JOURNAL OF LIMNOLOGY

DOI: 10.4081/jlimnol.2018.1738

SUPPLEMENTARY MATERIAL

Do environmental variables predict the trophic structure of fish fauna in a subtropical river (Uruguay River Ecoregion)?

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Supplementary Tab. 1. Methodological aspects of physico-chemical variables performed along the longitudinal gradient Pelotas River, between 2013 and 2014, in Upper Uruguay ecoregion.

Parameter	Unit	Method	Equipment	Reference
Water temperature	ºC	-	Oximeter	Esteves (1998)
Air temperature	ºC	-	Bulbthermometer	Esteves (1998)
Chlorophyll-*a*	µg/L	Colorimetric (90% Acetoneextraction)	Spectrophotometer	Golterman *et al*. (1978)
Electric conductivity	µS/cm	-	Conductivity Meter	-
Transparency	m	-	Secchi disk	Wetzel (2001)
Turbidity	NTUs	-	Turbidimeter	Esteves (1998)
Alkalinity	µEq/L	Gran	pHmeter	Carmouze (1994)
Color				
Total, suspended and dissolved solids	mg/L	Gravimetric	Greenhouse/Muffle	Apha (2005)
Nitrate	mg/L	Colorimetric (reduction by cadmium)	Spectrophotometer	Mackereth *et al*. (1978)
Nitrite	mg/L	Colorimetric (sulfanilamide reaction)	Spectrophotometer	Strickland and Parson (1972)
Ammonia nitrogen	mg/L	Colorimetric (indophenol)	Spectrophotometer	Apha (2005)
Organic nitrogen	mg/L	Acid digestion and alkaline titration with sodium thiosulphate	Digital Burette	Mackereth*et al*. (1978)
Total nitrogen	mg/L	Acid digestion and distillation	Digital Burette	Mackereth*et al*. (1978)
Total phosphorus	mg/L	Colorimetric (acid digestion)	Spectrophotometer	Mackereth*et al*. (1978)
Inorganic phosphorus	mg/L	Colorimetric	Spectrophotometer	Mackereth*et al*. (1978)
Organic phosphorus	mg/L	Colorimetric	Spectrophotometer	Mackereth*et al*. (1978)
pH	um.	-	pH meter	Esteves (1998)
DO %SAT	% Saturação	-	Oximeter	Esteves (1998)

DO	mg/L	-	Oximeter	Esteves (1998)
BOD	mg/L	Titulometric	BOD Incubator	Apha (2005)
COD	mg/L	Digestion (closedreflux)	Digestor and spectrophotometer	Apha (2005)

DO, dissolved oxigen; %SAT, percent saturation; BOD, biochemical oxygen demand; COD, chemical oxygen demand.

Supplementary Tab. 2. Results of the RLQ analysis. The fractions R / RLQ and Q / RLQ represent the percentage of variance in the separate analyzes of the environmental variables (R) and trophic guilds (Q), represented by the first two axes of the RLQ.

	RQL Axis 1	RQL Axis 2
Eigenvalues	0.15	0.06
Covariance	0.39	0.24
Correlation	0.26	0.17
Projected inertia (%)	56.2	22.1
Cumulative projected inertia (%)	56.2	78.3
R/RQL	1.96	3.69
Q/RQL	1.11	2.27

Supplementary Tab. 3. Correlations values between environmental variables and trophic guilds obtained by RLQ analysis.

Environmental variables/ Trophic guilds	Aquatic insectivorous	Carnivorous	Detritivorous	Detritivorous/aquatic insectivorous	Herbivorous	Iliophagous	Omnivorous	Piscivorous
Electric conductivity	0.05576	-0.0299	0.05715	-0.0339	-0.0005	-0.092	-0.0454	0.02924
Water temperature	0.06765	-0.0762	0.04016	-0.085	-0.0528	0.02964	0.00781	0.04806
pH	-0.0409	-0.0403	-0.0088	-0.0015	0.04091	0.00084	0.02144	0.0211
Turbidity	-0.0225	-0.0765	0.00898	0.04728	0.01323	-0.0179	0.00768	0.0152
Organic nitrogen	0.00382	-0.0355	0.00318	0.01643	-0.0308	0.05132	0.01717	-0.0102
Inorganic phosphorus	-0.065	-0.0016	-0.0287	0.0301	0.01152	0.0837	-0.0283	0.0263
DBO	0.05005	-0.0688	0.07559	-0.0832	0.00414	-0.0503	0.01131	0.01895
Total solids	-0.0607	-0.0041	0.01698	0.01253	0.0099	0.01795	-0.0415	0.05127
Chlorophyll-*a*	-0.0186	-0.0166	-0.0577	0.01714	0.07799	-0.0995	0.11488	-0.0377
Width	-0.0587	-0.0153	-0.0087	0.07933	-0.0686	0.16873	-0.1535	0.08667
Flow	-0.0827	-0.0263	0.04891	-0.005	0.03301	0.03961	-0.0336	0.03629
Vegetal cover	0.0331	-0.0262	0.01503	-0.0629	0.03095	-0.0841	0.11562	-0.0383

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