH anyhow

Table S5d. Lucipara stats (Niche) - VLB Predator

	.y.	group1	group2	n1	n2	statistic	<i>P</i>	<i>P</i> _(adj)	<i>P</i> _(adj signif)
1	biomass2	LUC1	LUC2	4	4	0.255996	0.797954	1	ns
2	biomass2	LUC1	LUC3	4	4	-1.91997	0.054862	0.219447	ns
3	biomass2	LUC1	LUC4	4	4	-1.91997	0.054862	0.219447	ns
4	biomass2	LUC2	LUC3	4	4	-2.17597	0.029558	0.177347	ns
5	biomass2	LUC2	LUC4	4	4	-2.17597	0.029558	0.177347	ns
6	biomass2	LUC3	LUC4	4	4	0	1	1	ns

Kruskal–Wallis Chi-Square = 8.4539, d.f. = 3, $P = 0.03751$

Table S5e. Lucipara stats (Niche) - LO Planktivore

	.y.	group1	group2	n1	n2	statistic	P	$P_{(adj)}$	$P_{(adj\ signif)}$
1	biomass2	LUC1	LUC2	8	8	0.857213	0.391327	1	ns
2	biomass2	LUC1	LUC3	8	8	0.267879	0.788792	1	ns
3	biomass2	LUC1	LUC4	8	8	-0.48218	0.629676	1	ns
4	biomass2	LUC2	LUC3	8	8	-0.58933	0.555637	1	ns
5	biomass2	LUC2	LUC4	8	8	-1.3394	0.180442	1	ns
6	biomass2	LUC3	LUC4	8	8	-0.75006	0.453218	1	ns

Kruskal–Wallis Chi-Square = 1.8715, d.f. = 3, $P = 0.5995$

**NS ^^^^

Biomass – Trophic level

Table S6a. Lucipara-stats-TL < 2.50

	.y.	group1	group2	n1	n2	statistic	P	P _(adj)	P _(adj signif)
1	biomass2	LUC1	LUC2	132	132	0.729375	0.465772	0.931545	ns
2	biomass2	LUC1	LUC3	132	132	-3.2314	0.001232	0.004927	**
3	biomass2	LUC1	LUC4	132	132	-2.6257	0.008647	0.025941	*
4	biomass2	LUC2	LUC3	132	132	-3.96078	7.47E-05	0.000448	***
5	biomass2	LUC2	LUC4	132	132	-3.35507	0.000793	0.003967	**
6	biomass2	LUC3	LUC4	132	132	0.605708	0.544709	0.931545	ns

Kruskal–Wallis Chi-Square = 22.59, d.f. = 3, P = 4.917e-05

Table S6b. Lucipara-stats-TL = 2.51-3.0

	.y.	group1	group2	n1	n2	statistic	P	P _(adj)	P _(adj signif)
1	biomass2	LUC1	LUC2	112	112	1.006893	0.313986	1	ns
2	biomass2	LUC1	LUC3	112	112	1.800904	0.071718	0.430308	ns
3	biomass2	LUC1	LUC4	112	112	0.89842	0.368962	1	ns
4	biomass2	LUC2	LUC3	112	112	0.794011	0.427189	1	ns
5	biomass2	LUC2	LUC4	112	112	-0.10847	0.91362	1	ns
6	biomass2	LUC3	LUC4	112	112	-0.90248	0.3668	1	ns

Kruskal–Wallis Chi-Square = 3.2605, d.f. = 3, P = 0.3532

**NSD

Table S6c. Lucipara-stats-TL = 3.01-3.5

	.y.	group1	group2	n1	n2	statistic	p	P _(adj)	P _(adj signif)
1	biomass2	LUC1	LUC2	284	284	3.990331	6.60E-05	0.000264	***
2	biomass2	LUC1	LUC3	284	284	-0.22975	0.818282	1	ns
3	biomass2	LUC1	LUC4	284	284	-0.11041	0.912081	1	ns
4	biomass2	LUC2	LUC3	284	284	-4.22009	2.44E-05	0.000147	***
5	biomass2	LUC2	LUC4	284	284	-4.10075	4.12E-05	0.000206	***
6	biomass2	LUC3	LUC4	284	284	0.11934	0.905006	1	ns

Kruskal–Wallis Chi-Square = 25.314, d.f. = 3, P = 1.328e-05

Table S6d. Lucipara-stats-TL = 3.51-4.0

	.y.	group1	group2	n1	n2	Statistic	P	P _(adj)	P _(adj signif)
1	biomass2	LUC1	LUC2	196	196	-0.53788	0.590663	1	ns
2	biomass2	LUC1	LUC3	196	196	-2.78316	0.005383	0.0323	*
3	biomass2	LUC1	LUC4	196	196	-2.19774	0.027967	0.123751	ns
4	biomass2	LUC2	LUC3	196	196	-2.24528	0.02475	0.123751	ns
5	biomass2	LUC2	LUC4	196	196	-1.65987	0.096941	0.290823	ns
6	biomass2	LUC3	LUC4	196	196	0.585412	0.558271	1	ns

Kruskal–Wallis Chi-Square = 10.502, d.f. = 3, P = 0.01475

Table S6e. Lucipara-stats-TL = 4.01-4.5

	.y.	group1	group2	n1	n2	statistic	P	P _(adj)	P _(adj signif)
1	biomass2	LUC1	LUC2	96	96	3.321443	0.000896	0.004478	**
2	biomass2	LUC1	LUC3	96	96	0.489387	0.624568	1	ns
3	biomass2	LUC1	LUC4	96	96	-0.21122	0.832715	1	ns
4	biomass2	LUC2	LUC3	96	96	-2.83206	0.004625	0.0185	*

5	biomass2	LUC2	LUC4	96	96	-3.53266	0.000411	0.002468	**
6	biomass2	LUC3	LUC4	96	96	-0.70061	0.483548	1	ns

Kruskal–Wallis Chi-Square = 16.154, d.f. = 3, $P = 0.001055$