SUPPLEMENTARY MATERIAL

Table S1. Environmental characteristics of six sites on the Río Grande.

Table S1. Características ambientales de seis sitios del Río Grande.

Site	Altitude (m a. s. l.)	Water T°	pH	NaCl (ppm)	TSD (ppm)	EC (uS/cm)	O_2 (mg/L)	Channel width (m)	Depth (cm)	Velocity (m/s)	Discharge (m^3/s)	Granulometry
AP11	3548	2.7	6.22	753.9	227.2	3157	8.0	3	10.60	0.40	0.12	Sand/gravel
AP12	3548	25.1	8.53	688.6	693.9	1304	4.6	5.0	6.40	0.59	0.19	Sand/gravel
PI11	2875	10.8	7.06	343.1	175.0	1408	8.0	13	15.44	0.58	1.20	Gravel/fine gravel
PI12	2875	16.6	7.11	359.0	234.9	703	5.4	14	21.00	0.85	2.50	Sand/gravel
JU11	2565	13.6	8.41	364.1	203.8	1534	7.6	11	18.45	0.87	1.77	Sand/gravel
JU12	2565	12.9	8.57	526.8	295.3	1012	5.7	8	22.20	1.09	1.99	Gravel/sand
TU11	2115	14.8	6.74	486.9	284.8	1971	7.7	10	37.00	0.74	2.74	Silt-clay/sand
TU12	2115	22.0	8.06	580.9	507.3	1095	5.1	16	11.75	0.67	1.26	Gravel/sand
YA11	1448	15.8	6.83	313.6	205.7	1292	7.3	20	28.30	0.94	5.31	Stone/coarse gravel
YA12	1448	24.5	8.46	299.3	297.4	580	4.9	20	38.00	1.02	7.74	Stone/sand
LM11	741	15.2	8.44	256.0	169.0	1062	8.3	18	37.07	0.53	3.97	Stone/sand
LM12	741	22.2	7.28	241.3	219.7	474	6.2	27	16.48	0.96	4.29	Stone/sand
AP21	3548	12.2	8.29	625.7	344.7	1217	8.1	5	7.40	1.23	0.46	Gravel/silt-clay
AP22	3548	18.4	8.14	679.3	507.2	1255	6.7	3	4.71	0.61	0.10	Sand/gravel

PI21	2875	10.9	6.39	379.2	193.6	740.	9.8	14	12.07	0.80	1.35	Fine gravel/gravel
PI22	2875	25.8	8.52	434.8	433.7	775	8.5	8	14.50	1.29	0.46	Fine gravel/gravel
JU21	2565	8.1	6.06	437.6	192.8	884	9.8	14	19.57	1.43	3.91	Stone/gravel
JU22	2565	20.8	8.47	484.0	363.8	909	8.3	8	15.75	1.00	1.26	Fine gravel/sand
TU21	2115	14.9	6.38	498.0	311.0	950	9.9	15	25.33	0.71	2.71	Silt-clay/stone
TU22	2115	17.1	8.20	563.3	399.3	1057	7.5	11	16.36	0.68	1.22	Fine gravel/sand
YA21	1448	15.8	7.92	353.1	234.6	683	8.7	10	25.10	1.11	2.80	Stone/fine gravel
YA22	1448	24.8	8.33	332.9	333.5	625	7.4	9	28.78	1.38	3.58	Coarse gravel/gravel
LM21	741	14.8	8.01	280.9	178.6	548	9.3	14	24.64	0.73	2.53	Stone/silt-clay
LM22	741	21.9	8.16	287.9	254.1	542	7.9	11	20.32	1.01	2.25	Stone/silt-clay

Table S2. Environmental characteristics of six tributaries of the Río Grande basin.

Tabla S2. Características ambientales de seis afluentes de la cuenca del Río Grande.

Site	Altitude (m a. s. l.)	Water T°	pH	NaCl (ppm)	TSD (ppm)	EC (uS/cm)	O_2 (mg/L)	Channel width (m)	Depth (cm)	Velocity (m/s)	Discharge (m^3/s)	Granulometry
YC31	2777	13.3	8.14	380.3	223.0	707.2	7.96	3.0	11.71	1.30	0.46	Gravel/fine gravel
YC32	2777	17.2	8.28	386.8	277.3	739.8	6.58	0.8	9.75	1.55	0.13	Gravel/sand
HU31	2810	7.5	7.82	244.6	105.3	469.6	9.40	2.3	16.80	0.81	0.31	Fine gravel/gravel
HU32	2810	21.7	8.44	283.0	248.6	535.7	6.18	0.9	11.22	1.49	0.19	Fine gravel/sand
PU31	2298	10.0	8.01	497.7	245.0	932.3	9.10	1.7	6.90	1.23	0.15	Fine gravel/gravel
PU32	2298	23.8	7.8	693.8	615.0	1284.0	6.82	0.7	9.00	1.23	0.08	Block/gravel
LO31	1672	10.7	7.25	92.6	47.6	177.2	9.67	3.5	15.75	0.86	0.47	Block/gravel
LO32	1672	21.1	7.90	89.6	77.8	180.0	5.70	3.3	5.56	0.87	0.16	Block/gravel
YL31	1477	11.0	7.62	63.2	34.0	124.2	10.18	6.5	23.15	1.08	1.62	Block/gravel
YL32	1477	22.8	7.81	95.5	83.7	181.9	6.92	3.5	19.57	1.65	1.13	Fine gravel/gravel
XX31	1324	14.9	6.91	108.2	72.47	203.9	9.13	5.0	8.45	0.45	0.19	Fine gravel/gravel
XX32	1324	23.0	8.75	135.9	129.8	281.0	7.70	3.7	14.00	0.57	0.30	Coarse and fine gravel

Table S3. List of taxa encountered in the study, and their codes.

Tabla S3. Lista de taxones encontrados en el estudio, y sus códigos.

Phylum	Order	Taxon	Code
Arthropoda	Ephemeroptera	*Cloeodes barituensis*	clba
		Paracloeodes sp.	par
		Varipes sp.	var
		Baetodes huaico	bahu
		Camelobaetidius penai	cape
		Andesiops peruvianus	anpe
		Americabaetis sp.	ame
		Americabaetis longetron	amlo
		Americabaetis alphus	amal
		Nanomis galera	naga
		Baetidae sp.	bae
		Meridialaris tintinnabula	meti
		Thraulodes cochunaensis	thco
		Thraulodes liminaris	thli
		Thraulodes consortis	thcn
		Traverella calingastensis	trca
		Caenis ludrica	calu
		Tricorythodes papayanicus	trpa
		Leptohyphes eximius	leex
	Plecoptera	*Anacroneuria*	ana
		Claudioperla tigrina	clti
	Trichoptera	*Hydroptila*	hyd
		Leucotrichia alisensis	leal
		Oxyethira	oxy
		Metrichia	met
		Hydroptilidae pupa	hypup
		Mortoniella	mor
		Protoptila	pro
		Glossosomatidae pupa	glpup
		Smicridea	smi
		Hydropsychidae pupa	hdpup
		Atopsyche callosa	atca
		Cailloma	cai
		Hydrobiosidae pupa	hrpup
		Chimarra	chi
		Philopotamidae pupa	phpup
		Marilia cinerea	maci
		Odontoceridae pupa	odpup
		Helicopsyche	hel
		Anomalocosmoecus argentinicus larva	anar
		*Anomalocosmoecus argentinicu*s pupa	anpup
		Polycentropus joergenseni	pojo
		Nectopsyche	nec
		Oecetis	oec
	Coleoptera	*Lutrocus*	lut
		Phanocerus	pha
		Heterelmis	het
		Neoelmis larva	neo
		Neoelmis adulto	neadu
		Austrelmis larva	aus
		Austrelmis adulto	auadu
		Hydramara argentina larva	hyar
		Hydramara argentina adulto	haadu
		Tropisternus larva	trop

	Tropisternus adulto	tradu
	Hemiosus	hem
	Berosus larva	ver
	Berosus adulto	beadu
	Lancetes larva	lan
	Lancetes adulto	laadu
	Rhantus larva	rha
	Rhantus adulto	rhadu
	Celina	cel
	Liodessus adulto	liadu
	Hydrochidae sp.	hyc
	Gymnochthebius larva	gym
	Gymnochthebius adulto	gyadu
	Hydraenidae sp.	hdr
	Staphylinidae adulto	stadu
	Psephenidae larva	pse
	Scirtidae sp.	sci
	Heteroceridae larva	hee
Hemiptera	*Sigara*	sig
	Tenagobia	ten
	Ectemnostega	ect
	Corixidae sp.	cor
	Pseudosaldula	psu
	Microvelia	mic
	Rhagovelia	rhg
	Hebrus	heb
	Nerthra	ner
	Ambrysus	amb
	Trepobates	tre
	Belostoma	bel
Odonata	*Argia*	arg
	Libellulidae sp.	lib
	Brechmorhoga	bre
Megaloptera	*Corydalus*	coy
Lepidoptera	*Petrophila*	pet
	Noctuidae sp	noc
	Lepidoptera sp	lep
Diptera	Orthocladiinae	ort
	Chironominae	chr
	Podonominae	pod
	Tanypodinae	tan
	Chironomidae pupa	chpup
	Simulium larva	sim
	Simulium pupa	sipup
	Muscidae sp.	mus
	Empididae larva	emp
	Empididae pupa	empup
	Ephydridae larva	eph
	Ephydridae pupa	eppup
	Dolichopodidae larva	dol
	Atrichopogon	atri
	Palpomyiini larva	pal
	Palpomyiini pupa	papup
	Dasyhelea larva	das
	Dasyhelea pupa	daspup
	Maruina	mar
	Psychoda	psy
	Stratiomyidae larva	stra
	Athericidae larva	ath
	Tipulidae larva	tip

		Tabanidae larva	tab
		Culicidae sp.	cul
		Paltostomatini	pat
		Dixidae larva	dix
		Syrphidae larva	syr
	-	Collembola	col
	Amphipoda	*Hyalella*	hya
	-	Copepoda	cop
	-	Ostracoda	ost
	Diplostraca	Cladocera	cla
	Decapoda	*Aegla*	aeg
	-	Acari	aca
Mollusca	-	Planorbidae	pla
	-	Hydrobiidae	hdb
	-	Physidae	phy
	-	Limnaeidae	lim
Annelida	-	Naididae	nai
	-	Hirudinea	hir
Tardigrada	-	Tardigrada	tar

Table S4. Eigenvectors matrix of principal component analysis. (1) Axes of PCA corresponding to the Río Grande. (2) Axes of PCA corresponding to the tributaries of the Río Grande basin.

Tabla S4. Matriz de autovectores de los análisis de componentes principales. (1) Ejes del PCA correspondientes al Río Grande. (2) Ejes del PCA correspondientes a los tributarios de la cuenca del Río Grande.

Environmental variables	PC1 (1)	PC2 (1)	Environmental variables	PC1 (2)	PC2 (2)
Altitude	-1.050647	0.07740	Altitude	-0.7185	0.31868
T	0.302709	-1.08764	T	-0.3794	-0.83806
pH	-0.005181	-0.97899	pH	-0.5080	-0.45694
NaCl	-1.112681	-0.04642	NaCl	-0.8778	0.35708
TSD	-0.703767	-0.86480	TSD	-0.8788	0.10882
EC	-0.747651	0.60376	EC	-0.8829	0.35122
DO	0.131322	0.76645	DO	0.6216	0.72599
Width	0.977433	0.07538	Width	0.9307	-0.03359
Depth	0.928770	0.15291	Depth	0.6301	-0.05780
Water velocity	0.424579	-0.30848	Water velocity	-0.4897	-0.24249
Discharge	1.045501	0.01077	Discharge	0.6807	-0.15312

Figure S1. Correlation between the EPT compositions of the Río Grande basin with (A) sodium chloride, (B) total dissolved solids, (C) altitude and (D) conductivity.

Figura S1. Correlación entre la composición de EPT de la cuenca del Río Grande con (A) cloruro de sodio, (B) sólidos disueltos totales, (C) altitud y (D) conductividad.

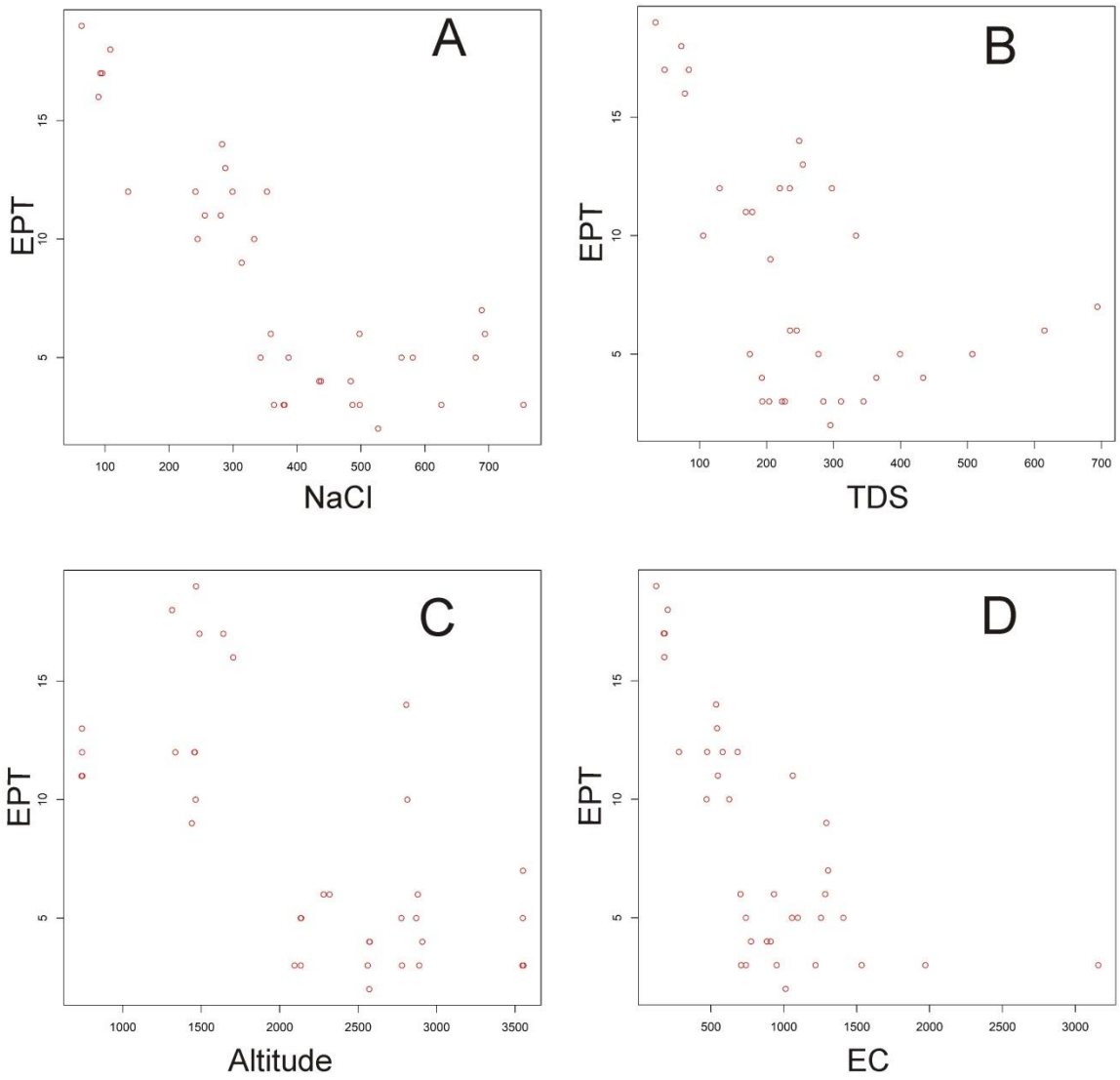

Figure S2. Correlation between the ElPT composition of the Río Grande basin with (A) sodium chloride, (B) total dissolved solids, (C) altitude and (D) conductivity.

Figura S2. Correlación entre la composición de ElPT de la cuenca del Río Grande con (A) cloruro de sodio, (B) sólidos totales disueltos, (C) altitud y (D) conductividad.

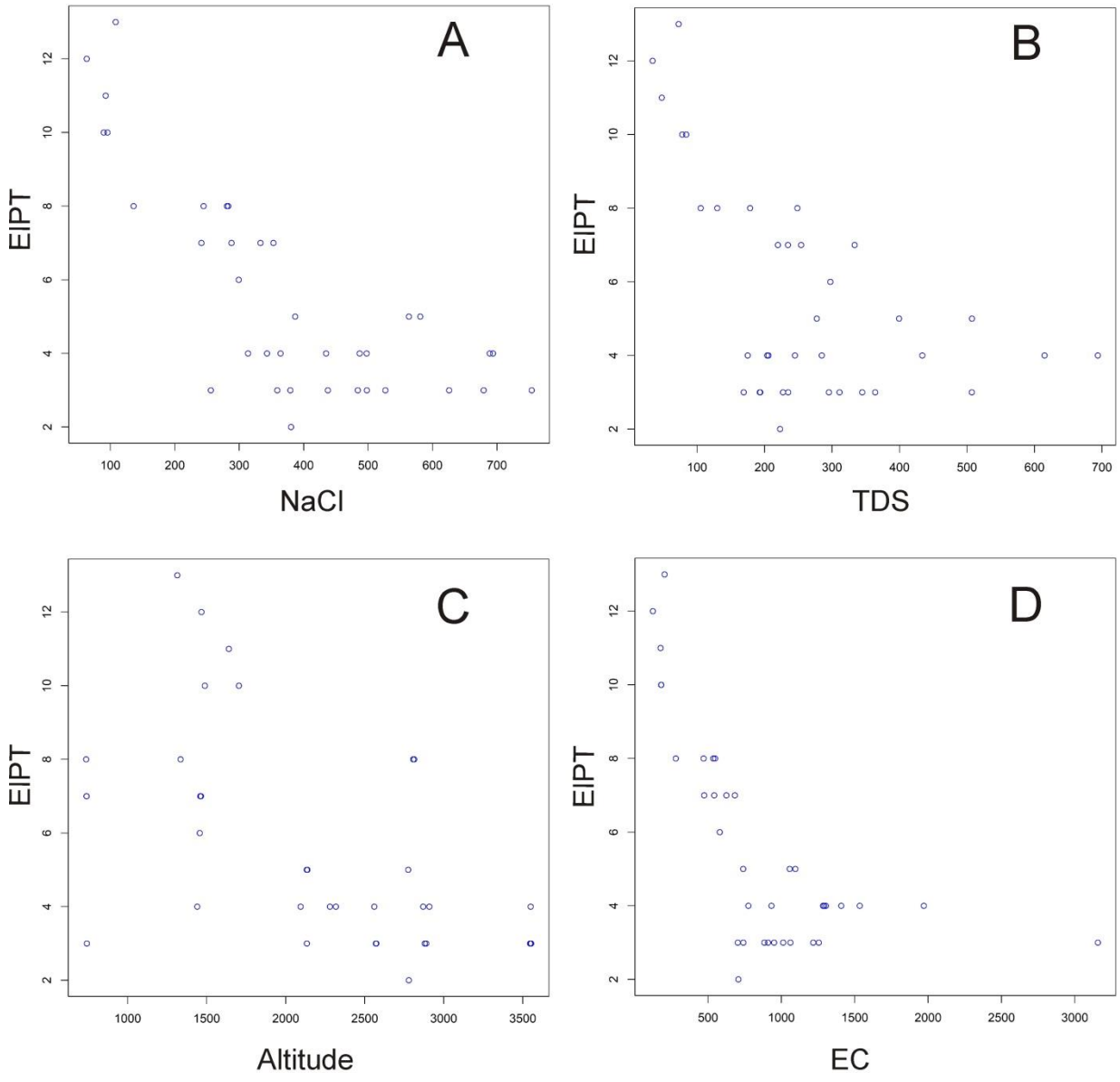

Figure S3. Higher panels: correlation between IBY-4 of the Río Grande basin with (A) total dissolved solids and (B) conductivity. Lower panels: correlation between %Chironomidae/total metric of the Río Grande basin with (A) sodium chloride and (b) conductivity.

Figura S3. Paneles superiores: correlación entre IBY-4 de la cuenca del Río Grande con (A) sólidos disueltos totales y (B) conductividad. Paneles inferiores: correlación entre %Quironomidae/total de la cuenca del Río Grande con (A) cloruro de sodio y (b) conductividad.