

Supplementary material

Turnover is replaced by nestedness with increasing geographical distance in bacterial communities of coastal shallow lakes

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Table S1. Environmental variables for all 75 sampling points (3 points in each of the 25 lakes) with means and standard deviations (s.d.)

Cond, conductivity ($\mu\text{S cm}^{-1}$); DO, dissolved oxygen (mg L^{-1}); WT, water transparency (m); Col, colour (mg Pt-Co); Turb, Turbidity (nephelometric turbidity units); TSS, total suspended solid; FSS, fixed suspended solids (mg L^{-1}); TP, total phosphorus ($\mu\text{g L}^{-1}$); SRP, soluble reactive phosphorus ($\mu\text{g L}^{-1}$); SIL, silicate (mg L^{-1}); TN, total nitrogen (mg L^{-1}); TDN, total dissolved nitrogen (mg L^{-1}); TAN, total ammoniacal nitrogen: $\text{NH}_3+\text{NH}_4^+$ (mg L^{-1}); NO_3^- , nitrate (mg L^{-1}); NO_2^- , nitrite (mg L^{-1}); TOC, total organic carbon (mg L^{-1}), DOC, dissolved organic carbon (mg L^{-1}); DIC, dissolved inorganic carbon (mg L^{-1}); POC, particulate organic carbon (mg L^{-1})

Lake		Cond	pH	DO	WT	Col	Turb	TSS	FSS	TP	SRP	SIL	TN	TDN	TAN	NO_3^-	NO_2^-	TOC	DOC	DIC	POC
Ramalhete	North	63.9	6.73	9.55	0.6	65.2	17	20	15	34.05	1.6	4.3	0.32	0.22	0.04	0.01	0.01	5.33	4.38	2.45	0.96
	Center	63.8	6.24	10.74	0.6	28.5	10	20	10	55.47	5.03	3.21	0.31	0.2	0.01	0.01	0	4.04	3.53	2.55	0.51
	South	64	6.81	8.84	0.45	27.7	7	25	18	41.65	6.41	3.23	0.39	0.18	0.04	0.01	0	5.89	4.78	2.29	1.11
	Mean	63.9	6.59	9.71	0.55	40.47	11.33	21.67	14.33	43.72	4.35	3.58	0.34	0.2	0.03	0.01	0	5.09	4.23	2.43	0.86
	s.d.	0.1	0.31	0.96	0.09	21.42	5.13	2.89	4.04	10.86	2.48	0.62	0.04	0.02	0.02	0	0	0.95	0.64	0.13	0.31
Negra	North	68.7	6.54	7.36	0.8	57.7	6	17	10	19.54	1.6	3.75	0.35	0.3	0.31	0.01	0	7.04	6.7	2.4	0.34
	Center	70.1	6.66	8.02	0.8	50.8	6	20	10	20.92	1.6	3.7	0.33	0.3	0	0.01	0	9.51	6.57	2.37	2.94
	South	70.7	6.89	8.3	0.9	46.1	5	19	15	15.39	1.6	3.73	0.34	0.28	0.04	0.01	0	6.4	5.33	2.17	1.07
	Mean	69.83	6.7	7.89	0.83	51.53	5.67	18.67	11.67	18.62	1.6	3.73	0.34	0.29	0.12	0.01	0	7.65	6.2	2.31	1.45
	s.d.	1.03	0.18	0.48	0.06	5.83	0.58	1.53	2.89	2.88	0	0.03	0.01	0.01	0.17	0	0	1.64	0.76	0.12	1.34
Malvas	North	121.8	7.17	7.65	0.7	17.2	2.41	316	3	26.45	2.96	1.43	0.28	0.16	0	0.01	0	2.61	0.64	5.09	1.97
	Center	123.1	7.29	7.81	1.3	11.9	2.81	40	32	8.48	1.6	2.98	0.19	0.16	0	0.01	0	2.51	0.98	8.18	1.53
	South	121.4	7.26	9.3	0.6	19.1	3.2	106	5	27.14	1.6	1.44	0.18	0.17	0	0.01	0	5.55	1.1	4.62	4.45
	Mean	122.1	7.24	8.25	0.87	16.07	2.81	154	13.33	20.69	2.05	1.95	0.22	0.17	0	0.01	0	3.56	0.91	5.96	2.65
	s.d.	0.89	0.06	0.91	0.38	3.73	0.4	144.12	16.2	10.58	0.78	0.89	0.06	0.01	0	0	0	1.73	0.24	1.93	1.58
Passo	North	78	6.88	7.57	0.4	22	2.14	35	28	9.87	1.6	3.85	0.19	0.17	0	0.01	0	5.89	4.12	3.87	1.77
	Center	70.8	6.8	12.15	0.6	30.2	6.5	35	27	27.83	3.65	4.57	0.12	0.12	0	0.01	0	3.86	2.33	3.35	1.53
	South	85.6	7.14	8.9	0.6	35.6	6.85	32	25	25.07	1.6	3.75	0.2	0.21	0	0.01	0	4.68	2.52	4.8	2.16
	Mean	78.13	6.94	9.54	0.53	29.27	5.16	34	26.67	20.92	2.28	4.06	0.17	0.16	0	0.01	0	4.81	2.99	4.01	1.82
	s.d.	7.4	0.18	2.36	0.12	6.85	2.62	1.73	1.53	9.67	1.18	0.45	0.04	0.05	0	0	0	1.02	0.98	0.73	0.32
Caieira	North	69.7	6.72	8.32	0.4	36.8	14	19	10	38.88	1.6	2.47	0.46	0.38	0.03	0.01	0	5.19	3.92	4.19	1.27
	Center	69.1	6.73	10.25	0.4	67	18	21	15	43.03	2.27	1.45	0.51	0.41	0.05	0.01	0.01	5.11	4.64	4.75	0.46
	South	69.5	6.73	10.98	0.4	24.6	11	20	12	37.5	1.6	1.21	0.36	0.29	0	0.01	0	6.2	5.38	2.14	0.82
	Mean	69.43	6.73	9.85	0.4	42.8	14.33	20	12.33	39.8	1.82	1.71	0.44	0.36	0.02	0.01	0	5.5	4.65	3.69	0.85
	s.d.	0.31	0.01	1.37	0	21.83	3.51	1	2.52	2.88	0.38	0.67	0.08	0.06	0.02	0	0	0.61	0.73	1.37	0.4
Lessa	North	67.4	7.14	8.65	0.8	31.8	11	27	18	29.21	1.6	0.38	0.57	0.42	0.08	0	0	4.31	2.84	3.04	1.47
	Center	67.3	7.15	8.77	0.6	62.9	34	23	15	31.97	7.1	0.41	0.62	0.62	0.23	0	0	5.42	4.12	2.96	1.3
	South	67	7.13	8.64	0.7	34	18	20	15	41.65	4.34	0.4	0.38	0.36	0.03	0	0.01	5.31	3.46	2.53	1.85
	Mean	67.23	7.14	8.69	0.7	42.9	21	23.33	16	34.28	4.35	0.4	0.52	0.46	0.11	0	0.01	5.01	3.47	2.84	1.54

Lake		Cond	pH	DO	WT	Col	Turb	TSS	FSS	TP	SRP	SIL	TN	TDN	TAN	NO ₃ ⁻	NO ₂ ⁻	TOC	DOC	DIC	POC
Traira	s.d.	0.21	0.01	0.07	0.1	17.36	11.79	3.51	1.73	6.53	2.75	0.02	0.12	0.13	0.1	0	0	0.61	0.64	0.27	0.28
	North	59.9	7.04	8.51	0.9	30.2	6	11	5	15.39	1.6	0.58	0.46	0.38	0.05	0	0	6.61	3.96	4.47	2.65
	Center	61.4	7.11	8.73	1.1	20.4	6	8	4	170.15	1.6	0.36	0.43	0.34	0.1	0.01	0	6.53	3.86	5.35	2.68
	South	60.2	7.25	9.6	0.9	41.1	11	8	4	15.39	228.19	0.53	0.5	0.41	0.1	0	0.01	8.2	6.23	3.06	1.97
	Mean	60.5	7.13	8.95	0.97	30.57	7.67	9	4.33	66.98	77.13	0.49	0.46	0.38	0.09	0	0	7.11	4.68	4.29	2.43
Caconde	s.d.	0.79	0.11	0.58	0.12	10.35	2.89	1.73	0.58	89.35	130.82	0.12	0.03	0.03	0.03	0	0	0.94	1.34	1.15	0.4
	North	60.3	7.39	10.55	0.9	27.5	7	10	6	11.25	1.6	0.53	0.53	0.41	0.05	0.01	0	7.18	2.69	3.37	4.49
	Center	61.8	6.75	9.08	1	19.4	7	17	8	9.87	1.6	0.4	0.44	0.36	0.01	0	0.01	6.73	6.28	6.11	0.46
	South	60.4	7.12	9.46	0.9	29.9	8	10	6	12.63	1.6	0.81	0.39	0.34	0	0.01	0.01	8.54	6.3	5.93	2.24
	Mean	60.83	7.09	9.7	0.93	25.6	7.33	12.33	6.67	11.25	1.6	0.58	0.45	0.37	0.02	0.01	0.01	7.48	5.09	5.14	2.39
Peixoto	s.d.	0.84	0.32	0.76	0.06	5.5	0.58	4.04	1.15	1.38	0	0.21	0.07	0.03	0.03	0	0.01	0.94	2.08	1.54	2.02
	North	150.6	8.31	7.79	0.7	25.8	3.34	88	14	91.39	25.07	0.77	0.51	0.43	0	0.01	0	6.15	5.81	2.89	0.34
	Center	151.1	8.69	8.02	0.6	34.4	2.87	9	5	85.86	25.07	0.19	0.46	0.3	0	0	0	6.03	5.52	2.81	0.51
	South	158.1	9.05	7.99	0.9	40.9	2.83	88	3	96.92	25.07	0.15	0.47	0.55	0	0.01	0	6.31	3.59	2.58	2.72
	Mean	153.27	8.68	7.93	0.73	33.7	3.01	61.67	7.33	91.39	25.07	0.37	0.48	0.43	0	0.01	0	6.17	4.97	2.76	1.19
Marcelino	s.d.	4.19	0.37	0.13	0.15	7.57	0.28	45.61	5.86	5.53	0	0.35	0.03	0.13	0	0	0	0.14	1.21	0.16	1.33
	North	342	10.38	14.25	0.1	65.1	6.78	34	3	595.06	188.12	3.98	4.11	1.19	1.17	0.01	0.01	10.75	5.37	2.35	5.39
	Center	370.5	10.49	14.1	0.15	96.3	7.8	31	7	614.4	199.17	5.16	3.68	1.67	1.23	0.01	0.01	9.61	5.61	2.41	4
	South	366.5	10.48	13.85	0.1	79.7	17.6	124	43	589.53	172.92	8.1	4.74	2.37	0.75	0.01	0.01	10.91	4.41	2.27	6.5
	Mean	359.67	10.45	14.07	0.12	80.37	10.73	63	17.67	599.66	186.74	5.75	4.18	1.74	1.05	0.01	0.01	10.42	5.13	2.34	5.29
Rincão da Cadeia	s.d.	15.43	0.06	0.2	0.03	15.61	5.97	52.85	22.03	13.06	13.18	2.12	0.53	0.59	0.26	0	0	0.71	0.63	0.07	1.25
	North	302.2	6.57	6.65	0.5	71.2	2.49	7	3	37.5	1.6	3.14	0.38	0.31	0	0	0	8.02	6.07	12.17	1.95
	Center	207.9	6.56	10.53	0.5	59.1	1.58	14	8	29.9	7.1	7.16	0.45	0.44	0.11	0.01	0	4.11	3.93	3.93	0.18
	South	122.3	6.59	10.82	0.6	30.1	1.49	29	19	31.28	3.65	4.38	0.23	0.14	0	0	0	6.86	2.17	6.3	4.69
	Mean	210.8	6.57	9.33	0.53	53.47	1.85	16.67	10	32.9	4.12	4.89	0.35	0.3	0.04	0	0	6.33	4.06	7.47	2.27
Pombas	s.d.	89.99	0.02	2.33	0.06	21.12	0.55	11.24	8.19	4.05	2.78	2.06	0.11	0.15	0.06	0	0	2.01	1.95	4.24	2.27
	North	60	6.7	8.9	0.8	24.8	6	15	10	1.6	1.6	2.45	0.26	0.24	0.05	0.01	0	4.93	3.75	3.68	1.18
	Center	59.9	6.8	8.5	0.9	29.8	4	10	8	8.48	1.6	2.73	0.27	0.23	0.05	0.01	0	4.68	2.6	3.4	2.09
	South	59.5	7.05	10.07	0.4	39.5	12	10	5	16.77	1.6	3.88	0.3	0.28	0.04	0	0	4.58	1.64	2.12	2.94
	Mean	59.8	6.85	9.16	0.7	31.37	7.33	11.67	7.67	8.95	1.6	3.02	0.28	0.25	0.05	0.01	0	4.73	2.66	3.06	2.07
Horacio	s.d.	0.26	0.18	0.82	0.26	7.47	4.16	2.89	2.52	7.6	0	0.76	0.02	0.03	0.01	0	0	0.18	1.06	0.83	0.88
	North	68	6.63	7.44	0.8	51	6	12	7	22.3	1.6	3.51	0.27	0.26	0.26	0	0.01	7.31	5.44	1.83	1.86
	Center	67.7	6.53	7.94	0.8	62.8	5	13	6	16.77	1.6	3.51	0.21	0.28	0	0.01	0	8.57	4.51	1.92	4.06
	South	67.7	6.61	8.1	0.7	43.9	4	10	4	24.37	1.6	3.81	0.31	0.2	0.04	0.01	0	9.03	4.6	1.95	4.43
	Mean	67.8	6.59	7.83	0.77	52.57	5	11.67	5.67	21.15	1.6	3.61	0.26	0.25	0.1	0.01	0	8.3	4.85	1.9	3.45
Tramandai	s.d.	0.17	0.05	0.34	0.06	9.55	1	1.53	1.53	3.93	0	0.17	0.05	0.04	0.14	0	0	0.89	0.52	0.06	1.39
	North	7522	8	7.31	0.7	15.3	3	15	10	33.36	1.6	3.75	0.16	0.11	0.07	0.01	0.01	5.74	5.38	1.81	0.35
	Center	8786	8	7.42	0.8	19.9	3	17	10	34.74	1.6	4.15	0.16	0.12	0.03	0.01	0	8.57	4.64	1.39	3.93
	South	14840	8.48	7.3	0.7	26.2	7	11	6	31.97	1.6	2.82	0.28	0.21	0.55	0.01	0.01	6.47	5.7	3.15	0.78
	Mean	10382.67	8.16	7.34	0.73	20.47	4.33	14.33	8.67	33.36	1.6	3.57	0.2	0.15	0.21	0.01	0.01	6.93	5.24	2.12	1.68

Lake		Cond	pH	DO	WT	Col	Turb	TSS	FSS	TP	SRP	SIL	TN	TDN	TAN	NO ₃ ⁻	NO ₂ ⁻	TOC	DOC	DIC	POC
Dom Daniel	s.d.	3911.56	0.28	0.07	0.06	5.47	2.31	3.06	2.31	1.38	0	0.68	0.07	0.05	0.29	0	0.01	1.47	0.54	0.92	1.95
	North	5776	7.13	8.52	0.9	31.7	5	17	10	14.01	7.79	2.4	0.73	0.65	0.04	0	0	3.17	2.75	3	0.42
	Center	5736	7.49	8.79	0.9	18.1	5	12	8	11.25	1.6	2.36	0.83	0.25	0.05	0.03	0	8.79	7.19	2.12	1.61
	South	4486	7.49	8.29	0.5	25.4	5	12	8	15.39	1.6	2.38	0.34	0.3	0.02	0	0	3.7	3.13	2.3	0.58
	Mean	5332.67	7.37	8.53	0.77	25.07	5	13.67	8.67	13.55	3.66	2.38	0.63	0.4	0.04	0.01	0	5.22	4.35	2.47	0.87
Emboaba	s.d.	733.51	0.21	0.25	0.23	6.81	0	2.89	1.15	2.11	3.58	0.02	0.26	0.22	0.01	0.02	0	3.1	2.46	0.47	0.64
	North	71	6.84	8.15	0.8	41.9	3	12	4	18.16	1.6	1.4	0.24	0.23	0.03	0	0.01	5.72	4.83	3.45	0.89
	Center	71.1	6.62	8.58	0.8	39.4	3	8	6	18.16	1.6	1.36	0.31	0.26	0.02	0	0.01	7.29	4.33	3.61	2.97
	South	71.4	6.28	8.93	0.8	44.9	5	6	4	28.52	1.6	1.29	0.28	0.23	0.02	0	0	5.81	4.11	3.66	1.7
	Mean	71.17	6.58	8.55	0.8	42.07	3.67	8.67	4.67	21.61	1.6	1.35	0.28	0.24	0.02	0	0	6.27	4.42	3.57	1.85
Emboabinha	s.d.	0.21	0.28	0.39	0	2.75	1.15	3.06	1.15	5.98	0	0.06	0.03	0.02	0	0	0	0.89	0.37	0.11	1.05
	North	62	6.68	8.46	0.8	39.1	5	10	6	13.32	1.6	1.73	0.27	0.24	0.02	0	0	5.15	4.11	3.13	1.05
	Center	62	6.46	8.44	0.8	49.9	3	6	2	9.18	1.6	1.39	0.34	0.29	0.02	0	0	6.98	5.66	2.32	1.32
	South	62.2	6.64	8.36	0.8	51.5	4	6	4	12.63	1.6	1.65	0.29	0.28	0.03	0	0	6.5	6.12	2.56	0.38
	Mean	62.07	6.59	8.42	0.8	46.83	4	7.33	4	11.71	1.6	1.59	0.3	0.27	0.02	0	0	6.21	5.29	2.67	0.92
Custodias	s.d.	0.12	0.12	0.05	0	6.74	1	2.31	2	2.22	0	0.18	0.03	0.03	0	0	0	0.95	1.05	0.41	0.48
	North	3286	8.86	7.18	0.8	20.6	2.47	45	31	11.25	1.6	1.23	0.58	0.37	0.22	0.01	0	7.81	3.56	2.14	4.25
	Center	4436	9.08	6.36	0.9	20.6	2.55	16	5	8.48	1.6	1.81	1.1	0.86	0.11	0.01	0	5.22	3.07	2.21	2.15
	South	4039	8.93	6.44	0.9	23.9	1.83	50	27	5.72	1.6	1.38	0.73	0.69	0	0.01	0	5.15	3.05	2.27	2.1
	Mean	3920.33	8.96	6.66	0.87	21.7	2.28	37	21	8.48	1.6	1.47	0.81	0.64	0.11	0.01	0	6.06	3.23	2.21	2.83
Gentil	s.d.	584.11	0.11	0.45	0.06	1.91	0.39	18.36	14	2.76	0	0.3	0.27	0.25	0.11	0	0	1.52	0.29	0.06	1.23
	North	321.4	7.14	6.63	0.9	39.2	0.63	7	3	15.39	1.6	1.53	0.44	0.38	0	0.01	0	6.78	5.02	2.06	1.76
	Center	313.9	7.16	7.86	1	21.8	0.56	15	6	2.96	1.6	1.71	0.38	0.26	0	0	0	5.75	5.53	1.64	0.23
	South	317.7	6.93	7.37	1.4	24.6	0.52	19	3	14.01	1.6	1.4	0.36	0.3	0	0	0	6.52	5.99	2.13	0.54
	Mean	317.67	7.08	7.29	1.1	28.53	0.57	13.67	4	10.79	1.6	1.55	0.4	0.31	0	0	0	6.35	5.51	1.94	0.84
Tapera	s.d.	3.75	0.13	0.62	0.26	9.34	0.06	6.11	1.73	6.82	0	0.16	0.04	0.06	0	0	0	0.53	0.48	0.26	0.81
	North	78.6	5.87	7.83	1.1	31.2	5	12	12	7.79	1.6	1.34	2.89	0.21	0	0	0	4.49	4.13	2.2	0.37
	Center	79.1	6.28	8.7	1.1	24.8	6	12	8	15.39	1.6	1.17	2.73	0.21	0	0	0	3.69	2.85	2.06	0.85
	South	79.1	6.69	8.82	1.1	22.5	2	5	4	7.79	1.6	1.36	1.81	0.16	0	0	0	4.49	4.31	2.36	0.18
	Mean	78.93	6.28	8.45	1.1	26.17	4.33	9.67	8	10.33	1.6	1.29	2.48	0.2	0	0	0	4.23	3.76	2.2	0.47
Manuel Nunes	s.d.	0.29	0.41	0.54	0	4.51	2.08	4.04	4	4.39	0	0.1	0.58	0.03	0	0	0	0.46	0.8	0.15	0.34
	North	252.5	7.21	6.13	0.7	25.2	1.58	44	8	40.27	1.6	2.78	0.32	0.28	0.07	0.01	0	6.53	6.22	2.08	0.31
	Center	256.6	6.92	7.67	0.6	14.4	0.26	89	4	20.92	1.6	2.83	0.43	0.41	0	0.01	0	7.28	5.38	2.4	1.9
	South	251.2	7.11	7.41	0.7	14.4	1.79	81	8	29.21	1.6	2.8	0.4	0.56	0	0.01	0.01	8.87	5.73	1.85	3.14
	Mean	253.43	7.08	7.07	0.67	18	1.21	71.33	6.67	30.13	1.6	2.8	0.38	0.42	0.02	0.01	0.01	7.56	5.78	2.11	1.78
Fortaleza	s.d.	2.82	0.15	0.82	0.06	6.24	0.83	24.01	2.31	9.71	0	0.03	0.06	0.14	0.04	0	0	1.19	0.42	0.28	1.42
	North	196.5	7.09	9.69	0.7	22.9	2	18	16	15.39	1.6	1	2.43	0.18	0.07	0.01	0	1.84	0.73	1.25	1.11
	Center	196.7	7.26	8.12	0.85	21.5	6	18	14	18.16	1.6	0.98	2.03	0.13	0.07	0.01	0	2.78	0.82	1.35	1.96
	South	196.8	7.28	8.76	0.8	21.9	2	44	20	22.3	1.6	0.68	3.11	0.19	0.07	0.02	0	2.74	0.15	1.03	2.59
	Mean	196.67	7.21	8.86	0.78	22.1	3.33	26.67	16.67	18.62	1.6	0.89	2.52	0.17	0.07	0.01	0	2.45	0.57	1.21	1.89

Lake		Cond	pH	DO	WT	Col	Turb	TSS	FSS	TP	SRP	SIL	TN	TDN	TAN	NO ₃ ⁻	NO ₂ ⁻	TOC	DOC	DIC	POC
Suzana	s.d.	0.15	0.1	0.79	0.08	0.72	2.31	15.01	3.06	3.48	0	0.18	0.55	0.03	0	0	0	0.53	0.37	0.16	0.74
	North	155.3	7.1	8.08	0.7	26.4	3	6	2	29.21	1.6	1.39	0.27	0.21	0.06	0	0	4.02	3.25	1.56	0.78
	Center	155	7.15	8.36	0.8	10.9	3	8	4	14.01	1.6	1.38	0.28	0.22	0.06	0	0	3.78	2.09	1.07	1.69
	South	155.1	6.93	8.6	0.7	13.7	2	14	8	26.45	1.6	1.35	0.29	0.23	0.06	0	0	4.13	4.12	3.15	0.01
	Mean	155.13	7.06	8.35	0.73	17	2.67	9.33	4.67	23.22	1.6	1.37	0.28	0.22	0.06	0	0	3.98	3.15	1.93	0.83
Cidreira	s.d.	0.15	0.12	0.26	0.06	8.26	0.58	4.16	3.06	8.1	0	0.02	0.01	0.01	0	0	0	0.18	1.02	1.09	0.84
	North	203.9	7.2	8.12	0.7	16.6	1	10	8	23.68	1.6	0.77	2.85	0.19	0.08	0.01	0	4.32	3.86	4.25	0.46
	Center	204.1	7.2	8.25	0.9	14.4	6	12	6	8.48	1.6	0.94	0.34	0.22	0.11	0	0	5.65	5.21	4.53	0.43
	South	206	7.16	8.67	0.7	24.6	4	12	6	16.77	1.6	1.09	0.32	0.21	0.11	0	0	5.17	4.1	3.83	1.07
	Mean	204.67	7.19	8.35	0.77	18.53	3.67	11.33	6.67	16.31	1.6	0.93	1.17	0.21	0.1	0	0	5.04	4.39	4.2	0.65
Cerquinha	s.d.	1.16	0.02	0.29	0.12	5.37	2.52	1.15	1.15	7.61	0	0.16	1.45	0.01	0.02	0.01	0	0.67	0.72	0.35	0.36
	North	207.1	7.08	8.06	0.7	24.9	5	26	14	36.81	1.6	1.16	0.25	0.23	0.08	0	0	6.22	5.69	4.24	0.53
	Center	210.3	7	7.43	0.6	13	3	20	12	20.23	1.6	0.97	0.3	0.27	0.08	0	0	6.32	6.11	4.09	0.21
	South	223.6	6.9	7.88	0.7	12.7	2	12	8	25.07	1.6	1.07	0.34	0.21	0.1	0	0	3.17	3.04	3.05	0.12
	Mean	213.67	6.99	7.79	0.67	16.87	3.33	19.33	11.33	27.37	1.6	1.07	0.3	0.23	0.09	0	0	5.23	4.95	3.79	0.29
	s.d.	8.75	0.09	0.32	0.06	6.96	1.53	7.02	3.06	8.53	0	0.1	0.05	0.03	0.01	0	0	1.79	1.66	0.65	0.22

Table S2. Chlorophyll-*a*, and phytoplankton biomass (mm³ L⁻¹) of taxonomic classes for all 75 sampling points (3 points in each of the 25 lakes) with means and standard deviations (s.d.)

Chl, Chlorophyll-*a*; BAC, Bacillariophyceae; CHL, Chlorophyceae; CHR, Chrysophyceae; CRY, Cryptophyceae; CYA, Cyanophyceae; DIN, Dinophyceae; EUG, Euglenophyceae; KLEB, Klebsormidiophyceae; RAP, Raphidophyceae; XAN, Xanthophyceae; ZYG, Zygnematophyceae

		Chl (µg L ⁻¹)	BAC	Chl	CHR	CRY	CYA	DIN	EUG	KLEB	RAP	XAN	ZYG
Ramalhete	North	4.55	0	23.42	0	0.17	0.93	0	0	0	0	0	0.93
	Center	5.56	0.13	117	0	0.1	0.72	0	0	0	0	0	0.39
	South	6.57	0.49	347.99	0.03	0.12	0.26	0	0	0	0	0	4.05
	Mean	5.56	0.21	162.8	0.01	0.13	0.64	0	0	0	0	0	1.79
	s.d.	1.01	0.25	167.06	0.02	0.04	0.35	0	0	0	0	0	1.98
Negra	North	5.05	2.07	87.25	0	0.07	0.66	8.5	0.12	0	0	0	0
	Center	5.56	1.64	115.29	0	0.1	0.76	6.82	0.04	0	0	0	0
	South	6.06	1.27	178.37	0	0.05	0.81	0.02	0	0	0	0	0.04
	Mean	5.56	1.66	126.97	0	0.08	0.74	5.11	0.05	0	0	0	0.01
	s.d.	0.51	0.4	46.67	0	0.03	0.08	4.49	0.06	0	0	0	0.03
Malvas	North	3.03	0.44	7.25	0	1.06	2.95	0.09	0	0	0	0	0.61
	Center	0.51	1.22	7.23	0.05	0.02	2.19	0	0	0	0	0	3.63
	South	4.55	0.32	23.2	0	0.2	3.29	0	0	0	0	0	0.64
	Mean	2.69	0.66	12.56	0.02	0.43	2.81	0.03	0	0	0	0	1.63
	s.d.	2.04	0.49	9.22	0.03	0.56	0.56	0.05	0	0	0	0	1.73
Passo	North	9.6	8.3	31.33	0	0	3.5	0	0.05	0	0	0	0.43
	Center	7.58	0	15.66	0	0	3.93	0	0	0	0	0	1
	South	1.52	4.83	21.66	0.02	0.01	15.67	0.27	0	0	0	0	0.34
	Mean	6.23	4.38	22.88	0.01	0	7.7	0.09	0.02	0	0	0	0.59
	s.d.	4.21	4.17	7.9	0.01	0	6.9	0.15	0.03	0	0	0	0.36
Caieira	North	13.64	1.35	354.94	0	0.08	0.68	0	0	0	0	0	0.63
	Center	13.64	11.18	0.03	0	0.57	0.63	0.01	0	0.01	0	0	0
	South	18.19	0.83	381.58	0	0.01	0.44	0	0.04	0	0	0	0.35
	Mean	15.16	4.45	245.52	0	0.22	0.58	0	0.01	0	0	0	0.33
	s.d.	2.63	5.83	213.01	0	0.31	0.13	0.01	0.02	0	0	0	0.32
Lessa	North	23.74	4.03	3.36	0	0.05	6.42	0	0	0	0	0	1.52
	Center	21.22	6.93	236.21	0	0.33	6.24	0	0	0	0	0	2.88
	South	37.38	7.63	250.05	0	0.09	2.48	0.01	0.23	0	0	0	1.9
	Mean	27.45	6.2	163.21	0	0.16	5.05	0	0.08	0	0	0	2.1
	s.d.	8.7	1.91	138.6	0	0.15	2.23	0.01	0.13	0	0	0	0.7
Traira	North	1.52	2.23	0.6	0.03	0	1.73	0	0.37	0	0	0	2.4
	Center	3.03	1.05	31.54	0	0.64	3.89	0.9	0.24	0	0	0	34.27
	South	2.53	1.61	4.97	0	0.03	1.47	0.14	0	0	0	0	9.89

		Chl ($\mu\text{g L}^{-1}$)	BAC	Chl	CHR	CRY	CYA	DIN	EUG	KLEB	RAP	XAN	ZYG
Caconde	Mean	2.36	1.63	12.37	0.01	0.22	2.36	0.35	0.2	0	0	0	15.52
	s.d.	0.77	0.59	16.74	0.02	0.36	1.33	0.49	0.19	0	0	0	16.66
	North	2.53	2.12	8.58	0	0.06	3.64	0.46	0	0	0	0	41.9
	Center	9.09	2.84	2.14	0	0.04	10.26	0.78	0.2	0	0	0	71.3
	South	5.56	1.05	0.94	0	0.11	1.83	0.46	0.5	0	0	0	40.8
Peixoto	Mean	5.73	2	3.89	0	0.07	5.24	0.57	0.23	0	0	0	51.33
	s.d.	3.29	0.9	4.11	0	0.03	4.44	0.18	0.25	0	0	0	17.3
	North	24.25	11.99	47.74	0.09	0.15	10.75	0.69	0.31	0	0	0	1.48
	Center	24.75	7.77	259.37	0	3.14	4.14	0.03	0.07	0	0.01	0	1.32
	South	23.24	10.18	49.62	0	0.06	9.54	0.02	0	0	0	0	3.78
Marcelino	Mean	24.08	9.98	118.91	0.03	1.12	8.14	0.25	0.12	0	0	0	2.2
	s.d.	0.77	2.12	121.64	0.05	1.75	3.52	0.39	0.16	0	0	0	1.38
	North	547.64	8.1	233.14	0	8.7	79.86	6.39	0	0	0	0	0.05
	Center	228.35	2.05	60.21	0	3.05	40.23	0.25	0	0	0	0	0.25
	South	480.45	1.94	8.03	0	0	41.62	0.73	0	0	2.85	0	0.1
Rincão da Cadeia	Mean	418.81	4.03	100.46	0	3.92	53.9	2.46	0	0	0.95	0	0.13
	s.d.	168.33	3.52	117.83	0	4.42	22.49	3.41	0	0	1.64	0	0.1
	North	5.05	3.15	0.12	1.66	0	0.66	0.01	0.29	0	0	0	0.17
	Center	18.43	0.04	20.49	0	0.03	0.96	0.26	0.38	0	0	0	0.17
	South	5.52	0.76	59.26	0	0	7	0.07	0	0	0	0	1.1
Pombas	Mean	9.67	1.32	26.62	0.55	0.01	2.87	0.11	0.22	0	0	0	0.48
	s.d.	7.59	1.63	30.05	0.96	0.01	3.58	0.13	0.2	0	0	0	0.54
	North	8.08	1.82	210.12	0	0.06	0.77	0.04	0.14	0	0	0	0
	Center	4.55	5.11	250.93	0	0.05	1.23	0	2.49	0	0	0	0.15
	South	4.55	11.08	546.76	0	0.05	1.18	0.02	6.97	0.03	0	0	0
Horacio	Mean	5.73	6	335.93	0	0.05	1.06	0.02	3.2	0.01	0	0	0.05
	s.d.	2.04	4.69	183.72	0	0.01	0.26	0.02	3.47	0.02	0	0	0.09
	North	4.04	0.35	0.2	0	0.14	1.85	2.57	0	0	0	0	0.36
	Center	3.54	1.44	40.12	0	0.07	4.51	1.4	0	0	0	0	0
	South	8.59	3.81	49.11	0	0.49	3.27	4.38	0	0	0	0	0
Tramandai	Mean	5.39	1.87	29.81	0	0.23	3.21	2.79	0	0	0	0	0.12
	s.d.	2.78	1.77	26.03	0	0.22	1.33	1.5	0	0	0	0	0.21
	North	65.68	0.01	0.06	0	0.09	2.72	0	0.34	0	0	1.71	1.64
	Center	51.03	0.04	0.09	0	0.07	3.13	0	0.5	0	0	1.06	0
	South	3.54	52.65	0.36	0	0	4.8	0.02	0	0	0	0	0
Dom Daniel	Mean	40.08	17.57	0.17	0	0.05	3.55	0.01	0.28	0	0	0.92	0.55
	s.d.	32.48	30.38	0.16	0	0.05	1.1	0.01	0.25	0	0	0.86	0.95
	North	10.1	0.24	30.3	0	0	7.78	0.02	0	0	0	0	0
	Center	12.12	4.01	69.8	0	0	11.02	0.06	0	0	0	0.07	2.2
	South	9.6	23.39	27.81	0.06	0.08	6.47	0.29	0	0	1.26	0	0.11

		Chl ($\mu\text{g L}^{-1}$)	BAC	Chl	CHR	CRY	CYA	DIN	EUG	KLEB	RAP	XAN	ZYG
Emboaba	Mean	10.61	9.21	42.64	0.02	0.03	8.42	0.12	0	0	0.42	0.02	0.77
	s.d.	1.34	12.42	23.55	0.03	0.05	2.34	0.14	0	0	0.73	0.04	1.24
	North	1.52	1.89	195.26	0	0.34	0.78	0.05	0	0	0	0	0
	Center	2.02	0.13	156.12	0	0.02	0.68	0.02	0	0	0	0	0.07
	South	3.54	0.22	98.35	0	0.04	0.47	0.01	0	0	0.88	0	0
Emboabinha	Mean	2.36	0.75	149.91	0	0.13	0.64	0.03	0	0	0.29	0	0.02
	s.d.	1.05	0.99	48.75	0	0.18	0.16	0.02	0	0	0.51	0	0.04
	North	8.08	0.79	195.14	0	0.04	0.42	0.02	0.01	0	0	0	0.05
	Center	9.09	9.85	140.95	0	0.06	0.44	0.05	0	0	0	0	0
	South	8.08	1.63	160.3	0	0.14	1.38	0.03	0.28	0	0	0	0.03
Custodias	Mean	8.42	4.09	165.47	0	0.08	0.75	0.03	0.1	0	0	0	0.03
	s.d.	0.58	5.01	27.46	0	0.05	0.55	0.02	0.16	0	0	0	0.02
	North	9.09	26.16	0.52	0	0	8.12	0.07	0	0	0	0	1.18
	Center	4.55	18.25	1.43	0	0	6.68	0.06	0	0	0	0	0.65
	South	9.09	42.02	0.72	0	0.02	13.77	0	0	0	0	0	0.32
Gentil	Mean	7.58	28.81	0.89	0	0.01	9.52	0.04	0	0	0	0	0.72
	s.d.	2.63	12.1	0.48	0	0.01	3.75	0.04	0	0	0	0	0.44
	North	4.55	3.92	13.48	0	0.19	1	0	0	0	0	0	0.24
	Center	7.07	5.43	10.35	0	0.15	83.79	0.08	0.05	0	0	0	1.2
	South	2.53	5.24	11.34	0	0.05	1.15	0.1	0	0	0	0	0.26
Tapera	Mean	4.72	4.86	11.72	0	0.13	28.65	0.06	0.02	0	0	0	0.57
	s.d.	2.28	0.83	1.6	0	0.07	47.76	0.06	0.03	0	0	0	0.55
	North	2.53	0.33	21.03	0	0	0.99	0.02	0.4	0	0	0.03	0.46
	Center	4.55	0.61	144.41	0	0.02	0.5	0.04	0.13	0	0	0	0.49
	South	5.05	1.2	87.08	0	0.17	1.05	0	0.33	0	0.56	0.03	2.25
Manuel Nunes	Mean	4.04	0.71	84.17	0	0.06	0.84	0.02	0.29	0	0.19	0.02	1.07
	s.d.	1.34	0.45	61.74	0	0.09	0.3	0.02	0.14	0	0.32	0.02	1.02
	North	6.57	1.59	0.34	0.02	0	91.49	0.06	1.24	0	0	0.05	0
	Center	4.04	1.12	0.95	0.03	0	2.85	0.06	0	0	0	0	0.18
	South	5.56	0.51	4.66	0	0	3.25	0.1	0	0	0	0	1.05
Fortaleza	Mean	5.39	1.07	1.98	0.02	0	32.53	0.07	0.41	0	0	0.02	0.41
	s.d.	1.27	0.54	2.34	0.01	0	51.06	0.02	0.72	0	0	0.03	0.56
	North	4.55	1.24	175.23	0.02	0.05	0.59	0.02	0	0	0	0	2.14
	Center	1.52	1.6	148.93	0	0.02	2	0	0	0	0	0	0.12
	South	3.03	1.58	92.63	0.02	0.01	0.93	0	0	0	0	0	0.78
Suzana	Mean	3.03	1.47	138.93	0.01	0.03	1.17	0.01	0	0	0	0	1.02
	s.d.	1.52	0.2	42.2	0.01	0.02	0.74	0.01	0	0	0	0	1.03
	North	6.06	0.25	97.13	0	0.02	1.12	0	0.04	0	0	0	0
	Center	0.51	0.03	8.13	0	0	0.53	0.03	0	0	0	0	0
	South	1.01	0.37	78.23	0	0.01	0.93	0	0	0	0	0	0.45

		Chl ($\mu\text{g L}^{-1}$)	BAC	Chl	CHR	CRY	CYA	DIN	EUG	KLEB	RAP	XAN	ZYG
Cidreira	Mean	2.53	0.21	61.16	0	0.01	0.86	0.01	0.01	0	0	0	0.15
	s.d.	3.07	0.17	46.89	0	0.01	0.3	0.02	0.03	0	0	0	0.26
	North	3.03	1.54	85.09	0	0.02	1.15	0	0	0	0	0	0.7
	Center	3.54	0.16	30.08	0	0.06	0.35	0	0	0	0	0	0.44
	South	2.53	1.93	177.67	0.04	0.03	1.55	0	0	0	0	0	0.63
Cerquinha	Mean	3.03	1.21	97.61	0.01	0.04	1.02	0	0	0	0	0	0.59
	s.d.	0.51	0.93	74.59	0.02	0.02	0.61	0	0	0	0	0	0.13
	North	3.54	0.08	137.48	0	0.07	1.09	0.01	0	0	0	0	0.95
	Center	2.53	2.56	138.99	0.02	0.06	1.01	0.03	0	0	0	0	0.4
	South	1.01	0.76	156.12	0	0.18	4.59	0	1.96	0	0	0	0.15
	Mean	2.36	1.13	144.2	0.01	0.1	2.23	0.01	0.65	0	0	0	0.5
	s.d.	1.27	1.28	10.35	0.01	0.07	2.05	0.01	1.13	0	0	0	0.41

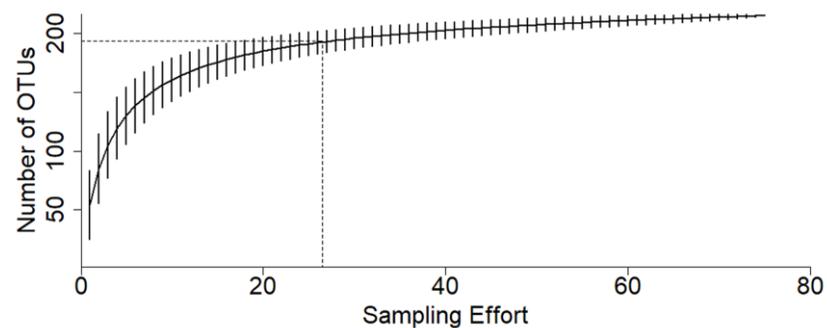


Fig. S1. Species accumulation curve for all 75 samples. The vertical intersection line marks the number of samples (26) at which 90% of the total OTUs are recovered.