ELECTRONIC SUPPLEMENTARY MATERIAL
Investigating invertebrate biodiversity in large wood: taxonomic vs functional metrics

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Table S1: Taxa list for the Hammer Stream found during the study period from October 2016 to August 2017

Hyporheic meiofauna	**Hyporheic macrofauna**	**Benthic macrofauna**
Asellidae	Acroloxidae	Asellidae
Beraeidae	*Agabus* spp	*Atherix* spp
Bithyniidae (Bi)	Asellidae	*Baetis* spp
Bosminidae	*Atherix* spp	Bithyniidae
Caenidae (Cae)	*Baetis* spp	*Caenis* spp
Capnia spp (Ca)	Beraeidae	Calopterygidae
Ceratopogonidae (Cer)	Bithyniidae	*Capnia* spp
Chironomini (C)	*Caenis* spp	Ceratopogonidae
Chydoridae (Chy)	*Capnia* spp	Chironomini
Cyclopoida (Cy)	Ceratopogonidae	Chloroperlidae
Cylindrotomidae	Chironomini	Chrysomelidae
Daphniidae	Chydoridae	*Cordulegaster boltonii*
Diamesinae (Di)	*Corbicula* spp	Crangonyctidae
Dytiscidae	*Cordulegaster boltonii*	Dasyheleinae
Empididae (Em)	Crangonyctidae	Diamesinae
Ephemera danica (Eph)	Cyclopoida	Ecnomidae
Ephemerellidae (Ep)	Cylindrotomidae	Empididae
Erpobdellidae (Er)	Dasyheleinae	Ephemera
Gammarus pulex (G.p)	Diamesinae	Ephemerellidae
Glossiphonia (Gl)	Empididae	*Ephydridae*

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Table S1 – *Continued from previous page*

Hyporheic meiofauna	**Hyporheic macrofauna**	**Benthic macrofauna**
Glossiphoniidae	*Ephemera danica*	*Erpobdella*
Heptageniidae	*Ephemera vulgata*	*Gammarus pulex*
Hydrachnidia (Hy)	Ephemerellidae	*Glossiphonia*
Hydropsyche (Hyd)	*Erpobdella* spp	Glossosomatidae
Leptoceridae (Lep)	*Gammarus pulex*	*Goera pilosa*
Leptophlebiidae	*Glossiphonia* spp	Haliplidae
Leuctridae (Leu)	Glossosomatidae	Hebridae
Limnius spp (Li)	*Goera pilosa*	Heptageniidae
Limoniidae (Lim)	Hebridae	Hydrachnidia
Molannidae	Heptageniidae	Hydrobiidae
Nematoda (N)	Hydrachnidia	*Hydropsyche* spp
Niphargidae	*Hydropsyche* spp	*Hydroptila* spp
Oligochaeta (Oli)	*Hydroptila* spp	Lepidostomatidae
Orthocladiinae (Ort)	Hygrobiidae	Leptoceridae
Ostracoda (Os)	Leptoceridae	Leptophlebiidae
Pediciidae	*Leuctra* spp	Leuctridae
Philopotamidae	Limnephilidae	Limnephilidae
Physidae	*Limnius* spp	*Limnius* spp
Piscicolidae	Limoniidae	Limoniidae
Pisidium spp (Pi)	*Molanna* spp	*Molanna* spp
Planariidae	Nematoda	Muscidae

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Table S1 – *Continued from previous page*

Hyporheic meiofauna	**Hyporheic macrofauna**	**Benthic macrofauna**
Polycentropodidae	Niphargidae	Oligochaeta
Prodiamesinae	*Notidobia ciliaris*	Orthocladiinae
Prosimuliini (Pr)	Oligochaeta	Pediciidae
Psychodidae	Orthocladiinae	Ostracoda
Psychomyiidae (Ps)	Ostracoda	Perlodidae
Sericostomatidae	Pediciidae	Philopotamidae
Sialidae	Philopotamidae	Phryganeidae
Sididae	Phryganeidae	Planorbidae
Simuliidae	Physidae	Podonominae
Siphlonuridae	Piscicolidae	Polycentropodidae
Sphaeriidae	*Pisidium*	Potamanthidae
Tabanidae	Planorbidae	*Procloeon pennulatum*
Talitridae	Podonominae	Psychodidae
Tanypodinae (Ta)	Polycentropodidae	Psychomyiidae
Tanytarsini (Tany)	Prodiamesinae	*Radix* spp
Thaumaleidae	Prosimuliini	Rhithrogena spp
Tipulidae (Tip)	Psychodidae	Rhyacophilidae
	Psychomyiidae	*Scarodytes* spp
	Radix spp	*Sericostoma* spp
	Sericostoma spp	*Serratella ignita*
	Serratella ignita	*Silo* spp

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Table S1 – *Continued from previous page*

Hyporheic meiofauna	**Hyporheic macrofauna**	**Benthic macrofauna**
	Sialidae	Siphlonuridae
	Sididae	*Sphaerium* spp
	Simuliidae	Tabanidae
	Siphlonuridae	Talitridae
	Sphaerium spp	Tanypodinae
	Tabanidae	Tanytarsini
	Talitridae	Tipulidae
	Tanypodinae	
	Tanytarsini	
	Thaumaleidae	
	Tipulidae	

Table S2: Results of the two-ways ANOVAs for the hyporheic meiofauna. alpha, beta-taxonomical and alpha, beta-functional diversities were the response variables. Significant results (P <0.05) are in bold."habitats" refers to LW vs. control samples merged across reaches and sampling campaigns, "river substrates" indicates gravel and sand substrates.

Hyporheic meiofauna					
alpha TD	Df	Sum Sq	Mean Sq	F value	Pr(>F)
river substrates	1	167.5	167.5	16.65	**0.00**
habitats	1	151.1	151.06	15.01	**0.00**
river substrates X habitats	1	1.7	1.71	0.17	0.68
Residuals	44	442.8	10.06		
alpha FD					
river substrates	1	0.29	0.29	5.11	**0.03**
habitats	1	0.39	0.39	7.02	**0.01**
river substrates X habitats	1	0.02	0.02	0.4	0.53
Residuals	44	2.45	0.06		
beta TD					
river substrates	1	4.09	4.09	6.01	**0.02**
habitats	1	4.32	4.32	6.36	**0.02**
river substrates X habitats	1	0.09	0.09	0.13	0.72
Residuals	44	29.92	0.68		
beta FD					
river substrates	1	0.04	0.04	6.95	**0.01**
habitats	1	0.05	0.05	8.67	**0.01**
river substrates X habitats	1	0	0	0.22	0.64
Residuals	44	0.25	0.01		

Table S3: Results of the two-ways ANOVAs for the hyporheic macrofauna. alpha, beta-taxonomical and alpha, beta-functional diversities were the response variables. Significant results (P <0.05) are in bold."habitats" refers to LW vs. control samples merged across reaches and sampling campaigns, "river substrates" indicates gravel and sand substrates.

Hyporheic macrofana					
alpha TD	Df	Sum Sq	Mean Sq	F value	Pr(>F)
river substrates	1	332.6	332.6	15.87	**0.00**
habitats	1	2	2	0.09	0.76
river substrates X habitats	1	46.2	46.2	2.2	0.14
Residuals	44	922.1	21		
alpha FD					
river substrates	1	0.26	0.26	6.2	**0.02**
habitats	1	0.01	0.01	0.14	0.71
river substrates X habitats	1	0.09	0.09	2.07	0.16
Residuals	44	1.82	0.04		
beta TD					
river substrates	1	14.45	14.45	11.88	**0.00**
habitats	1	1.58	1.58	1.3	0.26
river substrates X habitats	1	0.39	0.39	0.32	0.57
Residuals	44	53.53	1.22		
beta FD					
river substrates	1	0.01	0.01	2.23	0.14
habitats	1	0	0	0.45	0.51
river substrates X habitats	1	0	0	0.07	0.79
Residuals	44	0.14	0		

Table S4: Results of the two-ways ANOVAs for the benthic macrofauna. alpha, beta-taxonomical and alpha, beta-functional diversities were the response variables. Significant results (P <0.05) are in bold."habitats" refers to LW vs. control samples merged across reaches and sampling campaigns, "river substrates" indicates gravel and sand substrates.

Benthic macrofana					
alpha TD	Df	Sum Sq	Mean Sq	F value	Pr(>F)
river substrates	1	85	85	5.75	**0.02**
habitats	1	42.8	42.8	2.89	0.1
river substrates X habitats	1	42.3	42.3	2.86	0.1
Residuals	44	650.7	14.79		
alpha FD					
river substrates	1	0.11	0.11	3.83	0.06
habitats	1	0.02	0.02	0.65	0.43
river substrates X habitats	1	0.02	0.02	0.7	0.41
Residuals	44	1.27	0.03		
beta TD					
river substrates	1	7.66	7.66	6.79	**0.01**
habitats	1	6.35	6.35	5.63	**0.02**
river substrates X habitats	1	6.99	6.99	6.2	**0.02**
Residuals	44	49.66	1.13		
beta FD					
river substrates	1	0.01	0.01	5.91	**0.02**
habitats	1	0	0	0.75	0.39
river substrates X habitats	1	0	0	1.72	0.2
Residuals	44	0.06	0		