

Do changes in prey community in the environment affect the feeding selectivity of silver carp (*Hypophthalmichthys molitrix*) in the Pearl River, China?

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Table S1. Environmental characteristics at four sampling sites in winter and summer along the middle and lower reaches of the Pearl River

Season	Site	pH	Dist (km)	Temp (°C)	Sal (‰)	DO (mg/L)	ORP (mV)	Cond (μS/cm)	TDS (mg/L)	SD (cm)	COD _{Mn} (mg/L)	TN (mg/L)	NO ₃ ⁻ (mg/L)	NO ₂ ⁻ (mg/L)	NH ₄ ⁺ (mg/L)	TP (mg/L)	PO ₄ ³⁻ (mg/L)	SiO ₃ ²⁻ (mg/L)	Chla (μg/L)
Winter	ZQ	7.78	175	22.44	0.15	8.18	73.0	292.67	0.20	100	3.36	2.29	1.69	0.04	0.12	0.21	0.14	6.31	11.32
	DQ	7.78	85	23.60	0.14	8.26	98.9	286.27	0.19	140	2.49	2.06	1.68	0.05	0.13	0.19	0.08	5.62	2.45
	FK	7.86	30	23.40	0.12	8.13	103.6	251.09	0.17	125	2.34	2.14	1.65	0.04	0.12	0.23	0.09	5.08	2.41
	WZ	7.66	8	23.04	0.15	7.78	90.7	303.89	0.21	150	2.83	2.25	1.59	0.04	0.15	0.18	0.07	5.05	2.04
Summer	ZQ	8.28	175	30.67	0.10	7.29	159.25	216.96	0.13	76.7	3.88	2.29	1.49	0.06	0.61	0.25	0.13	10.46	7.56
	DQ	8.25	85	30.81	0.10	7.34	164.75	227.47	0.14	73.3	2.36	2.00	1.54	0.02	0.17	0.14	0.11	10.04	11.97
	FK	8.35	30	30.47	0.11	7.21	157.50	240.51	0.14	76.7	2.24	1.87	1.47	0.02	0.06	0.15	0.11	9.54	9.08
	WZ	8.08	8	30.62	0.10	7.48	170.10	238.88	0.14	97.5	1.73	1.88	1.56	0.01	0.20	0.15	0.09	8.33	4.65

Notes: Dist — distance from the dam; Temp — temperature; Sal — salinity; DO — dissolved oxygen; ORP — oxidation–reduction potential; Cond — conductivity; TDS — total dissolved solids; SD — Secchi depth; COD_{Mn} — Chemical oxygen demand; TN — total nitrogen; NO₃⁻ — nitrate; NO₂⁻ — nitrite; NH₄⁺ — ammonia; TP — total phosphorus; PO₄³⁻ — phosphate; SiO₃²⁻ — silicate; and Chla — chlorophyll *a*.

Table S2. Comparison of environmental parameters between winter and summer seasons.

	Winter		Summer		<i>p</i>
	Mean	SD	Mean	SD	
pH	7.77	0.08	8.24	0.11	<0.001
Temp(°C)	23.12	0.51	30.64	0.14	0.029
Sal(‰)	0.14	0.01	0.10	0.01	0.002
DO(mg/L)	8.09	0.21	7.33	0.11	<0.001
ORP(mV)	91.55	13.47	162.90	5.71	<0.001
Cond(μS/cm)	283.48	22.79	230.96	10.99	0.006
TDS(mg/L)	0.19	0.02	0.14	0.01	<0.001
SD(cm)	128.75	21.75	81.04	11.08	0.008
CODMn(mg/L)	2.76	0.45	2.55	0.93	0.708
TN(mg/L)	2.19	0.10	2.01	0.20	0.166
NO ₃ ⁻ (mg/L)	1.65	0.05	1.52	0.04	0.004
NO ₂ ⁻ (mg/L)	0.04	0.01	0.03	0.02	0.298
NH ₄ ⁺ (mg/L)	0.13	0.01	0.26	0.24	0.309
TP(mg/L)	0.20	0.02	0.17	0.05	0.329
PO ₄ ³⁻ (mg/L)	0.10	0.03	0.11	0.02	0.426
SiO ₃ ²⁻ (mg/L)	5.52	0.59	9.59	0.92	<0.001
Chla	4.56	4.51	8.32	3.05	0.217

Note: Means were calculated from 4 samples within each season; SD, standard deviation. The significance of some environmental parameters (pH, Sal, DO, ORP, Cond, TDS, SD, COD_{Mn}, TN, NO₃⁻, TP, PO₄³⁻, SiO₃²⁻, and Chla) between winter and summer was evaluated by *t*-test, while the others (Temp, NO₂⁻, and NH₄⁺) were tested by Wilcoxon test. P values < 0.05 indicated in bold.

Table S3. Pearson's r correlations between different environmental factors

	pH	Temp	Sal	DO	ORP	Cond	TDS	SD	COD	TN	NO ₃ ⁻	NO ₂ ⁻	NH ₄ ⁺	TP	PO ₄ ³⁻	SiO ₃ ²⁻	Chla	Dist
pH	1	0.94	-0.88	-0.87	0.9	-0.9	-0.95	-0.91	-0.07	-0.49	-0.86	-0.34	0.37	-0.26	0.45	0.95	0.57	0.11
Temp	0.94	1	-0.92	-0.92	0.98	-0.88	-0.94	-0.82	-0.19	-0.56	-0.87	-0.46	0.41	-0.4	0.28	0.94	0.44	-0.03
Sal	-0.88	-0.92	1	0.78	-0.95	0.98	0.98	0.75	0.25	0.53	0.74	0.4	-0.42	0.21	-0.22	-0.82	-0.3	0.07
DO	-0.87	-0.92	0.78	1	-0.89	0.74	0.81	0.74	0.07	0.41	0.98	0.42	-0.39	0.39	-0.24	-0.89	-0.43	0.1
ORP	0.9	0.98	-0.95	-0.89	1	-0.89	-0.95	-0.74	-0.3	-0.62	-0.84	-0.49	0.37	-0.41	0.14	0.87	0.31	-0.15
Cond	-0.9	-0.88	0.98	0.74	-0.89	1	0.98	0.8	0.09	0.39	0.72	0.25	-0.51	0.05	-0.36	-0.84	-0.37	-0.09
TDS	-0.95	-0.94	0.98	0.81	-0.95	0.98	1	0.83	0.16	0.51	0.78	0.35	-0.45	0.18	-0.33	-0.89	-0.38	-0.03
SD	-0.91	-0.82	0.75	0.74	-0.74	0.8	0.83	1	-0.1	0.31	0.67	0.34	-0.35	0.18	-0.75	-0.92	-0.82	-0.37
COD	-0.07	-0.19	0.25	0.07	-0.3	0.09	0.16	-0.1	1	0.87	0.02	0.8	0.65	0.73	0.59	0.1	0.25	0.82
TN	-0.49	-0.56	0.53	0.41	-0.62	0.39	0.51	0.31	0.87	1	0.37	0.81	0.43	0.79	0.28	-0.34	-0.06	0.6
NO ₃ ⁻	-0.86	-0.87	0.74	0.98	-0.84	0.72	0.78	0.67	0.02	0.37	1	0.3	-0.42	0.29	-0.19	-0.83	-0.32	0.13
NO ₂ ⁻	-0.34	-0.46	0.4	0.42	-0.49	0.25	0.35	0.34	0.8	0.81	0.3	1	0.52	0.86	0.14	-0.27	-0.26	0.59
NH ₄ ⁺	0.37	0.41	-0.42	-0.39	0.37	-0.51	-0.45	-0.35	0.65	0.43	-0.42	0.52	1	0.56	0.38	0.5	0.07	0.54
TP	-0.26	-0.4	0.21	0.39	-0.41	0.05	0.18	0.18	0.73	0.79	0.29	0.86	0.56	1	0.3	-0.25	-0.23	0.56
PO ₄ ³⁻	0.45	0.28	-0.22	-0.24	0.14	-0.36	-0.33	-0.75	0.59	0.28	-0.19	0.14	0.38	0.3	1	0.54	0.83	0.82
SiO ₃ ²⁻	0.95	0.94	-0.82	-0.89	0.87	-0.84	-0.89	-0.92	0.1	-0.34	-0.83	-0.27	0.5	-0.25	0.54	1	0.66	0.28
Chla	0.57	0.44	-0.3	-0.43	0.31	-0.37	-0.38	-0.82	0.25	-0.06	-0.32	-0.26	0.07	-0.23	0.83	0.66	1	0.55
Dist	0.11	-0.03	0.07	0.1	-0.15	-0.09	-0.03	-0.37	0.82	0.6	0.13	0.59	0.54	0.56	0.82	0.28	0.55	1

Note: P values < 0.05 indicated in bold