

SUPPLEMENTARY INFORMATION

Table S1. Relative abundance, frequency and functional group of the insect taxa collected in riffles (Rf), pools (PI) and macrophyte patches (Mc). Functional group assigned to each taxon is shown: GC (Gathering collectors), FC (filtering collectors), SC (scrapers), SD (shredders), PR (predators), cg (clingers), sp (sprawlers), sw (swimmers), dv (divers), cb (climbers), bw (burrowers). Adult (ad) and larval (lv) stages are shown in brackets and taxa codes used in rank abundance curves (Fig. 2) are included in the last column.. *Abundancia relativa, frecuencia y grupos funcionales de insectos recolectados en rápidos (Rf), pozas (PI), y parches de macrofitas (Mc). Se muestran los grupos funcionales asignados a cada taxón: GC (recolectores), FC (filtradores), SC (raspadores), SD (desmenuzadores), PR (depredadores), cg (agarradores), sp (reptadores), sw (nadadores), dv (buceadores), cb (trepadores), bw (excavadores). Los estados adulto (ad) y larval (lv) se muestran entre paréntesis y los códigos de los taxa utilizados en las curvas de rango abundancia (Fig. 2) se incluyen en la última columna.*

Insect taxa	Winter			Summer			% Freq	FG	Taxa code
	Rf	PI	Mc	Rf	PI	Mc			
EPHEMEROPTERA									
<i>Americabaetis</i> spp.	0.68 ± 0.33	0.08 ± 0.08	8.03 ± 6.98	6.6 ± 4.86	1.98 ± 1.05	11.69 ± 6.68	83	GCsw	Ame
<i>Baetodes</i> spp.	2.13 ± 1.54	0.00	0.00	0.44 ± 0.44	0.00	0.07 ± 0.07	22	SCcg	Bae
<i>Camelobaetidis</i> spp.	0.00	0.00	0.00	13.82 ± 5.81	0.00	0.07 ± 0.04	28	SCcg	Cam
<i>Callibaetis</i> spp.	0.00	0.28 ± 0.28	0.18 ± 0.18	0.00	5.66 ± 2.62	0.05 ± 0.05	33	GCcb	Cal
<i>Cloeodes</i> spp.	0.11 ± 0.11	0.5 ± 0.42	0.00	0.00	5.54 ± 3.9	1.23 ± 1.23	39	GCsw	Cloe
<i>Nanomis</i> spp.	0.05 ± 0.05	0.00	0.00	3.36 ± 3.01	0.22 ± 0.11	0	33	SCcg	Nan
<i>Paracleodes</i> spp.	0.00	0.00	0.00	0.00	0.1 ± 0.06	0.04 ± 0.04	17	GCsw	
<i>Caenis</i> spp.	0.69 ± 0.29	24.72 ± 11.02	2.51 ± 0.29	1.79 ± 1.34	34.62 ± 13.12	3.49 ± 2.1	100	GCsp	Cae
<i>Leptohyphes</i> spp.	5.03 ± 2.37	0.13 ± 0.13	1.57 ± 1.34	2.88 ± 2.54	0.16 ± 0.09	1.18 ± 1.18	72	GCcg	Lep
<i>Tricorythodes</i> spp.	0.03 ± 0.03	0.06 ± 0.06	0.00	0.07 ± 0.07	0.5 ± 0.5	0	22	GCsp	
ODONATA									

Coenagrionidae	0.82 ± 0.37	0.34 ± 0.25	1.19 ± 0.71	0.8 ± 0.68	0.16 ± 0.08	0.15 ± 0.08	78	PRcb	Coe
Aeshnidae	0.06 ± 0.06	0.12 ± 0.06	0.29 ± 0.16	0.12 ± 0.06	0.7 ± 0.38	0.93 ± 0.22	72	PRcb	Lib
Libellulidae	0.00	0.26 ± 0.16	0.36 ± 0.26	0.00	2.36 ± 1.74	0.19 ± 0.14	50	PRsp	
Gomphidae	0.02 ± 0.02	0.03 ± 0.03	0.00	0.00	0.13 ± 0.13	0	17	PRbw	
PLECOPTERA									
<i>Anacroneturia</i> spp.	0.00	0.00	0.00	0.22 ± 0.22	0.00	0	6	PRcg	
HEMIPTERA									
<i>Ambrysus</i> spp. (lv/ad)	0.44 ± 0.11	0.00	0.16 ± 0.09	0.26 ± 0.26	0.34 ± 0.26	0.04 ± 0.04	50	PRdv	
TRICHOPTERA									
<i>Chimarra</i> spp.	0.07 ± 0.07	0.00	0.00	0.54 ± 0.34	0.00	0.07 ± 0.07	22	FCcg	
<i>Smicridea</i> spp.	1.47 ± 0.61	0.00	1.01 ± 0.58	2.4 ± 0.54	0.00	3.67 ± 3.4	56	FCcg	Smi
<i>Polycentropus</i> spp.	0.12 ± 0.04	0.34 ± 0.34	1.21 ± 0.8	0.17 ± 0.09	0.13 ± 0.13	0	50	PRcg	
<i>Hydroptila</i> spp.	0.68 ± 0.56	0.56 ± 0.47	0.16 ± 0.08	0.71 ± 0.3	0.28 ± 0.06	3.61 ± 1.98	83	GCcg	Hyd
<i>Oxyethira</i> spp.	0.06 ± 0.06	0.12 ± 0.09	0.32 ± 0.32	0.00	0.19 ± 0.06	0.53 ± 0.3	50	GCcg	
<i>Metrichia</i> spp.	1.89 ± 1.24	0.03 ± 0.03	0.34 ± 0.34	2.46 ± 1.37	0.07 ± 0.07	2.33 ± 1.97	67	GCcg	Met
<i>Helicopsyche</i> spp.	3.52 ± 1.74	0.95 ± 0.48	1.85 ± 1.15	0.65 ± 0.18	0.56 ± 0.32	1.16 ± 0.59	83	SCcg	Heli
<i>Banyallarga</i> spp.	0.38 ± 0.38	0.16 ± 0.07	1.2 ± 0.7	0.15 ± 0.1	0.00	0.25 ± 0.17	61	SDcg	
LEPIDOPTERA									
<i>Petrophila</i> spp.	0.03 ± 0.03	0.00	0.00	0.8 ± 0.1	0.07 ± 0.07	0	28	GCcg	
<i>Synclita</i> spp.	0.00	0.00	0.05 ± 0.05	0.07 ± 0.07	0.00	0	11	GCcb	
COLEOPTERA									
<i>Berosus</i> spp. (ad)	0.00	0.23 ± 0.23	0.15 ± 0.08	0.02 ± 0.02	0.31 ± 0.31	0	28	GCsw	
<i>Enochrus</i> spp. (lv)	0.00	0.00	0.05 ± 0.05	0.00	0.00	0	6	GCsp	
Scirtidae (lv)	0.00	0.00	0.29 ± 0.29	0.00	0.00	0	6	GCsp	
<i>Helichus</i> (ad)	0.00	0.00	0.00	0.07 ± 0.07	0.00	0	6	GCcg	
<i>Austrelmis</i> spp. (lv/ad)	19.74 ± 6.97	4.52 ± 1.18	9.12 ± 1.65	18.09 ± 2.28	9.94 ± 7.13	5.56 ± 0.35	100	GCcg	Aust
<i>Heterelmis</i> spp. (lv/ad)	3.71 ± 1.37	0.25 ± 0.18	1.13 ± 0.48	2.71 ± 2.07	1.6 ± 1.56	7.54 ± 4.61	89	GCcg	Hete

<i>Cyloepus</i> spp.(ad)	0.28 ± 0.2	0.00	0.00	0.13 ± 0.13	0.00	0	17	GCcg	
<i>Neelmis</i> spp. (ad)	0.00	0.00	0.00	0.07 ± 0.07	0.00	0	6	GCcg	
<i>Huleechius</i> spp. (lv)	0.66 ± 0.34	0.00	0.00	0.00	0.00	0.07 ± 0.07	17	GCcg	
<i>Macrelmis</i> spp. (ad)	0.23 ± 0.21	0.00	0.33 ± 0.33	0.91 ± 0.91	0.00	0.04 ± 0.04	28	GCcg	
<i>Laccophilus</i> spp. (ad)	0.00	0.00	0.00	0.00	0.22 ± 0.22	0.06 ± 0.06	11	PRdv	
<i>Thermonectus</i> spp. (ad)	1.27 ± 1.27	0.00	0.00	0.00	0.00	0	6	PRdv	Ther
Lutrochidae (lv)	0.28 ± 0.28	0.1 ± 0.08	0.00	0.53 ± 0.39	0.22 ± 0.12	0	44	PRcg	
<i>Lancetes</i> spp. (lv)	0.00	0.00	0.00	0.04 ± 0.04	0.00	0	6	PRcb	
<i>Leuronectes</i> spp. (ad)	0.00	0.00	0.1 ± 0.1	0.00	0.00	0	6	PRdv	
<i>Hydrocanthus</i> spp. (ad)	0.00	0.00	0.06 ± 0.06	0.00	0.00	0	6	PRcb	
<i>Gyrinus</i> spp. (ad)	0.00	0.05 ± 0.05	0.00	0.00	0.19 ± 0.19	0	11	PRdv	
Bidessini (lv/ad)	0.05 ± 0.05	0.25 ± 0.15	0.43 ± 0.43	0.00	0.19 ± 0.19	0	28	PRcb	
<i>Desmopachria</i> spp. (lv)	0.00	0.00	0.00	0.00	0.07 ± 0.07	0	6	PRcb	
DIPTERA									
<i>Limonia</i> spp.	1.57 ± 0.77	0.52 ± 0.37	5.01 ± 1.23	0.07 ± 0.07	0.00	0.04 ± 0.04	61	SDsp	Lim
Psychodidae	1.27 ± 0.83	0.03 ± 0.03	0.08 ± 0.08	0.26 ± 0.04	0.1 ± 0.1	0	50	GCcg	
<i>Maruina</i> spp.	0.00	0.13 ± 0.07	0.00	0.00	0.00	0	11	GCcg	
Dixidae	0.11 ± 0.06	0.14 ± 0.14	0.00	0.05 ± 0.05	0.03 ± 0.03	0	28	GCsw	
<i>Simulium</i> spp.	9.7 ± 9.49	0.07 ± 0.05	0.31 ± 0.22	5.82 ± 2.45	0.03 ± 0.03	3.4 ± 2.06	72	FCcg	Sim
Ceratopogonidae sp.1	0.85 ± 0.51	0.22 ± 0.14	0.05 ± 0.05	0.00	0.00	0.12 ± 0.12	33	PRbw	
Ceratopogonidae sp.2	0.17 ± 0.02	0.45 ± 0.13	0.93 ± 0.75	0.15 ± 0.15	0.28 ± 0.19	0.4 ± 0.24	72	PRbw	Cer2
Ceratopogonidae sp.3	0.03 ± 0.03	0.08 ± 0.08	0.48 ± 0.33	0.00	0.37 ± 0.37	0	28	PRbw	
Podonominae	4.49 ± 2.85	0.00	2.42 ± 2.33	0.00	0.00	0	28	GCbw	Podo
<i>Polypedilum</i> spp.	0.49 ± 0.04	4.83 ± 3.8	0.54 ± 0.14	0.54 ± 0.39	0.1 ± 0.1	2.36 ± 0.65	83	GCcb	Poly
<i>Parachironomus</i> spp.	0.00	0.00	0.00	0.00	0.00	0.07 ± 0.07	6	GCsp	
<i>Tanytarsus</i> spp.	0.81 ± 0.73	13.58 ± 4.55	1.58 ± 0.83	0.16 ± 0.1	3.98 ± 2.09	0.24 ± 0.24	72	FCcg	Tany
<i>Rheotanytarsus</i> spp.	5.24 ± 2.69	1.36 ± 0.83	6.36 ± 3.32	3.49 ± 2.67	0.53 ± 0.16	11.45 ± 3.85	94	FCcg	Rheo
<i>Pseudochironomus</i> spp.	1.72 ± 0.13	10.02 ± 1.09	7.04 ± 3.1	1.55 ± 0.42	5.99 ± 4.95	2.6 ± 1.06	100	GCbw	Pseu

Macropelopini	0.00	5.81 ± 1.77	0.37 ± 0.27	0.00	0.00	0	28	PRsp	Mni
<i>Labrundinia</i> spp.	0.07 ± 0.05	1.56 ± 1	0.31 ± 0.12	0.00	0.19 ± 0.1	0.31 ± 0.16	61	PRsp	
<i>Pentaneura</i> spp.	3.56 ± 0.98	0.00	1.71 ± 0.66	0.83 ± 0.31	0.62 ± 0.38	0.9 ± 0.29	78	PRsp	Pen
<i>Thienemannimyia</i> group	0.92 ± 0.63	2.44 ± 1.24	3.71 ± 2.75	1.18 ± 0.75	6.33 ± 3.69	1.32 ± 0.91	78	PRsp	Tyia
Pentaneurini	0.29 ± 0.29	7.73 ± 0.63	4.16 ± 1.65	0.23 ± 0.15	8.78 ± 2.39	0.55 ± 0.28	78	PRsp	Pni
<i>Corynoneura</i> spp.	10.27 ± 1.08	0.13 ± 0.13	10.47 ± 3.36	9.26 ± 3.63	4.9 ± 4.76	21.06 ± 4.11	83	GCsp	Cory
<i>Thienemanniella</i> spp.	0.43 ± 0.43	0.00	0.14 ± 0.14	1.97 ± 0.8	0.5 ± 0.45	0.63 ± 0.17	56	GCsp	Tlla
<i>Onconeura</i> spp.	0.23 ± 0.06	0.00	0.07 ± 0.07	1.64 ± 1.13	0.07 ± 0.07	1.38 ± 0.96	61	GCsp	Onc
<i>Nanocladius</i> spp.	0.07 ± 0.07	0.06 ± 0.06	0.56 ± 0.43	0.02 ± 0.02	0.00	0.13 ± 0.09	39	GCsp	
<i>Cricotopus</i> spp.	6.96 ± 1.82	7.58 ± 5.43	3.7 ± 2.51	11.27 ± 3.53	0.8 ± 0.31	8.53 ± 4.78	100	GCcg	Cric
<i>Orthocladius</i> spp.	0.2 ± 0.1	7.11 ± 6.47	0.6 ± 0.31	0.04 ± 0.04	0.1 ± 0.1	0	56	GCsp	Ort
<i>Parametriocnemus</i> spp.	5.2 ± 3.03	0.96 ± 0.5	16.19 ± 6.23	0.7 ± 0.36	0.07 ± 0.07	0.55 ± 0.24	78	GCsp	Para
<i>Djalmabatista</i> spp.	0.00	0.96 ± 0.96	0.00	0.00	0.00	0	6	PRsp	Dja
Stratiomyidae	0.1 ± 0.1	0.00	0.00	0.05 ± 0.05	0.00	0	11	SDsp	
Empididae	1.02 ± 0.47	0.31 ± 0.21	0.14 ± 0.14	0.07 ± 0.07	0.00	0	39	PRsp	
Ephydriidae	0.00	0.00	0.14 ± 0.07	0.00	0.00	0	11	GCbw	
Tabanidae	0.00	0.00	0.00	0.00	0.00	0.14 ± 0.14	6	PRbw	
Muscidae	0.00	0.02 ± 0.02	1.12 ± 1.12	0.00	0.00	0.03 ± 0.03	17	PRsp	

Table S2. Physicochemical variables measured to characterise mountain grassland streams (Córdoba, Argentina) in the two sampling seasons. *Variables fisicoquímicas medidas para caracterizar los arroyos de montaña en pastizales (Córdoba, Argentina) en las dos estaciones de muestreo.*

	Winter			Summer		
	Stream 1	Stream 2	Stream 3	Stream 1	Stream 2	Stream 3
Water temperature (°C)	12	17.5	16	16.8	19	20.6
pH	8.6	7.6	8.5	8.3	7.9	7.8
Conductivity (µS/cm)	280	73	98	259	67.3	54
TDS (mg/L)	255	68	84	251	66	51
Carbonate (mg/L)	7.3	0	1.2	0	0	0
Bicarbonate (mg/L)	162.5	40	43.8	167.5	40	22.5
Sulphate (mg/L)	17.3	6.7	7.9	18.1	7.5	7.9
Nitrate (mg/L)	0	0	1	1	1	2
Nitrite (mg/L)	0	0	0	0	0	0
Total hardness (meq/L)	2.8	0.6	2.3	2.8	0.5	0.4

Table S3. Mean values (\pm SE) of substrate proportional abundance measured in riffles (Rf) and pools (Pl) and one-way ANOVAs results. Degrees of freedom are shown as subscript numbers with F ($F_{\text{factor, error}}$). DGC *pos hoc* comparisons are shown ($p < 0.05$). *Valores medios (\pm SE) de la abundancia proporcional del sustrato en rápidos (Rf) y pozas (Pl) y resultados de los ANOVAs de una vía. Los grados de libertad se muestran como subíndices con el F ($F_{\text{factor, error}}$). Se muestran las comparaciones a posteriori DGC ($p < 0.05$).*

	Riffles	Pools	ANOVA	<i>post hoc</i> test
Bedrock (%)	47.50 \pm 13.61	29.29 \pm 14.74	$F_{1, 15(\text{hab})} = 0.79, p = 0.387$	
Boulder (%)	20.50 \pm 9.62	35.71 \pm 15.71	$F_{1, 15(\text{hab})} = 0.76, p = 0.396$	
Cobble (%)	20.00 \pm 7.45	9.29 \pm 4.93	$F_{1, 15(\text{hab})} = 1.18, p = 0.295$	
Pebbles (%)	6.50 \pm 2.11	8.21 \pm 5.53	$F_{1, 15(\text{hab})} = 0.11, p = 0.747$	
Gravel (%)	2.75 \pm 1.08	6.79 \pm 2.82	$F_{1, 15(\text{hab})} = 2.29, p = 0.151$	
Sand (%)	2.75 \pm 1.08	10.71 \pm 3.52	$F_{1, 15(\text{hab})} = 6.25, p = 0.025$	Pl > Rf

Table S4. Macrophyte species found in mountain grassland streams (Córdoba, Argentina). All species belong to the emergent functional group. Species on which insect samples were taken are shown in bold. *Especies de macrófitas registradas en arroyos de montaña en pastizales (Córdoba, Argentina). Todas las especies enumeradas pertenecen al grupo funcional emergente. Las especies sobre las cuales se recolectaron las muestras de insectos se muestran en negrita.*

Macrophyte species

ARALIACEAE

***Hydrocotyle bonariensis* Lam.**

***Hydrocotyle modesta* Cham. & Schlttdl**

***Hydrocotyle ranunculoides* L.f.**

BRASSICACEAE

***Rorippa nasturtium-aquaticum* (L.) Hayek**

POLYGONACEAE

Polygonum hydropiperoides Michx. var.
setaceum (Baldwin ex Elliott) Gleason

CRASSULACEAE

Crassula peduncularis (Sm.) F. Meigen

RANUNCULACEAE

***Ranunculus flagelliformis* Sm.**

ASTERACEAE

Bidens pilosa L.

Conyza sumatrensis (Retz.) E. Walter.

Tagetes pusilla Kunth

ONAGRACEAE

Oenothera rosea Aiton

EQUISETACEAE

Equisetum bogotense Kunth

COMMELINACEAE

Commelina erecta L. var. *erecta*

CYPERACEAE

Eleocharis bonariensis Nees

Eleocharis parodii Barros

Pycreus megapotamicus (Kunth) Nees