

### Supplementary Material

#### **Environmental DNA as a detection tool for small-bodied, cryptic, threatened fish in a highly turbid freshwater lake system**

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**Table S1.** Location of survey sites, sampling date, sampling equipment employed, and effort.

Site	Waterbody	Latitude	Longitude	Date sampled	Gear/method	Number of gear used	Soak time (min)	Volume filtered (L)	
1	Loddon River	-35.55228	143.87061	16-17/11/2020	FN	8	1110	n/a	
					BT	10			
2		-35.55459	143.867147	16-17/11/2020	04/02/2021	eDNA	3	n/a	0.18, 0.15, 0.18
						FN	8	1080	n/a
3		-35.55814	143.8618		BT	10			
					FN	8	960	n/a	
4	-35.55601	143.8557	BT		10				
			FN		8	1140	n/a		
5	Kangaroo Lake	-35.56184	143.76321	17-18/11/2020	FN			7	900
					BT	10			
6		-35.57805	143.78514	09/11/2020	09/11/2020	eDNA	3	n/a	0.42, 0.68, 0.64
							3	n/a	1.16, 1.30, 0.97
7		-35.5947	143.76664	15-16/11/2020	09/11/2021	FN	7	960	n/a
						BT	10		
8	-35.60512	143.76994	14-16/11/2020	09/11/2020	eDNA	3	n/a	0.40, 0.87, 1.67	
					BT	10			
			18-19/11/2020		FN	8	900	n/a	
					BT	10			
9	Racecourse Lake	-35.6072	143.77393	13-14/11/2020	FN	8	900	n/a	
					BT	10			
10		-35.60865	143.77499	13-14/11/2020	10/11/2020	eDNA	3	n/a	0.79, 0.58, 0.71
						FN	8	1020	n/a
11		-35.60891	143.77995	13-14/11/2020	10/11/2020	BT	10		
						FN	8		
12	-35.61301	143.77767	16-17/11/2020	10/11/2020	eDNA	3	n/a	0.60, 0.96, 0.62	
					BT	8	900	n/a	
13	-35.61621	143.77713	14-15/11/2020	10/11/2020	FN	11			1260
					BT	10			
14	-35.61002	143.78526	14-16/11/2020	10/11/2020	FN	8	2460	n/a	
					BT	10			
15	-35.60882	143.79931	13-14/11/2020	10/11/2020	eDNA	3	n/a	0.31, 0.23, 0.36	
					FN	8	960	n/a	
16	No. 7 Channel	-35.6131	143.79974	13-14/11/2020	BT	10			1050
					10/11/2020	eDNA	3	n/a	

eDNA = eDNA water sample collected, FN = double-wing fine mesh fyke net, BT= bait trap

Table S1 Cont'd

Site	Waterbody	Latitude	Longitude	Date sampled	Gear/method	Number of gear used	Soak time (min)	Volume filtered (L)	
17	No. 7 Channel	-35.618	143.799	13-14/11/2020	FN	8	1140	n/a	
					BT	10			
				3/02/2021	eDNA	3	n/a	0.26, 0.39, 0.30	
18	Lake Charm	-35.6123	143.8115	14-15/11/2020	FN	8	900	n/a	
					BT	10			
				10/11/2020	eDNA	3	n/a	0.64, 0.36, 0.88	
19	Little Lake Charm	-35.6204	143.8066	14-15/11/2020	FN	8	870	n/a	
					BT	10			
				10/11/2020		3		0.18, 0.33, 0.36	
20	Scott's Creek	-35.6313	143.3308	12/12/2019	eDNA	1	n/a	0.19	
21		-35.6413	143.8407			1		0.15	
22		-35.6349	143.8625			11/12/2019		1	0.5
23	Third Reedy Lake	-35.6484	143.8614	11-12/11/2020	FN	16	960	n/a	
					BT	20			
				11/12/2019	eDNA	1	n/a	0.24	
						3/02/2021			2
				12-13/11/2020	FN	16	960	n/a	
					BT	20			
16-17/11/2020	FN	16							
24	Third Reedy Lake	-35.6484	143.8614	11-12/11/2020	BT	20	1020	n/a	
					11/12/2019	eDNA	1		0.19
				3/02/2021	eDNA	2	0.13, 0.30		
				11-12/11/2020	FN	16	1020	n/a	
BT	20								
25	Middle Reedy Lake	-35.6536	143.8712	12-13/11/2020	FN	8	960	n/a	
					BT	10			
26		-35.6534	143.8707	11/12/2019	eDNA	1	n/a	0.5	
27		-35.6545	143.8745			1		0.32	
28		-35.6552	143.8759			1		0.37	
29		Middle Reedy Lake	-35.6676	143.8811	27-28/11/2020	BT	20	960	n/a
					12-13/11/2020	FN	8	1140	
	BT					10			
	18-19/11/2020				BT	40	960		
	19-20/11/2020				BT	40			
	11/12/2019				eDNA	1	n/a	0.31	
3/02/2021	2	0.48, 0.40							
30	-35.6674	143.879	27-28/11/2020	BT	40	960	n/a		
31	-35.6682	143.8777	27-28/11/2021		20				
32	First Reedy Lake	-35.6704	143.8752	10/12/2019	eDNA	1	n/a	0.19	
33		-35.6751	143.8732	19-20/11/2020	FN	8	1140	n/a	
					BT	10			
				10/12/2019	eDNA	1	n/a	0.44	
3/02/2021	2	0.25, 0.35							

eDNA = eDNA water sample collected, FN = double-wing fine mesh fyke net, BT= bait trap

Table S1 Cont'd

Site	Waterbody	Latitude	Longitude	Date sampled	Gear/method	Number of gear used	Soak time (min)	Volume filtered (L)
34	Wandella Creek	-35.68685	143.87848	10-11/11/2020	FN	8	810	n/a
					BT	10		
				11-12/11/2020	FN	8	960	
					BT	10		
35		-35.68618	143.87909	9/12/2019	eDNA	3	n/a	0.46, 0.48, 0.51
						1		
36		-35.69006	143.87674	11-12/11/2020	FN	8	1050	n/a
					BT	10		
	03/02/2021				eDNA	3		
9/12/2019	1							
37	Reedy Lake	-35.68616	143.88365	9/12/2019	eDNA	1	n/a	0.29
38	Washpen Creek	-35.68843	143.88676	17-18/11/2020	FN	8	1470	n/a
					BT	10		
39		-35.6933	143.89205	11/11/2020	eDNA	3	n/a	0.18, 0.20, 0.11
					15-16/11/2020	FN		
				BT	10			
				11/11/2020	eDNA	3	n/a	
40		-35.70292	143.89692	15-16/11/2020	FN	8	1230	n/a
					BT	10		
	11/11/2020				eDNA	3		
41	-35.70565	143.90326	15-16/11/2020	FN	8	1440	n/a	
				BT	10			
				12/11/2020	eDNA			3
42	-35.70266	143.90918	14-15/11/2020	FN	8	840	n/a	
				BT	10			
				02/02/2021	eDNA			3
43	Box/Pyramid Creek	-35.7048	143.91238	8-9/11/2020	FN	8	1080	n/a
					BT	10	840	
44		-35.70423	143.91813	12/11/2020	eDNA	3	n/a	0.24, 0.20, 0.26
						3		
45		-35.70673	143.91733	8-9/11/2020	DN	1	10	n/a
					FN	8	960	
					BT	10		
					12/11/2020	eDNA	3	
46	Loddon River	-35.704078	143.918399	9-10/11/2020	FN	8	840	n/a
47	-35.70556	143.92078	BT		10			
			FN	8	1020			
			BT	10				
			03/02/2021	eDNA	3	n/a	0.15, 0.25, 0.62	
48	-35.7048	143.91238	9-10/11/2020	FN	8	960	n/a	
				BT	10			
				12/11/2020	eDNA			3
49	-35.7048	143.91238	9-10/11/2020	FN	8	960	n/a	
				BT	10			
50	Kerang Weir	-35.70893	143.90599	10-11/11/2020	FN	8	900	n/a
					BT	10		
				02/02/2021	eDNA	1		

eDNA = eDNA water sample collected, FN = double-wing fine mesh fyke net, BT= bait trap

Table S1 Cont'd

Site	Waterbody	Latitude	Longitude	Date sampled	Gear/method	Number of gear used	Soak time (min)	Volume filtered (L)
51	Kerang Weir	-35.7094	143.9052	10-11/11/2020	FN	8	900	n/a
					BT	10		
52		-35.711	143.9073	10-11/11/2020	2/02/2021	eDNA	3	n/a
					12/11/2020	eDNA	3	n/a
53		-35.7159	143.9048	10-11/11/2020	FN	8	900	n/a
					BT	10		
54	-35.7226	143.9077	9-10/11/2020	12/11/2020	eDNA	3	n/a	0.38, 0.12, 0.17
				DN	1	10	900	n/a
				FN	8	10		
				BT	10	10		
55	-35.7247	143.9079	10-11/11/2020	11/11/2020	eDNA	3	n/a	0.17, 0.27, 0.23
				DN	1	10	1380	n/a
				FN	8	10		
56	-35.7266	143.9083	10-11/11/2020	BT	10	1200	n/a	
				11/11/2020	eDNA	3	n/a	0.40, 0.31, 1.33
57	-35.7284	143.9069	9-10/11/2020	FN	8	1140	n/a	
				BT	10			
				11/11/2020	eDNA	3	n/a	0.33, 0.06, 0.31
58	-35.7338	143.9079	17-18/11/2020	FN	8	1050	n/a	
				BT	10			
59	-35.7428	143.9161	17-18/11/2020	11/11/2020	eDNA	3	n/a	0.32, 0.39, 0.27
				FN	8	840	n/a	
60	-35.7471	143.9126	17-18/11/2020	BT	10			750
				3/02/2020	eDNA	3	n/a	
61	-35.7479	143.9105	17-18/11/2020	FN	8	960	n/a	
				BT	10			
62	-35.9307	144.2839	19-20/11/2020	3/02/2021	eDNA	3	n/a	0.31, 0.57, 0.40
				FN	8	1080	n/a	
				BT	10			
63	-35.9346	144.2696	19-20/11/2020	5/02/2021	eDNA	3	n/a	0.44, 0.92, 0.64
				FN	8	960	n/a	
				BT	10			
64	-35.9346	144.2686	20/11/2020	FN	8	960	n/a	
				BT	10			
65	-35.9487	144.2623	18-19/11/2020	FN	8	1020	n/a	
				BT	10			
66	-35.9513	144.3163	18-19/11/2020	FN	8	870	n/a	
				BT	10			
67	-35.9759	144.2864	18-19/11/2020	4/02/2021	eDNA	3	n/a	0.68, 0.89, 0.83
				5/02/2021	eDNA	3	n/a	0.13, 0.36, 0.68

eDNA = eDNA water sample collected, FN = double-wing fine mesh fyke net, BT= bait trap

Table S1 Cont'd

Site	Waterbody	Latitude	Longitude	Date sampled	Gear/method	Number of gear used	Soak time (min)	Volume filtered (L)
68	Kow Swamp	-35.9795	144.28835	18-19/11/2020	FN	8	1230	n/a
					BT	10		
			05/02/2021	eDNA	3	n/a	0.33, 0.51, 0.26	
69		-35.98125	144.32036	18-19/11/2020	FN	8	990	n/a
					BT	10		
			04/02/2021	eDNA	3	n/a	0.26, 0.63, 0.15	
70		-35.98943	144.28413	18-19/11/2020	FN	8	1200	n/a
					BT	10		
		05/02/2021	eDNA	3	n/a	0.34, 0.42, 0.89		
71	-35.99294	144.27783	19-20/11/2020	FN	8	1230	n/a	
				BT	10			
		05/02/2021	eDNA	3	n/a	0.49, 0.61, 0.47		

eDNA = eDNA water sample collected, FN = double-wing fine mesh fyke net, BT= bait trap