

# Supplementary Material to:

**Diversity and distribution of *Daphnia* across space and time in Danube Delta lakes explained by food quality and abundance**

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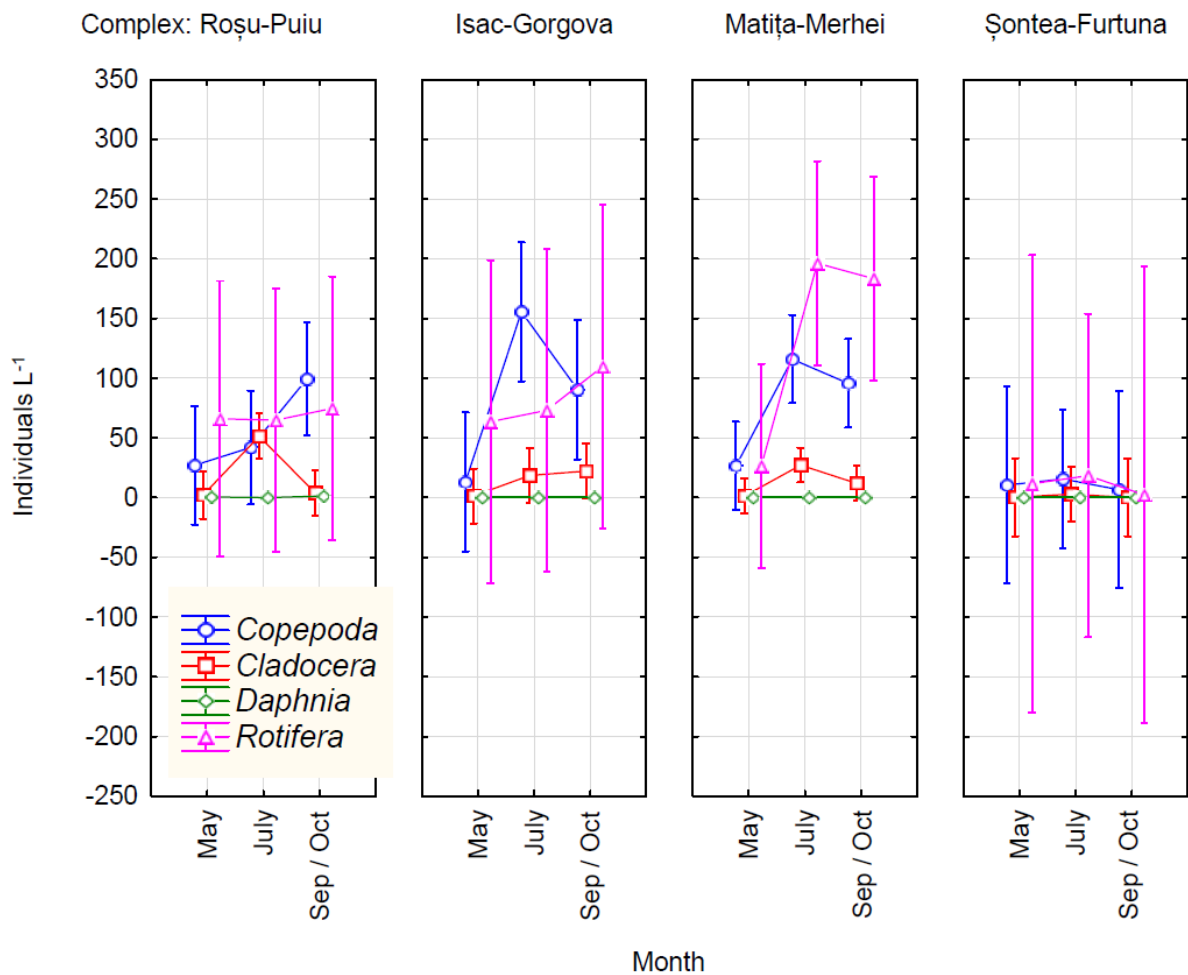
## Content

**Figure S1** Mean densities (Ind. L<sup>-1</sup>) of four important zooplankton groups in the four Danube Delta lake complexes in May, July and September / October 2013 and 2014. Table S1 shows in detail which samples contribute to the different data points. Error bars indicate 95% confidence limits. Negative Y-axis is included to visualize complete error bars.

**Table S1.** Sensor data (Temperature, pH, Redox, Conductivity, Oxygen and Turbidity) as well as transparency and depth for all sampled lakes during the 2013 and 2014 sampling campaigns. Also *Daphnia* density as determined with the quantitative samples as well as *Daphnia* presence/absence in the qualitative samples is indicated.

**Table S2** List of published studies on the fish community of Danube Delta lakes, with remarks about the reported fish species, type of data provided, provided information about the catch size, the potential relevance of the study for the distribution of *Daphnia* in these lakes, the aim of the study as well as the sampling period.

**Figure S1** Mean densities (Ind. L<sup>-1</sup>) of four important zooplankton groups in the four Danube Delta lake complexes in May, July and September / October 2013 and 2014. Table S1 shows in detail which samples contribute to the different data points. Error bars indicate 95% confidence limits. Negative Y-axis is included to visualize complete error bars.



**Table S1.** Sensor data (Temperature, pH, Conductivity, Oxygen and Turbidity) as well as transparency and depth for all sampled lakes during the 2013 and 2014 sampling campaigns. Also *Daphnia* density as determined with the quantitative samples as well as *Daphnia* presence/absence in the qualitative samples is indicated.

Lake name	Lake_NO	Sampling Date	Lake complex	<i>Daphnia</i> density (ind/L)	<i>Daphnia</i> presence/absence in qualitative samples	Depth (m)	Transparency (m)	Temperature (°C)	pH	Conductivity (µS/cm)	Oxygen Concentration (mg/L)	Oxygen Saturation (%)	Turbidity (NFU)
Rosu	L01	13.05.2013	Rosu-Puiu	1.48	0	4.5	2.4	22.4	8.67	399	7.60	89.0	18.80
Rosulet	L02	13.05.2013	Rosu-Puiu	0.17	1	2.4	1.6	21.7	8.00	392	6.86	78.5	26.90
Mandra	L04	13.05.2013	Rosu-Puiu	0.34	0	2.7	1.6	23.1	8.03	406	5.43	64.0	28.50
Puiu	L05	13.05.2013	Rosu-Puiu	0.78	0	3.9	2.2	24.2	8.15	406	5.58	67.1	3.21
Erenciuc	L06	13.05.2013	Rosu-Puiu	0	0	2.5	2.2	24.3	7.27	434	0.84	10.3	90.30
Gorgostel	L07	14.05.2013	Isac-Gorgova	0	0	2.8	2.4	20.7	7.75	401	2.62	29.3	3.46
Uzlina	L08	14.05.2013	Isac-Gorgova	0	0	2.4	1.8	21.1	8.43	377	6.00	67.7	6.43
Isac	L09	14.05.2013	Isac-Gorgova	0	0	2.8	1.3	21.8	8.30	394	6.70	77.0	1.92
Cuibul_cu_Lebede	L10	14.05.2013	Isac-Gorgova	0	0	2.0	1.6	22.0	7.64	383	3.10	35.4	1.22
Bogdaproste	L11	14.05.2013	Matita-Merhei	0	0	2.4	2.1	22.2	8.10	400	3.58	41.5	1.80
La_Amiaza	L12	14.05.2013	Matita-Merhei	0	0	2.2	1.6	22.2	7.97	402	3.86	44.7	1.62
Trei_Iezere	L13	14.05.2013	Matita-Merhei	0	0	2.5	2.1	22.3	8.10	401	2.98	34.4	1.38
Matita	L14	15.05.2013	Matita-Merhei	0	0	3.1	2.2	21.3	7.61	407	4.34	49.5	1.23
Babina	L15	15.05.2013	Matita-Merhei	0	0	2.3	2.0	22.0	7.55	404	1.66	19.1	1.22
Radacinoasele	L16	15.05.2013	Matita-Merhei	0	0	2.1	1.8	22.4	7.52	407	4.15	47.7	1.06
Dracului	L17	15.05.2013	Matita-Merhei	0	0	2.2	2.0	22.9	7.73	413	4.85	56.4	2.06
Merhei	L18	15.05.2013	Matita-Merhei	0	0	2.2	2.0	22.0	7.95	406	5.55	63.8	1.21
Merhei_Mic	L19	15.05.2013	Matita-Merhei	0	0	2.2	2.0	21.6	8.01	405	5.52	63.1	1.24
Lung	L20	15.05.2013	Matita-Merhei	0	0	2.1	1.9	21.9	7.41	413	2.02	23.4	2.92
Rosu	L01	27.07.2013	Rosu-Puiu	0	0	2.6	0.4	24.5	8.40	381	6.43	78.0	14.50
Rosulet	L02	27.07.2013	Rosu-Puiu	0	0	2.1	0.6	25.1	8.18	382	5.99	72.5	18.70
Tataru	L03	27.07.2013	Rosu-Puiu	0	0	2.1	1.9	25.2	7.51	472	3.42	41.5	4.06
Mandra	L04	22.07.2013	Rosu-Puiu	0	0	1.8	1.1	25.7	8.30	386	5.50	67.1	3.80
Puiu	L05	22.07.2013	Rosu-Puiu	0	0	3.0	0.7	25.1	8.38	376	6.97	84.4	1.44
Erenciuc	L06	22.07.2013	Rosu-Puiu	0	0	2.5	1.5	22.8	7.47	426	1.60	18.0	1.26
Gorgostel	L07	23.07.2013	Isac-Gorgova	0	0	1.7	1.1	26.0	7.63	397	4.71	58.1	5.38
Uzlina	L08	23.07.2013	Isac-Gorgova	0	0	1.1	1.0	25.8	8.42	351	7.88	96.1	5.40
Isac	L09	23.07.2013	Isac-Gorgova	0	0	2.0	2.0	26.0	8.61	280	6.93	85.9	7.81
Cuibul_cu_Lebede	L10	23.07.2013	Isac-Gorgova	0	0	1.8	1.8	23.5	7.29	366	1.27	14.4	4.44
Bogdaproste	L11	24.07.2013	Matita-Merhei	0	0	0.6	0.5	25.8	8.46	336	7.73	94.5	2.42
La_Amiaza	L12	24.07.2013	Matita-Merhei	0	0	0.6	0.6	25.7	8.57	339	7.94	97.8	13.70
Trei_Iezere	L13	24.07.2013	Matita-Merhei	0	0	1.7	1.7	25.1	7.47	382	3.58	43.9	16.00
Matita	L14	24.07.2013	Matita-Merhei	0	0	2.6	2.2	25.0	8.07	344	5.66	68.5	2.25
Babina	L15	25.07.2013	Matita-Merhei	0	0	2.2	2.2	25.3	9.13	247	9.99	122.7	1.15
Radacinoasele	L16	25.07.2013	Matita-Merhei	0	0	1.7	1.7	25.1	8.42	306	6.08	74.3	2.07

Lake name	Lake_NO	Sampling Date	Lake complex	<i>Daphnia</i> density (ind/L)	<i>Daphnia</i> presence/absence in qualitative samples	Depth (m)	Transparency (m)	Temperature (°C)	pH	Conductivity (µS/cm)	Oxygen Concentration (mg/L)	Oxygen Saturation (%)	Turbidity (NFU)
Dracului	L17	25.07.2013	Matita-Merhei	0	0	1.6	1.6	25.2	8.80	270	8.94	108.7	2.29
Merhei	L18	24.07.2013	Matita-Merhei	0	0	1.7	1.7	24.3	8.05	334	5.67	67.3	3.48
Merhei_Mic	L19	24.07.2013	Matita-Merhei	0	0	1.1	1.0	24.1	8.04	338	4.49	53.3	3.91
Lung	L20	24.07.2013	Matita-Merhei	0	0	1.0	1.0	24.4	8.14	335	6.64	78.5	4.26
Furtuna	L22	25.07.2013	Sontea-Furtuna	0	0	2.0	2.0	25.6	7.91	386	5.62	68.7	2.05
Baclanestii_Mari	L23	25.07.2013	Sontea-Furtuna	0	0	1.6	1.6	26.3	8.43	358	8.79	109.1	1.81
Ligheanca	L24	25.07.2013	Sontea-Furtuna	0	0	0.6	0.3	24.7	7.54	384	2.73	32.9	9.74
Radacinos	L25	25.07.2013	Sontea-Furtuna	0	0	1.7	1.7	25.0	7.76	390	4.09	50.2	3.07
Rosu	L01	25.09.2013	Rosu-Puiu	0	1	2.5	0.3	16.3	8.90	336	5.96	61.0	36.10
Rosulet	L02	25.09.2013	Rosu-Puiu	0	1	1.7	0.3	16.6	8.94	327	6.59	67.5	18.70
Tataru	L03	25.09.2013	Rosu-Puiu	0	0	0.4	0.3	18.4	8.14	445	5.80	61.4	11.00
Mandra	L04	27.09.2013	Rosu-Puiu	0	1	1.0	0.3	16.5	8.22	339	5.02	51.8	15.00
Puiu	L05	27.09.2013	Rosu-Puiu	3.96	0	2.5	0.3	16.4	8.58	334	5.87	60.2	31.20
Erenciuc	L06	27.09.2013	Rosu-Puiu	0	0	2.2	0.4	16.9	8.53	426	5.97	61.6	24.50
Gorgostel	L07	28.09.2013	Isac-Gorgova	0	0	1.1	0.3	16.0	8.35	422	5.13	52.3	27.80
Uzlina	L08	28.09.2013	Isac-Gorgova	0	1	0.5	0.5	15.2	8.23	357	4.87	48.4	5.98
Isac	L09	28.09.2013	Isac-Gorgova	0	1	1.5	1.5	15.5	8.20	358	5.27	52.7	7.22
Cuibul_cu_Lebede	L10	28.09.2013	Isac-Gorgova	0	0	0.5	0.4	16.2	7.53	375	2.19	22.4	29.20
Bogdaproste	L11	28.09.2013	Matita-Merhei	0	0	0.6	0.6	14.7	8.60	390	5.82	57.3	4.84
La_Amiaza	L12	28.09.2013	Matita-Merhei	0	0	0.4	0.4	15.1	8.82	396	6.69	65.9	2.81
Trei_Iezere	L13	28.09.2013	Matita-Merhei	0	0	0.4	0.4	16.4	8.29	417	4.48	45.7	13.50
Matita	L14	29.09.2013	Matita-Merhei	0	0	2.1	2.0	14.9	8.73	353	5.80	57.1	10.70
Babina	L15	29.09.2013	Matita-Merhei	0	0	1.5	1.5	14.9	8.84	357	6.96	69.0	3.99
Radacinoasele	L16	29.09.2013	Matita-Merhei	1.52	0	0.5	0.3	14.7	8.31	427	7.90	78.1	17.70
Dracului	L17	29.09.2013	Matita-Merhei	0	0	0.7	0.6	14.7	8.06		5.12	50.8	11.20
Merhei	L18	29.09.2013	Matita-Merhei	0	0	0.9	0.9	14.1	8.62	406	5.94	57.8	10.70
Merhei_Mic	L19	29.09.2013	Matita-Merhei	0	0	0.5	0.5	13.8	8.37	447	5.24	50.7	9.90
Lung	L20	29.09.2013	Matita-Merhei	0	0	0.4	0.4	15.5	8.45	449	7.04	71.6	8.41
Rosu	L01	21.05.2014	Rosu-Puiu	1.32	1	2.5	1.1	21.9	8.42	429	4.77	53.9	3.60
Rosulet	L02	21.05.2014	Rosu-Puiu	0	1	2.7	1.4	20.5	8.05	436	5.23	60.1	4.98
Tataru	L03	21.05.2014	Rosu-Puiu	0.36	1	1.8	1.4	21.0	7.91	434	3.49	38.7	3.84
Mandra	L04	21.05.2014	Rosu-Puiu	0	1	2.1	2.0	20.6	8.01	428	4.40	48.6	3.23
Puiu	L05	22.05.2014	Rosu-Puiu	0	1	3.1	0.8	21.9	7.88	421	4.07	46.5	6.38
Erenciuc	L06	22.05.2014	Rosu-Puiu	0	0	2.5	1.8	21.7	7.27	483	0.92	10.6	4.30
Gorgostel	L07	22.05.2014	Isac-Gorgova	0	0	2.2	2.2	21.2	7.61	416	2.60	29.0	2.04
Uzlina	L08	22.05.2014	Isac-Gorgova	0	0	1.6	1.5	21.5	8.64	383	5.86	67.0	8.74
Isac	L09	22.05.2014	Isac-Gorgova	0	0	2.1	1.6	21.7	8.86	360	5.98	67.6	6.02
Cuibul_cu_Lebede	L10	22.05.2014	Isac-Gorgova	0	0	1.7	1.7	21.6	7.82	385	2.20	26.4	2.45
Bogdaproste	L11	24.05.2014	Matita-Merhei	0.07	0	2.0	2.0	23.2	7.62	399	3.03	35.4	5.56

Lake name	Lake_NO	Sampling Date	Lake complex	<i>Daphnia</i> density (ind/L)	<i>Daphnia</i> presence/absence in qualitative samples	Depth (m)	Transparency (m)	Temperature (°C)	pH	Conductivity (µS/cm)	Oxygen Concentration (mg/L)	Oxygen Saturation (%)	Turbidity (NFU)
La_Amiaza	L12	24.05.2014	Matita-Merhei	0	0	1.7	1.7	23.9	7.60	396	2.97	35.2	3.58
Trei_lezere	L13	24.05.2014	Matita-Merhei	0	0	2.0	2.0	23.5	7.69	394	3.24	38.3	2.64
Matita	L14	25.05.2014	Matita-Merhei	0	0	2.4	1.8	25.5	7.99	410	3.98	48.9	2.73
Babina	L15	25.05.2014	Matita-Merhei	0	0	2.3	1.5	22.5	7.27	396	1.43	16.3	2.99
Radacinoasele	L16	25.05.2014	Matita-Merhei	0	0	2.3	1.8	23.7	7.56	413	3.23	38.0	2.77
Dracului	L17	25.05.2014	Matita-Merhei	0	0	2.3	1.6	24.4	8.04	426	4.95	59.4	3.53
Merhei	L18	25.05.2014	Matita-Merhei	0	0	2.0	2.0	25.6	8.10	409	5.22	63.4	2.99
Merhei_Mic	L19	25.05.2014	Matita-Merhei	0	0	1.8	1.8	25.6	8.27	412	4.80	58.6	4.06
Lung	L20	25.05.2014	Matita-Merhei	0	0	1.6	1.6	24.9	7.46	419	2.78	33.3	3.03
Furtuna	L22	24.05.2014	Sontea-Furtuna	0	0	2.6	2.6	22.1	7.54	392	2.13	24.4	2.21
Baclanestii_Mari	L23	24.05.2014	Sontea-Furtuna	0	0	2.4	2.4	22.6	7.57	390	2.33	26.7	3.30
Ligheanca	L24	24.05.2014	Sontea-Furtuna	0	0	2.0	2.0	22.0	7.50	394	2.18	25.2	2.30
Radacinos	L25	24.05.2014	Sontea-Furtuna	0	0	2.3	2.3	22.5	7.83	387	1.74	19.9	2.02
Rosu	L01	20.07.2014	Rosu-Puiu	0	0	2.3	0.4	25.3	8.80	351	4.00	48.6	2.55
Rosulet	L02	20.07.2014	Rosu-Puiu	0	0	1.8	0.4	25.1	8.57	360	3.47	42.0	1.80
Tataru	L03	20.07.2014	Rosu-Puiu	0	0	1.3	0.7	25.2	8.28	432	4.24	51.5	1.85
Mandra	L04	20.07.2014	Rosu-Puiu	0	0	1.9	0.4	25.9	8.82	379	4.69	57.5	4.81
Puiu	L05	20.07.2014	Rosu-Puiu	0	0	2.8	0.4	25.9	8.70	325	4.29	52.7	2.00
Erenciuc	L06	20.07.2014	Rosu-Puiu	0	0	3.2	1.3	25.2	7.70	436	2.53	30.4	2.17
Gorgostel	L07	21.07.2014	Isac-Gorgova	0	0	2.0	0.4	26.6	8.55	378	4.54	55.0	4.75
Uzlina	L08	21.07.2014	Isac-Gorgova	0	0	1.5	1.5	26.9	8.67	352	4.65	58.0	1.91
Isac	L09	21.07.2014	Isac-Gorgova	0	0	2.0	2.0	26.9	8.84	304	4.26	53.1	1.93
Cuibul_cu_Lebede	L10	21.07.2014	Isac-Gorgova	0	0	1.6	1.6	26.6	7.94	322	1.94	24.0	2.28
Bogdaproste	L11	22.07.2014	Matita-Merhei	0	0	1.5	1.5	28.7	8.85	316	5.40	70.0	2.98
La_Amiaza	L12	22.07.2014	Matita-Merhei	0	0	1.0	1.0	29.8	9.15	324	7.25	95.3	3.89
Trei_lezere	L13	22.07.2014	Matita-Merhei	0	0	1.6	1.6	28.7	8.98	303	5.95	77.0	3.29
Matita	L14	23.07.2014	Matita-Merhei	0	0	2.1	0.5	27.9	9.10	223	4.70	60.2	11.70
Babina	L15	23.07.2014	Matita-Merhei	0	0	1.8	0.4	27.9	9.11	239	5.58	70.0	10.20
Radacinoasele	L16	23.07.2014	Matita-Merhei	0	0	1.3	0.3	27.0	9.60	213	3.54	44.4	8.87
Dracului	L17	23.07.2014	Matita-Merhei	0	0	1.4	0.8	28.6	10.10	210	5.01	64.7	3.46
Merhei	L18	23.07.2014	Matita-Merhei	0	0	1.2	1.2	29.8	9.70	226	6.13	81.9	4.04
Merhei_Mic	L19	23.07.2014	Matita-Merhei	0	0	0.8	0.8	29.2	9.37	238	3.88	50.6	3.27
Lung	L20	23.07.2014	Matita-Merhei	0	0	1.0	0.4	29.0	8.82	304	4.30	56.5	3.54
Furtuna	L22	22.07.2014	Sontea-Furtuna	0	0	1.7	1.7	27.4	8.73	356	3.79	48.1	2.25
Baclanestii_Mari	L23	22.07.2014	Sontea-Furtuna	0	0	1.8	1.8	27.6	8.21	365	3.90	49.6	2.52
Ligheanca	L24	22.07.2014	Sontea-Furtuna	0	0	0.5	0.4	25.5	7.82	364	2.10	25.8	2.37
Radacinos	L25	22.07.2014	Sontea-Furtuna	0	0	1.5	1.5	25.5	7.51	381	1.01	12.3	2.25
Rosu	L01	10.10.2014	Rosu-Puiu	0.78	1	3.5	0.6	15.0	8.83	385	2.80	27.8	8.75
Rosulet	L02	10.10.2014	Rosu-Puiu	1.68	1	2.3	0.8	14.8	8.35	392	2.44	23.8	10.60

Lake name	Lake_NO	Sampling Date	Lake complex	<i>Daphnia</i> density (ind/L)	<i>Daphnia</i> presence/absence in qualitative samples	Depth (m)	Transparency (m)	Temperature (°C)	pH	Conductivity (µS/cm)	Oxygen Concentration (mg/L)	Oxygen Saturation (%)	Turbidity (NFU)
Tataru	L03	10.10.2014	Rosu-Puiu	0.25	1	1.4	0.8	14.7	8.20	394	2.14	20.7	4.74
Mandra	L04	10.10.2014	Rosu-Puiu	0.4	1	2.1	0.8	15.4	8.10	390	2.27	22.4	6.46
Puiu	L05	10.10.2014	Rosu-Puiu	0.96	1	3.4	0.8	15.6	8.48	384	3.10	30.8	5.22
Erenciuc	L06	10.10.2014	Rosu-Puiu	0	1	2.7	2.7	14.8	7.51	411	1.39	13.5	3.12
Gorgostel	L07	13.10.2014	Isac-Gorgova	0	0	2.2	2.2	16.2	7.36	374	0.70	7.2	1.17
Uzlina	L08	13.10.2014	Isac-Gorgova	0	0	2.0	1.6	16.0	8.29	372	1.85	18.7	7.99
Isac	L09	13.10.2014	Isac-Gorgova	0	0	2.3	2.1	16.7	8.58	360	2.97	30.2	2.44
Cuibul_cu_Lebede	L10	13.10.2014	Isac-Gorgova	0	0	1.6	1.6	15.2	7.56	362	1.24	12.3	0.60
Bogdaproste	L11	13.10.2014	Matita-Merhei	0	0	2.0	2.0	14.8	7.93	378	4.10	40.1	1.66
La_Amiaza	L12	13.10.2014	Matita-Merhei	0	0	1.6	1.6	14.9	7.62	380	4.53	44.3	
Trei_lezere	L13	13.10.2014	Matita-Merhei	0	0	2.1	2.1	15.1	7.72	378	3.78	37.3	2.76
Matita	L14	12.10.2014	Matita-Merhei	0	0	2.6	2.0	16.6	8.22	381	9.96	98.5	2.78
Babina	L15	12.10.2014	Matita-Merhei	0	0	2.1	2.1	15.7	7.62	381	3.86	38.7	1.33
Radacinoasele	L16	12.10.2014	Matita-Merhei	0	0	1.6	1.6	16.3	7.90	399	7.30	70.4	2.43
Dracului	L17	12.10.2014	Matita-Merhei	0	0	2.1	2.1	16.2	8.40	401	8.21	83.2	2.57
Merhei	L18	12.10.2014	Matita-Merhei	0	0	2.1	2.1	15.3	7.96	398	8.51	83.7	11.20
Merhei_Mic	L19	12.10.2014	Matita-Merhei	0	0	1.6	1.6	14.8	8.01	399	8.34	81.5	1.79
Lung	L20	12.10.2014	Matita-Merhei	0	0	1.6	1.6	15.6	7.70	415	4.37	44.6	3.51
Furtuna	L22	14.10.2014	Sontea-Furtuna	0	0	1.7	1.7	14.6	7.82	390	1.98	19.3	1.00
Baclanestii_Mari	L23	14.10.2014	Sontea-Furtuna	0	0	2.1	2.2	15.1	7.66	381	3.11	30.8	8.91
Ligheanca	L24	14.10.2014	Sontea-Furtuna	0	0	1.6	1.6	14.5	7.78	378	2.07	20.3	2.51
Radacinos	L25	14.10.2014	Sontea-Furtuna	0	0	2.2	2.2	15.0	8.23	379	2.62	25.9	14.20

**Table S2** List of published studies on the fish community of Danube delta lakes, with remarks about the reported fish species, type of data provided, provided information about the catch size, the potential relevance of the study for the distribution of *Daphnia* in these lakes, the aim of the study as well as the sampling period.

Lakes	Fish species*	Type of data provided (of relevance for <i>Daphnia</i> )	catch size estimation	Relevant for <i>Daphnia</i> ?	Aim of the study	Sampling date/year	Reference
Furtuna, Isac, Merhei, Roșu	<i>Abramis brama</i> , <i>Blicca bjoerkna</i> , <i>Alburnus alburnus</i> , <i>Carassius gibelio</i> , <i>C. carpio</i> , <i>Leucaspis delineatus</i> , <i>Tinca tinca</i> , <i>P. fluviatilis</i> , <i>Rutilus rutilus</i> , <i>Scardinius erythropthalmus</i>	Biomass and numerical abundance for each lake, by species	+	Zooplankton consumers	to compare the efficiency of two sampling strategies (i.e. monofilament gillnets and multifilament gillnets) and reveal the one that has a higher catch;	May, July, September 2014	[1]
Cuibul cu Lebede, Isac, Gorgova, Chiril, Ligheanca, Furtuna, Băclănești	<i>A. brama</i> , <i>B. bjoerkna</i> , <i>A. alburnus</i> , <i>C. gibelio</i> , <i>Cyprinus carpio</i> , <i>L. delineatus</i> , <i>T. tinca</i> , <i>P. fluviatilis</i> , <i>R. rutilus</i> , <i>S. erythropthalmus</i> , <i>Perccottus glenii</i> – invasive species is registered	Total capture (yield) per lake; Species richness of fish per lake; relative biomass per species integrated for lake complexes	+	Zooplankton consumers	to describe the fish community status within the study area;	August 2010	[2]
Cuibul cu Lebede, Isac, Uzlina, Ligheanca, Furtuna, Băclănești, Trei Iezere, Bogdaproste, Matia, Merhei, Roșu, Roșuleț, Puiu, etc.	<i>P. fluviatilis</i> , <i>R. rutilus</i> , <i>A. alburnus</i> , <i>B. bjoerkna</i> , <i>C. carpio</i> , <i>L. delineatus</i> , etc.	Total fish catch numerical and gravimetric abundances, for each lake; historical data: temporal dynamics (1920-2010) of selected (of economic value) fish species (“including Razim-Sinoie and Somova-Parches lake-complexes and Danube River up to the Prut River”);	+	Zooplankton consumers	to describe the present status of the fish communities of the Danube delta lakes by the output of fish sampling and commercial catch statistics;	2006, 2007, 2008	[3]



Lakes	Fish species*	Type of data provided (of relevance for <i>Daphnia</i> )	catch size estimation	Relevant for <i>Daphnia</i> ?	Aim of the study	Sampling date/year	Reference
Trei Iezere, Bogdaproste, Matița, Merhei, Roșu, Roșuleț, Puiu, etc.	<i>A. brama</i> , <i>B. bjoerkna</i> , <i>A. alburnus</i> , <i>C. gibelio</i> , <i>C. carpio</i> , <i>C. carassius</i> , <i>Clupeonella cultiventris</i> , <i>L. delineatus</i> , <i>T. tinca</i> , <i>P. fluviatilis</i> , <i>R. rutilus</i> , <i>S. erythropthalmus</i> , <i>P. glenii</i> , <i>Pseudorasbora parva</i> , <i>Sygnathus abaster</i> , etc.	Numeric (ex.) and biomass (kg) abundances per lake, for the whole fish community are provided; species richness at the level of lake complex;	+ total capture per each lake	Species that prey on zooplankton	to use species richness, abundance, biomass and the biodiversity indices as descriptors of the fish communities and compare the lakes from this point of view;	August 2008	[4]
Cuibul cu Lebede, Uzlina, Isac, Furtuna, <u>Nebunu</u> , Merhei, <u>Miazazi</u> , Roșu, Roșuleț	<i>T. tinca</i>	Percentage of prey taxa for four fish length categories (6 to 40 cm); no discrimination by lake was done; relative zooplankton biomass for seven zooplankton groups, by lake;	-	Direct relationship between different developmental stages of <i>T. tinca</i> (tench) and different zooplankton taxonomic groups and other food items of the first; no particular reference to <i>Daphnia</i> was done	to evaluate the percentage of zooplankton prey in <i>T. tinca</i> 's diet;	June 2007	[5]
<u>Gorgova</u> , Isac, Uzlina, <u>Potcoava</u> , Cuibul cu Lebede, Furtuna, Băclănești, Ligheanca	<i>A. brama</i> , <i>B. bjoerkna</i> , <i>A. alburnus</i> , <i>C. gibelio</i> , <i>C. carpio</i> , <i>C. carassius</i> , <i>C. cultiventris</i> , <i>L. delineatus</i> , <i>T. tinca</i> , <i>P. fluviatilis</i> , <i>R. rutilus</i> , <i>S. erythropthalmus</i> , <i>P. glenii</i> , <i>P. parva</i> , <i>S. abaster</i> , etc.	Total captures (yields) in biomass (kg) and number of individuals (ex.) are provided, for each lake; species richness by lake complex	+	Zooplankton consumers	to define the state of fish communities described by ecological indices and biodiversity indices, following similar methods to the ones used within EU as well as relating fish community state to the context of the changing habitat under the human pressure;	September 2007	[6]

Lakes	Fish species*	Type of data provided (of relevance for <i>Daphnia</i> )	catch size estimation	Relevant for <i>Daphnia</i> ?	Aim of the study	Sampling date/year	Reference
Isac, Uzlina, Cuibul cu Lebede, Furtuna, Băclăneștii Mari, Ligheanca, Matița, Merhei, Bogdaproste, Trei lezere, Roșu, Puiu, Roșuleț, etc.	<i>A. brama</i> , <i>B. bjoerkna</i> , <i>A. alburnus</i> , <i>C. gibelio</i> , <i>C. carpio</i> , <i>C. carassius</i> , <i>C. cultiventris</i> , <i>L. delineatus</i> , <i>P. fluviatilis</i> , <i>R. rutilus</i> , <i>S. erythropthalmus</i> , <i>S. abaster</i> , <i>T. tinca</i> , etc.	Numeric and biomass abundances, as well as the species diversity of fish by lake complexes;	+	Yes, increasing fish diversity from west to east, towards Roșu-Puiu complex)	to describe the fish communities using species richness, abundance, biomass, ecological indices and the biodiversity index and to compare lakes in context of human interventions as a driving factor;	2003 -2005	[7]
Roșu, Puiu, Roșuleț, <u>lacub</u>	<i>A. bjoerkna</i> , <i>C. gibelio</i> , <i>R. rutilus</i> , <i>A. alburnus</i> , <i>Clupeonella cultriventris</i> , etc.	Species richness overall lake complex; diversity, equitability indices were calculated;	+	Zooplankton consumers	to describe the state of the fish community within the area using fish abundance, biomass and indices of biodiversity as well as to compare the lakes' state at the time of analysis, in the context of anthropogenic driven changes;	May 2005	[8]
Matița, Merhei, Bogdaproste, Trei lezere	<i>A. alburnus</i> , <i>C. gibelio</i> , <i>P. fluviatilis</i> , <i>R. rutilus</i> , <i>A. bjoerkna</i> , <i>S. erythropthalmus</i> , etc.	Species richness overall lake complex; diversity, equitability indices were calculated;	+	Zooplankton consumers are present	to describe the state of the fish community within the area using fish abundance, biomass and indices of biodiversity as well as to compare the lakes' state at the time of analysis, in the context of anthropogenic driven changes;	May 2005	[9]
<u>Lower Danube and Danube delta</u>	A general decrease of the total fish catch (biomass given in tonnes) with decreasing of equitability between the present species is shown; replacement of species like <i>Sander lucioperca</i> , <i>P. fluviatilis</i> , <i>Silurus glanis</i> and dominance of <i>C. gibelio</i> , <i>A. brama</i> , <i>B. bjoerkna</i> , <i>R. rutilus</i> and <i>S. erythropthalmus</i> (from the beginning of the 70s)		+		to describe the long-term (1920-2002) effects of hydro-morphological and water quality changes on the fish communities at the level of the entire Danube Delta;	Long series of data (1920-2002)	[10]
Uzlina, Isac, Cuibul cu Lebede, <u>Chiril</u> , etc.	<i>A. alburnus</i> , <i>R. rutilus</i> , <i>A. bjoerkna</i> , <i>C. gibelio</i> , <i>P. fluviatilis</i> , <i>T. tinca</i> , etc.	Fish biomass per lakes, for each of the sampling dates, for each species;	+	Zooplankton consumers	to characterise the short-term effects of the restoration of natural water flow on fish communities from different lakes within the same lake complex, by comparing the catches before and after a main channel blocking;	June 2001 and 2002	[10]

Lakes	Fish species*	Type of data provided (of relevance for <i>Daphnia</i> )	catch size estimation	Relevant for <i>Daphnia</i> ?	Aim of the study	Sampling date/year	Reference
Danube river from Galați to Tulcea and further to Sf. Gheorghe (Tulcea and Sf. Gheorghe branches)	<i>A. alburnus</i> and <i>Neogobius fluviatilis</i>	juveniles comprised together 61% of the total abundance (out of 42 species)	+	Zooplankton consumers are present	“to detect the differences in the distribution and abundance of ecological guilds between regulated rivers and the Danube, to derive conservation targets for the fish community of Central European rivers”	August 2001	[11]
Lakes from Șontea-Furtuna and Gorgova-Uzlina lake complexes (not clearly stated which or, how many)	<i>C. gibelio</i> and <i>A. brama</i> without being clearly stated where, in which season, etc.	not clear data	+	Zooplankton consumers	describe dynamics of fish catches over time	1963-2004	[12]
Cuibul cu Lebede, Isac, Uzlina, Gorgova, Ligheanca, Furtuna, Băclănești	<i>A. brama</i> , <i>A. bjoerkna</i> , <i>A. alburnus</i> , <i>C. gibelio</i> , <i>C. carpio</i> , <i>L. delineatus</i> , <i>T. tinca</i> , <i>P. fluviatilis</i> , <i>R. rutilus</i> , <i>S. erythropthalmus</i>	The relative abundances for each species (numerical and biomass) and dominance differentiated by the two studied lake complexes (i.e. Gorgova-Uzlina and Șontea-Furtuna);	+	Zooplankton consumers	To list and analyse the fish community in the Danube Delta lakes “in new habitat conditions”	October 2004	[13]
Cuibul cu Lebede, Gorgova, Isac, Uzlina, etc.	<i>R. rutilus</i> , <i>L. delineatus</i> , <i>P. fluviatilis</i> , <i>C. auratus</i> , <i>gibelio</i> , <i>T. tinca</i> , <i>A. bjoerkna</i> , <i>A. alburnus</i> , etc.	Species numerical abundances, for each of the sampled lakes (with calculated ecological and biodiversity indices); species richness at the lake-complex level;	+	Zooplankton consumers	to describe the state of the fish community within the studied area using fish abundance, biomass and biodiversity indices, as well as to compare the lakes’state at the time of analysis, in the context of anthropic driven changes;	October 2004	[14]

Lakes	Fish species*	Type of data provided (of relevance for <i>Daphnia</i> )	catch size estimation	Relevant for <i>Daphnia</i> ?	Aim of the study	Sampling date/year	Reference
Lakes from Matița-Merhei and Roșu-Puiu lake complexes (not clearly stated which or, how many)	A decreasing tendency of the average fish catch was concluded, for both lake complexes. Difficult to extract clear conclusions.		+	Zooplankton consumers	to assess the fish stock (in the two lake-complexes) based on data on fishing effort, collected from fisheries collection points (Caraorman and Matița)	1963-2004	[15]
Băclănești, Furtuna, Isac, Cuibul cu Lebede, Puiu, Roșu, Tătaru, Răducu, Pojarna, etc.	A. alburnus, C. auratus gibelio, Hypophthalmichthys molitrix, L. delineatus, T. tinca, P. fluviatilis, R. rutilus, etc.	<u>Dominant species (biomass and numerical abundance) for each lake</u> ; numerical abundances (for each of the two sampling strategies: gill-nets and electrofishing) and biomass for each of the most dominant 12 or 13 species;	+	Zooplankton consumers	to describe the status and diversity of lakes and compare this state with the one previous to high anthropic impact (within the limits posed by the types of data)	June, 1996, 1997, 1998	[16]
Roșu-Puiu complex, no specific lake name is given, as data is collected from a fish collection point	<i>A. brama</i> , <i>T. tinca</i> , <i>P. fluviatilis</i> , <i>R. rutilus</i> , etc.	Total biomass of piscivorous and other fish, biomass of most dominant fish species overall lake complex; +	+	although the phytoplankton biomass is high, the planktivorous fish are less represented comparing to omnivorous and benthivorous fish species	to highlight the fish communities' response to the environmental change through structure and size of commercial fishing reports	1963-1997, analysis based on commercial reports ;	[17]
Caraorman point for Roșu-Puiu complex and Unirea point for Razim lake	<i>C. auratus gibelio</i>	Yields of gibel carp for each year of study	+	Zooplankton consumer	to analyse the state of gibel carp exploitation	1988-1993	[18]

Lakes	Fish species*	Type of data provided (of relevance for <i>Daphnia</i> )	catch size estimation	Relevant for <i>Daphnia</i> ?	Aim of the study	Sampling date/year	Reference
<u>Somova – Parcheș complex, Brăila – Călărași Danube</u>	<i>Hypophthalmichthys molitrix</i>	Descriptive statistics of the community in Somova lake	-	Phytoplankton and sometimes zooplankton consumer	to analyse the structure of <i>H. molitrix</i> communities from Danube River and its delta	October 1992	[19]
Roșu, Matița, Razem	<i>P. fluviatilis</i> , <i>C. carpio</i> , <i>A. brama</i> , etc.	Preliminary allozyme data on 8 fish species	-	Zooplankton consumers	to find out the genetic state of few fish populations;		[20]
Matița, Merhei, Babina, Roșu, Roșuleț, Puiu, etc.	<i>B. bjoerkna</i> , <i>A. alburnus</i> , <i>R. rutilus</i> , <i>C. auratus gibelio</i> , <i>A. brama</i> , <i>H. molitrix</i> , <i>L. delineatus</i> , <i>P. fluviatilis</i> , <i>T. tinca</i> , <i>S. erythropthalmus</i> , etc.	Relative numerical and biomass abundances for each species for each lake	+	Zooplankton consumers	To record/ screen the fish diversity and abundances within the Danube delta, although it is not clearly stated;	October 1991	[21]

\* fish species presented here are selected according to their relevance for *Daphnia* in particular and zooplankton in general as being consumers of zooplankton species, at least through one developmental stage. This species selection was done according to Năvodaru, I., A.D. Buijse, and M. Staraș (2000) [22]

Underlined lakes were not included in the present study.

In the Table above we list all papers published during the last 3 decades we could find about fish presence and abundance in the Danube Delta. Based on these papers it is hard to release specific and clear conclusions concerning the predation pressure of the fish community on zooplankton in general and on *Daphnia* in particular either in time (including the moments of sampling of the present study) or space in the Danube Delta lakes.

This difficulty comes from multiple methodological aspects:

- (1) In the past years, much of the data on the fish communities' structure (diversity, abundances, etc.) is based on commercial fishery catches that were reported at collection points within the delta, and not on scientific fishing with multi mesh gill nets or electro fishing.
- (2) Sometimes, due to the unfit legislation and its enforcement in the Danube Delta, the real catches are underreported [15, 23, 24].

- (3) The overall fish community within the Danube Delta lakes (assessed mostly from the historical commercial fishery reports [22] shifted from a “varied composition” with a dominance of species as *Rutilus rutilus/ Scardinius erythrophthalmus*, *Cyprinus carpio* and *Esox lucius* (in 1920 until 1960) towards the dominance of *Carassius auratus gibelio* (exotic), *Abramis brama/ Blicca bjoerkna* (turbid water species), *R. rutilus/ S. erythrophthalmus* (around the 70s and later) [22].
- (4) Concerning the spatial variability of fish communities it is hard to highlight patterns as this has not been the aim of the published study. Due to various reasons, the reporting of data is done at the lake complex level and rarely at lake level.

As shown above rough estimations on fish abundance and diversity can be done based on the general tendency reported in the literature.

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